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

Release 26.10.R1

Clear, Monitor, Show, and Tools CLI Command Reference Guide

3HE 22301 AAAC TQZZA 01
Edition: 01
October 2026

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Nokia is committed to diversity and inclusion. We are continuously reviewing our customer documentation and consulting with standards bodies to ensure that terminology is inclusive and aligned with the industry. Our future customer documentation will be updated accordingly.

This document includes Nokia proprietary and confidential information, which may not be distributed or disclosed to any third parties without the prior written consent of Nokia.

This document is intended for use by Nokia's customers ("You"/"Your") in connection with a product purchased or licensed from any company within Nokia Group of Companies. Use this document as agreed. You agree to notify Nokia of any errors you may find in this document; however, should you elect to use this document for any purpose(s) for which it is not intended, You understand and warrant that any determinations You may make or actions You may take will be based upon Your independent judgment and analysis of the content of this document.

Nokia reserves the right to make changes to this document without notice. At all times, the controlling version is the one available on Nokia's site.

No part of this document may be modified.

NO WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF AVAILABILITY, ACCURACY, RELIABILITY, TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS MADE IN RELATION TO THE CONTENT OF THIS DOCUMENT. IN NO EVENT WILL NOKIA BE LIABLE FOR ANY DAMAGES, INCLUDING BUT NOT LIMITED TO SPECIAL, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL OR ANY LOSSES, SUCH AS BUT NOT LIMITED TO LOSS OF PROFIT, REVENUE, BUSINESS INTERRUPTION, BUSINESS OPPORTUNITY OR DATA THAT MAY ARISE FROM THE USE OF THIS DOCUMENT OR THE INFORMATION IN IT, EVEN IN THE CASE OF ERRORS IN OR OMISSIONS FROM THIS DOCUMENT OR ITS CONTENT.

Copyright and trademark: Nokia is a registered trademark of Nokia Corporation. Other product names mentioned in this document may be trademarks of their respective owners.

© 2026 Nokia.

Table of contents

1 Getting started 5

2 Command Trees 13

3 2 Commands 60

4 a Commands 61

5 b Commands 336

6 c Commands 433

7 d Commands 671

8 e Commands 816

9 f Commands 942

10 g Commands 1080

11 h Commands 1146

12 i Commands 1214

13 k Commands 1535

14 l Commands 1537

15 m Commands 1813

16 n Commands 2046

17 o Commands 2175

18 p Commands – Part I 2217

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

19 p Commands – Part II....2380

20 p Commands – Part III....2508

21 q Commands....2665

22 r Commands....2687

23 s Commands – Part I....2878

24 s Commands – Part II....3180

25 s Commands – Part III....3504

26 s Commands – Part IV....3724

27 t Commands....3743

28 u Commands....3920

29 v Commands....3965

30 w Commands....4043

31 x Commands....4057

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

1 Getting started

This guide contains command descriptions for the common operational **clear**, **monitor**, **show**, and **tools** CLI commands that are used to manage the SR OS in either the classic CLI or the MD-CLI.

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

The output of the common operational commands is always the same in the classic CLI and the MD-CLI. The command names and syntaxes of the common operational commands in the classic CLI and the MD-CLI are also compatible. The MD-CLI ? help and command completion only displays parameters that are valid next in order based on what has been entered, while the classic CLI displays all parameters that can be entered out of order. Commands in the MD-CLI can be entered out of order by entering the complete command and parameters without using command completion.

This guide does not include any other classic or MD-CLI commands. These commands are documented in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Classic CLI Command Reference Guide* and the *7450 ESS, 7750 SR, 7950 XRS, and VSR MD-CLI Command Reference Guide*.

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

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

Table 1: Documentation for SR OS CLI commands

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

1.1 Platforms and terminology

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

Table 2: Platforms and terminology

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platform	Collective platform designation
7950 XRS-40	
VSR	
VSR-NRC	
7450 ESS-7	7450 ESS
7450 ESS-12	
7750 SR-1	7750 SR
7750 SR-1-24D	
7750 SR-1-46S	
7750 SR-1-48D	
7750 SR-1-92S	
7750 SR-1x-48D	
7750 SR-1x-92S	
7750 SR-7	
7750 SR-12	
7750 SR-12e	
7750 SR-1-24D	7750 SR-1 (FP5)
7750 SR-1-46S	
7750 SR-1-48D	
7750 SR-1-92S	
7750 SR-1x-48D	
7750 SR-1x-92S	
7750 SR-7	7750 SR-7/12/12e
7750 SR-12	
7750 SR-12e	
7750 SR-7	7750 SR-7/12
7750 SR-12	
7750 SR-a4	7750 SR-a
7750 SR-a8	
7750 SR-1e	7750 SR-e
7750 SR-2e	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platform	Collective platform designation
7750 SR-3e	
7750 SR-1s	7750 SR-s
7750 SR-1se	
7750 SR-2s	
7750 SR-2se	
7750 SR-7s	
7750 SR-14s	
7950 XRS-20	7950 XRS
7950 XRS-20e	
7950 XRS-40	
VSR	VSR
VSR-NRC	

1.2 Command tree

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

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

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

1.3 Command descriptions

Command descriptions are listed in alphabetical order by command name.

The following figure shows an example of a command description.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Figure 1: Command description example

policers

Syntax **policers**

Context [Tree] (show>app-assure>group>policy>aa-sub policers)

Full Context show application-assurance group policy aa-sub policers

Description This command displays policer configuration information.

Output The following is an example output for the **policers** command.

Sample Output

```
A:cpm-a>show>app-assure>group>aa-sub# policers
=============================================================
Application-Assurance Subscriber Policer Summary
=============================================================
AA-Subscriber        : Alex (esm)
-------------------------------------------------------------
Type: single-bucket-bandwidth Direction: subscriber-to-network
-------------------------------------------------------------
AQP    Policer                          Resource Exceeded?
-------------------------------------------------------------
61     SuspectUp_policer                N
-------------------------------------------------------------

-------------------------------------------------------------
Type: single-bucket-bandwidth Direction: network-to-subscriber
-------------------------------------------------------------
AQP    Policer                          Resource Exceeded?
-------------------------------------------------------------
62     SuspectDown_policer              N
-------------------------------------------------------------
Policer usage counts:
single-bucket-bandwidth
   subscriber-to-network  1     out of      32
   network-to-subscriber  1     out of      32
dual-bucket-bandwidth
   subscriber-to-network  0     out of       1
   network-to-subscriber  0     out of       1
flow-count-limit          0     out of       8
flow-rate-limit           0     out of       8
=============================================================
A:cpm-a>show>app-assure>group>aa-sub#
```

sw3088

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

Table 3: Command description fields

Field	Description
Command Name	Name of the command
Syntax	Command syntax required to execute the command. For further information about command syntax, see the *7450 ESS, 7750 SR, 7950 XRS, and VSR Classic CLI Command Reference Guide* or the *7450 ESS, 7750 SR, 7950 XRS, and VSR MD-CLI User Guide*.
Context	Path to the command as it is displayed in the CLI prompt. Clicking on [Tree] links to the command in the CLI tree.
Full Context	Complete contextual path to perform the command
Description	Description of the command functionality and any restrictions
Default	Command default value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Parameters	Descriptions of command parameters
Values	Values allowed for the parameter
Default	Parameter default value
Platforms	Hardware platforms on which the command is available. See Platforms and terminology for more information about the platforms. **Note**: Some SR OS features are platform-specific and therefore may not be available or visible on all platforms. See the SR OS R26.*x*.R*x* Software Release Notes, part number 3HE 29176 000*x* TQZZA, for information about platform support.

The **monitor** and **show** commands may also show command output and a description of the fields found in that output. Command outputs shown in this guide are examples only; actual displays may differ depending on supported functionality and user configuration.

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

1.4 Navigational aids

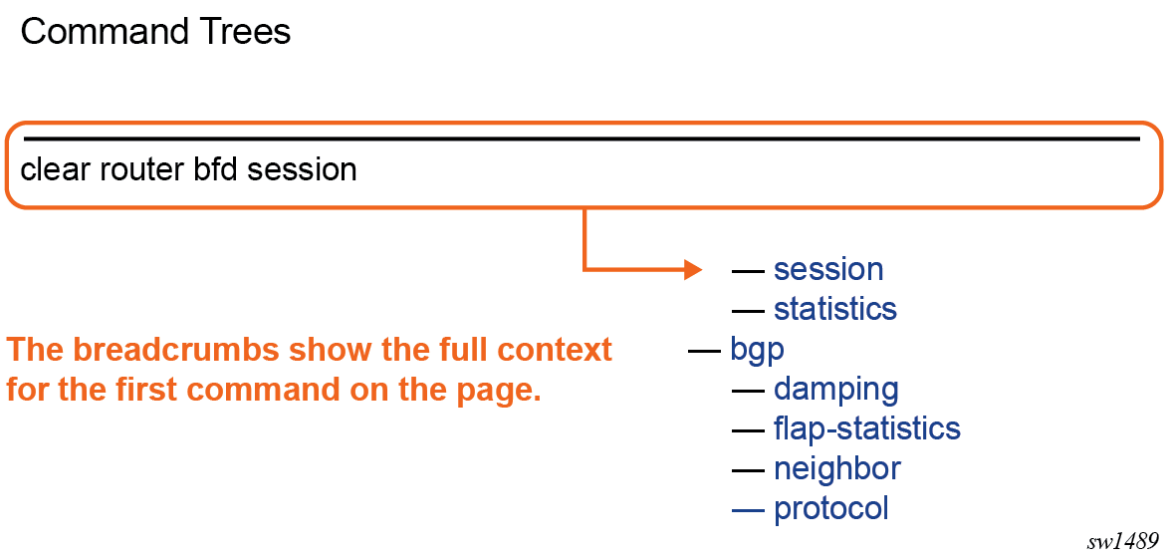
The following aids help you navigate the guide and find specific commands.

1.4.1 Context path

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Figure 2: Command tree navigation



1.4.2 Search tips

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

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

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

- Do not include variables in the search phrase.

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

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

1.4.3 Linking to the tree

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Figure 3: Link to CLI tree

policers

Syntax	**policers**
Context	[Tree] (show>app-assure>group>policy>aa-sub policers)
Full Context	show application-assurance group policy aa-sub policers
Description	This command displays policer configuration information.
Output	The following is an example output for the **policers** command.

sw3087

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

2 Command Trees

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

2.1 clear Commands

The CLI **clear** commands are primarily used to set statistics in a specific area back to a value of zero, reset specific hardware assemblies (for example, cards), and delete temporary operational state data (for example, contents of a log in memory).

```
- clear
    - aaa
        - diameter
            - restarted-sessions
        - diameter-node
        - isa-radius-policy
        - l2tp-accounting-policy
        - radius-server-policy
        - route-downloader
    - anysec
    - application-assurance
        - group
            - cflowd
            - event-log
            - gtp
            - statistics
            - status
        - radius-accounting-policy
    - call-trace
        - ipoe
            - session
            - trace
        - pppoe
            - session
        - trace
    - card
        - virtual
            - cpu-scheduling
    - cflowd
    - chassis
        - power-shelf
            - power-module
    - cpm-filter
        - ip-filter
        - ipv6-filter
        - mac-filter
    - cpm-queue
    - cpu-protection
        - eth-cfm-monitoring
        - excessive-sources
        - protocol-protection
        - violators
    - esa
    - esa-vm
    - eth-cfm
        - auto-discovered-meps
        - learned-remote-mac
        - mep
        - statistics
    - filter
        - ip
        - ip-exception
        - ipv6
        - ipv6-exception
        - log
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

clear filter mac

```
            - mac
            - policer
                - filter-scope
                - system-scope
        - group-encryption
            - encryption-keygroup
        - ip
            - tunnel
        - ipsec
            - gateway
            - lockout
            - stats
                - ike-stats
            - transport-mode
            - tunnel
        - isa
            - lns-group
        - lag
        - ldap
        - li
            - filter
                - li-ip
                - li-ipv6
                - li-mac
            - log
            - radius
                - mirror-dest
        - log
            - event-handling
                - handler
                - information
            - log-events
            - log-id
        - macsec
            - mka-session
        - management-access-filter
            - ip-filter
            - ipv6-filter
            - mac-filter
        - mcast-management
            - mcast-reporting-dest
        - mda
        - nat
            - classic-lsn-sub
            - dslite-lsn-sub
            - isa
                - map-e-group
                - map-t-group
                - nat-group
            - l2-aware-sub
            - map
                - statistics
            - nat64-lsn-sub
            - nat66-lsn-sub
            - subscriber-identification
            - system-statistics
            - upnp-mappings
            - upnp-policy-statistics
        - oam-pm
        - pools
        - port
            - ethernet
                - dampening
                - efm-oam
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

clear port eth efm-oam events

```
                - events
            - hw-agg-shaper-sched
            - port-queues
            - port-scheduler
            - vport
        - pw-port
        - python
            - python-policy
            - python-script
        - qos
            - arbiter-stats
                - card
                - customer
                - port
                - sap
                - subscriber
            - scheduler-stats
                - customer
                - port
                - sap
                - subscriber
        - radius
        - reassembly-statistics
        - redundancy
            - multi-chassis
                - mc-endpoint
                - mc-lag
                - mc-ring
                    - debounce
                    - ring-nodes
                    - statistics
                        - global
                        - peer
                        - ring
                        - ring-node
                - sync-database
                - wpp
        - router
            - arp
            - authentication
                - statistics
            - autoconfigure
                - dhcp-client
                - dhcp6-client
                - router-advertisement
                    - statistics
            - bfd
                - seamless-bfd
                    - session
                    - statistics
                - session
                - statistics
            - bgp
                - damping
                - flap-statistics
                - neighbor
                - protocol
                - traffic-statistics
            - bier
                - database
                - statistics
            - bmp
                - station
            - dhcp
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

```
            - local-dhcp-server
                - declined-addresses
                - failover-pool-stats
                - leases
                - pool-ext-stats
                - server-stats
                - sticky-leases
                - subnet-ext-stats
            - statistics
        - dhcp6
            - local-dhcp-server
                - failover-pool-stats
                - leases
                - pool-ext-stats
                - pool-threshold-stats
                - prefix-ext-stats
                - prefix-threshold-stats
                - server-stats
            - statistics
        - forwarding-table
        - grt-lookup
        - gtp
            - peer
            - uplink
                - mgw-address-cache
        - icmp
        - icmp-redirect-route
        - icmp6
        - icmp6-redirect-route
        - igmp
            - database
            - mcast-reporting-statistics
            - statistics
            - version
        - interface
        - isis
            - adjacency
            - database
            - export
            - multi-part-tlv-stats
            - overload
            - sid-egress-stats
            - sid-ingress-stats
            - spf-log
            - statistics
        - l2tp
            - group
                - statistics
                - tunnel
                    - tunnel-selection-blacklist
                - tunnel-selection-blacklist
            - peer
                - statistics
                - tunnel-selection-blacklist
            - session
            - statistics
            - tunnel
                - statistics
                - tunnel-selection-blacklist
            - tunnel-selection-blacklist
        - ldp
            - fec-egress-statistics
            - instance
            - interface
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

clear router ldp peer

```
            - peer
            - resource-failures
            - session
            - statistics
            - targeted-auto-rx
        - mcac
            - statistics
        - mld
            - database
            - statistics
            - version
        - mpls
            - forwarding-policies
                - binding-label
                - forwarding-policy
            - interface
            - lsp
                - auto-lsp
                    - rsvp-te
                    - sr-te
                - lsp-self-ping
                - rsvp-te
                - sr-te
            - lsp-autobandwidth
            - lsp-egress-stats
            - lsp-history
            - lsp-ingress-stats
            - lsp-self-ping
            - sr-te-lsp-egress-stats
        - msdp
            - cache
            - statistics
        - neighbor
        - origin-validation
        - ospf
            - database
            - export
            - neighbor
            - overload
            - sid-egress-stats
            - sid-ingress-stats
            - statistics
        - ospf3
            - database
            - export
            - neighbor
            - overload
            - sid-egress-stats
            - sid-ingress-stats
            - statistics
        - pcep
            - pcc
                - peer
            - pce
                - peer
        - pcp-server
        - pim
            - database
            - neighbor
            - s-pmsi
            - statistics
        - radius-proxy-server
        - rib-api
            - label
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

clear router rib-api tunnel

```
            - tunnel
        - rip
            - database
            - export
            - statistics
        - ripng
            - database
            - export
            - statistics
        - router-advertisement
        - rsvp
            - interface
            - statistics
        - segment-routing
            - sr-policies
                - egress-statistics
                - ingress-statistics
        - srrp
            - interface
            - statistics
        - vrrp
            - interface
            - statistics
        - wlan-gw
            - isa-subnets
            - mgw-address-cache
            - mobile-gateway
        - wpp
            - hosts-logging-out
            - statistics
    - saa
    - screen
    - service
        - dynamic-services
            - data-trigger
        - id
            - arp
            - arp-host
            - authentication
                - statistics
            - bmp
                - station
            - dhcp
                - lease-state
                - statistics
            - dhcp6
                - lease-state
                - statistics
            - dynamic-services
                - capture-sap
            - evpn
            - fdb
            - gsmp
                - statistics
            - host-tracking
            - igmp-snooping
                - port-db
                - querier
                - statistics
            - ipoe
                - session
            - managed-hosts
            - mesh-sdp
            - mfib
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

```
                - statistics
            - mld-snooping
                - port-db
                - querier
                - statistics
            - msap
            - msap-policy
            - neighbor
            - pim-snooping
                - database
                - neighbor
                - statistics
            - ppp
                - session
                - statistics
            - pppoe
                - statistics
            - proxy-arp
                - duplicate
                - dynamic
            - proxy-nd
                - duplicate
                - dynamic
            - ptp
                - peer
            - sap
                - queue-depth
            - site
            - slaac
                - host
            - spb
                - adjacency
                - database
                - spf-log
                - statistics
            - spoke-sdp
            - stp
                - detected-protocols
            - subscriber-hosts
                - statistics
        - statistics
            - dynamic-services
            - id
                - cem
                - counters
                - l2pt
                - mesh-sdp
                - mrp
                - pip
                - spoke-sdp
                - stp
            - sap
            - sdp
            - subscriber
    - sfm
    - subscriber-mgmt
        - accu-stats
        - ancp
        - authentication
            - coa-statistics
        - diameter-application-policy
        - diameter-session
            - ccrt-replay
        - errors
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

```
            - gtp
            - host-lockout-policy
            - host-tracking
                - subscriber
            - idle-only-msap
            - interface-statistics
            - isa-filter
                - ipv4
                - ipv6
            - isa-service-chaining
            - msap-policy
            - peakvalue-stats
            - pfcp
                - up-resiliency
                    - fate-sharing-group
            - pfcp-association
            - pfcp-session
            - radius-accounting
            - sap-template
            - statistics
            - svlan-statistics
            - system-statistics
            - vrgw
                - brg
                    - gateway
            - wlan-gw
        - system
            - management-interface
                - netconf
                    - call-home
                        - all-client
                            - statistics
                        - netconf-client
                    - listen
                        - statistics
                - remote-management
            - ntp
                - statistics
            - ptp
                - clock-recovery
                - inactive-peers
                - peer
                - port
                    - neighbor
                        - ptsf-unusable
                    - statistics
                - statistics
            - reboot-required
            - satellite
                - eth-sat
                    - sync-if-timing
            - script-control
                - script-policy
                    - completed
            - statistics
            - sync-if-timing
        - tacplus
        - test-oam
            - oam-perf
            - service-activation-testhead
            - twamp
                - server
        - video
            - id
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

clear video id session

```
            - session
        - statistics
            - id
                - channel
                - interface
                - session
            - isa
    - vrrp
        - statistics
    - wlan-gw
        - isa
            - wlan-gw-group
    - xiom
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

2.2 monitor Commands

The CLI **monitor** commands are found in the **monitor** context of the operational root of the CLI tree. The **monitor** commands display specified statistical information related to the monitor subject (such as filter, port, QoS, router, service, and VRRP) at a configurable interval until a count is reached.

The **monitor** command output displays a snapshot of the current statistics. The output refreshes with subsequent statistical information at each configured interval and is displayed as a delta to the previous output.

The <Ctrl-C> keystroke interrupts a monitoring process. **monitor** command configurations cannot be saved. You must enter the command for each monitoring session. If the maximum limits are configured, you can monitor the statistical information for a maximum of 60 x 999 s (approximately 1000 minutes).

```
- monitor
    - card
    - cpm-filter
        - ip
        - ipv6
        - mac
    - eth-cfm
        - statistics
    - filter
        - ip
        - ipv6
        - mac
        - policer
            - filter-scope
            - system-scope
    - lag
    - management-access-filter
        - ip
        - ipv6
        - mac
    - oam-pm
        - session
            - dm
            - dmm
            - lmm
            - slm
            - twamp-light
    - port
        - hw-agg-shaper-sched
        - port-scheduler
        - queue-group
        - vport
    - qos
        - arbiter-stats
            - card
            - customer
            - port
            - sap
            - subscriber
        - port
        - scheduler-stats
            - customer
            - port
            - sap
            - subscriber
    - router
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

monitor router bgp

```
            - bgp
                - neighbor
                - traffic-statistics
            - isis
                - statistics
            - ldp
                - fec-egress-stats
                - session
                - statistics
            - mpls
                - forwarding-policies
                    - binding-label
                    - forwarding-policy
                - interface
                - lsp-egress-stats
                - lsp-ingress-stats
                - sr-te-lsp-egress-stats
                - tp-lsp-egress-stats
                - tp-lsp-ingress-stats
            - ospf
                - interface
                - neighbor
                - virtual-link
                - virtual-neighbor
            - ospf3
                - interface
                - neighbor
                - virtual-link
                - virtual-neighbor
            - pim
                - group
            - rib-api
                - label
                - tunnel
            - rip
                - neighbor
            - ripng
                - neighbor
            - rsvp
                - interface
            - segment-routing
                - sr-policies
                    - egress-statistics
                    - ingress-statistics
            - vrrp
                - instance
        - service
            - id
                - sap
                - sdp
            - subscriber
        - test-oam
            - oam-perf
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

2.3 show Commands

The CLI **show** commands display useful information in the format of a human-readable report, with the ability to add or remove output based on additional parameters. The information in the output of the **show** commands consists of configuration and operational information, and may also perform calculations or additional processing to display some of the output.

The information in the output of the **show** commands can also be found in the **state** and **configure** branches of the MD-CLI (as well as via model-driven interfaces such as NETCONF and gRPC). The output of these branches is fully modeled in YANG with structured data that can be easily manipulated by tools and applications (including pySROS and NETCONF clients). The pySROS and MD-CLI command alias features can be used together to create custom **show** commands using the modeled data. See "Command aliases" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR MD-CLI User Guide* .

```
- show
    - aaa
        - acct-on-off-group
        - diameter-node
        - isa-radius-policy
        - l2tp-accounting-policy
        - radius-configuration
        - radius-script-policy
        - radius-server-policy
        - route-downloader
        - wpp
    - alias
    - anysec
        - service-encryption
        - status
        - tunnel-encryption
    - application-assurance
        - aa-transit-redundancy
        - aarp
        - cflowd
            - comprehensive
            - pgw-edr
            - tcp-performance
            - volume
        - flow-attribute
        - group
            - aa-interface
            - aa-sub
                - app-group
                - application
                - charging-group
                - count
                - policers
                - protocol
                - summary
                - usage-monitor
                    - app-group
                    - application
                    - charging-group
                    - count
                    - status
            - aa-sub-list
            - aa-sub-study
                - application
                - protocol
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                - app-group
                - application
                - certificate-profile
                - cflowd
                    - collector
                    - direct-export
                        - collector
                        - isa-collector
                    - status
                - dns-enrich
                - dns-ip-cache
                - event-log
                - flow-attribute
                - gtp
                - http-enrich
                    - detail
                    - field
                    - summary
                - http-error-redirect
                - http-notification
                - http-redirect
                - ip-identification-assist
                - partition
                - policer
                - policy
                    - admin
                    - app-filter
                    - app-group
                    - app-profile
                    - app-qos-policy
                    - app-service-option
                    - application
                    - charging-filter
                    - charging-group
                    - custom-protocol
                    - summary
                - protocol
                - sctp-filter
                - session-filter
                - status
                - tcp-optimizer
                - tcp-validate
                - traffic-type
                - transit-ip-policy
                - transit-prefix-policy
                - url-filter
                - url-list
            - http-enrich
                - field
                - fields
            - http-error-redirect
                - error-codes
                - template
            - http-notification
                - template
            - http-redirect
                - error-codes
                - template
            - protocol
            - radius-accounting-policy
            - threshold-crossing-alert
            - version
            - web-service
                - category-set-id
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

show aps

```
        - aps
        - bmp
            - station
        - bof
        - boot-messages
        - call-trace
            - files
            - ipoe
                - session
                - trace
            - ppp
                - session
            - status
            - trace
            - trace-profile
            - wlan-gw
                - ue
        - card
            - virtual
                - cpu-scheduling
                - fp
        - certificate
            - auto-cert-update
            - ca-profile
            - est-profile
            - ocsp-cache
            - statistics
        - cflowd
            - collector
            - interface
            - l2-services
            - status
        - chassis
            - power-management
                - power-save
                - requirements
                - utilization
            - power-shelf
                - power-module
        - config
        - connection-profile-vlan
        - datapath
        - debug
        - elmi
            - evc
            - uni
        - esa
            - host-port
        - esa-vm
        - eth-cfm
            - association
            - cfm-stack-table
            - collect-lmm-fc-stats
            - collect-lmm-stats
            - default-domain
            - domain
            - lbm-svc-act-responder
            - learned-remote-mac
            - local-tx-pdu
            - mep
            - mip
            - mip-instantiation
                - sap
                - sdp
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

```
            - statistics
            - system-config
            - system-info
        - eth-ring
        - eth-tunnel
        - filter
            - dhcp
            - dhcp6
            - gre-tunnel-template
            - ip
            - ip-exception
            - ipv6
            - ipv6-exception
            - log
            - mac
            - match-list
                - ip-packet-length-list
                - ip-prefix-list
                - ipv6-packet-length-list
                - ipv6-prefix-list
                - port-list
                - protocol-list
            - md-auto-id
            - policer
            - redirect-policy
            - redirect-policy-binding
            - system-filter
        - fwd-path-ext
        - group-encryption
            - encryption-keygroup
            - summary
        - hs-pools
        - ip
            - tunnel
        - ipsec
            - cert-profile
            - certificate
            - client-db
            - gateway
            - ike-policy
            - ike-transform
            - ipsec-transport-mode-profile
            - lockout
            - multi-chassis-shunt-interface
                - router
                - service
            - multi-chassis-shunting-profile
                - router
                - service
            - radius-accounting-policy
            - radius-authentication-policy
            - security-policy
                - router
                - service
            - service
            - static-sa
            - transform
            - trust-anchor-profile
            - ts-list
            - tunnel
            - tunnel-template
        - isa
            - application-assurance-group
            - lns-group
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            - map-e-group
            - map-t-group
            - nat-group
            - nat-system-resources
            - statistics
                - ip-tunnel-stats
                    - number-of-tunnels
                    - throughput
                    - traffic-forward
                - ipsec-stats
                    - ike-exchange-failure-rate
                    - ikev2-msg-drop
                    - number-of-tunnels
                    - throughput
                    - traffic-forward
                    - tunnel-setup-rate
                - tunnel-isa
                    - cpu-usage
                    - memory-allocation-failure-rate
            - tunnel-group
            - tunnel-member-pool
            - video-group
            - wlan-gw-group
        - lag
            - associations
            - bfd
            - efm-member-template
            - egress-rate-distribution
            - eth-cfm
            - flow-distribution
            - lacp-partner
            - link-map-profile
            - lldp-member-template
            - per-link-hash
            - port-scheduler
        - li
            - filter
                - li-ip
                - li-ipv6
                - li-mac
            - li-source
            - log
                - log-id
            - mirror-dest
            - status
            - x-interfaces
                - connections
                - statistics
                    - x1
                    - x2
                    - x3
                - summary
        - licensing
        - log
            - accounting-policy
            - accounting-records
            - applications
            - cli
                - all-subscriptions
            - event-control
            - event-handling
                - handler
                - information
                - scripts
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            - event-parameters
            - file-id
            - filter-id
            - log-collector
            - log-id
            - snmp-trap-group
            - syslog
        - macsec
            - connectivity-association
            - mka-session
        - mcast-management
            - bandwidth-policy
            - channel
            - chassis
            - fp
            - mcast-reporting-dest
            - multicast-info-policy
        - mda
            - flex
        - megapools
        - mirror
        - oam-pm
            - bin-group
            - bin-group-using
            - session
            - sessions
            - statistics
                - session
                    - dm
                        - meas-interval
                    - dmm
                        - meas-interval
                    - lmm
                        - meas-interval
                    - slm
                        - meas-interval
                    - twamp-light
                        - meas-interval
            - streaming
                - delay-template
                - delay-template-using
            - tests
        - ospf
            - neighbor
        - ospf3
            - neighbor
        - pcap
        - pcm
        - peq
        - pools
        - port
            - dist-cpu-protection
            - ethernet
                - efm-oam
                    - event-logs
                - eth-cfm
                - host-if-fec
                - lldp
            - hs-secondary-shaper
            - hw-agg-shaper-sched
            - port-queues
            - port-scheduler
            - pxc
            - queue-group
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show port vport

```
            - vport
        - port-policy
        - port-tree
        - port-xc
        - pw-port
        - python
            - interpreter
            - python-policy
            - python-script
        - qos
            - adv-config-policy
            - agg-rate
                - customer
                - port
                - sap
                - subscriber
            - arbiter-stats
                - card
                - customer
                - port
                - sap
                - subscriber
            - bcg
            - dscp-table
            - fp-resource-policy
            - hs-attachment-policy
            - hs-pool-policy
            - hs-port-pool-policy
            - hs-scheduler-hierarchy
            - hs-scheduler-policy
            - hw-agg-shaper-scheduler-policy
            - lag
            - match-list
                - ip-prefix-list
                - ipv6-prefix-list
                - port-list
            - md-auto-id
            - network
            - network-queue
            - policer
                - card
                - port
                - sap
                - subscriber
            - policer-control-policy
            - policer-hierarchy
                - card
                - customer
                - port
                - sap
                - subscriber
            - port-scheduler-policy
            - post-policer-mapping
            - queue
            - queue-depth-violations
            - queue-group
            - queue-group-redirect-list
            - sap-egress
            - sap-ingress
            - scheduler-hierarchy
                - customer
                - port
                - sap
                - subscriber
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show qos scheduler-name

```
            - scheduler-name
            - scheduler-policy
            - scheduler-stats
                - customer
                - port
                - sap
                - subscriber
            - shared-queue
            - slope-policy
            - vport
        - radius
        - redundancy
            - bgp-evpn-multi-homing
            - bgp-multi-homing
            - mgmt-ethernet
            - multi-chassis
                - all
                - ipsec-domain
                - mc-endpoint
                - mc-ipsec
                - mc-lag
                - mc-ring
                - omcr
                    - all
                - sync
                - wpp
            - synchronization
        - router
            - aggregate
            - arp
            - authentication
                - statistics
            - autoconfigure
                - dhcp-client
                - dhcp6-client
                - router-advertisement
            - bfd
                - bfd-template
                - interface
                - resources
                - seamless-bfd
                    - session
                - session
            - bgp
                - auth-keychain
                - convergence
                - damping
                - group
                - inter-as-label
                - neighbor
                - next-hop
                - optimal-route-reflection
                    - bgp-nh-info
                - paths
                - policy-test
                - prefix-label
                - routes
                    - aspath-regex
                    - bgp-ls
                        - ipv4-prefix
                        - ipv6-prefix
                        - link
                        - node
                        - srv6-sid
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show router bgp routes brief

```
                    - brief
                    - community
                    - detail
                    - evpn
                        - auto-disc
                        - eth-seg
                        - incl-mcast
                        - ip-prefix
                        - ipv6-prefix
                        - mac
                        - mcast-join-synch
                        - mcast-leave-synch
                        - smet
                        - spmsi-ad
                    - flow-ipv4
                    - flow-ipv6
                    - flow-vpn-ipv4
                    - flow-vpn-ipv6
                    - hunt
                    - ipv4
                    - ipv6
                    - l2-vpn
                    - label-ipv4
                    - label-ipv6
                    - longer
                    - mcast-ipv4
                    - mcast-ipv6
                    - mcast-vpn-ipv4
                    - mcast-vpn-ipv6
                    - mdt-safi
                    - ms-pw
                    - mvpn-ipv4
                    - mvpn-ipv6
                    - route-target
                    - sr-policy-ipv4
                    - sr-policy-ipv6
                    - vpn-ipv4
                    - vpn-ipv6
                - sr-label
                - summary
                - traffic-statistics
            - bier
                - database
                - forwarding
                - inband-tunnel
                - routing
                - service-reserved-labels
                - statistics
                - status
                - template
                - tunnel
            - bmp
                - database
                    - peers
                    - rib
                        - evpn
                            - auto-disc
                            - eth-seg
                            - incl-mcast
                            - ip-prefix
                            - ipv6-prefix
                            - mac
                        - ipv4
                        - ipv6
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                    - label-ipv4
                    - label-ipv6
                    - mcast-ipv4
                    - mcast-ipv6
                    - mcast-vpn-ipv4
                    - mcast-vpn-ipv6
                    - sr-policy-ipv4
                    - sr-policy-ipv6
                    - vpn-ipv4
                    - vpn-ipv6
        - station
    - dhcp
        - local-dhcp-server
            - associations
            - declined-addresses
            - failover-pool-stats
            - failover-server-stats
            - free-addresses
            - leases
            - pool-ext-stats
            - server-stats
            - sticky-leases
            - subnet-ext-stats
            - subnet-stats
            - summary
        - servers
        - statistics
        - summary
    - dhcp6
        - local-dhcp-server
            - associations
            - failover-pool-stats
            - failover-server-stats
            - interface-id-mapping
            - leases
            - pool-ext-stats
            - pool-stats
            - pool-threshold-stats
            - prefix-ext-stats
            - prefix-stats
            - prefix-threshold-stats
            - server-stats
            - summary
        - servers
        - statistics
        - summary
    - dns
    - ecmp
    - evpn-neighbor-synchronization
    - fib
    - fib-telemetry
    - firewall
        - domain
        - summary
    - flex-algo-class-forwarding
    - flexible-algorithm-definitions
    - fp-tunnel-table
    - gtm
    - gtp
        - peer
        - s11
            - peer-profile-map
        - uplink
            - mgw-address-cache
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                - peer-profile-map
        - icmp
            - interface
        - icmp6
            - interface
        - if-attribute
            - admin-group
            - srlg-group
        - igmp
            - group
            - group-interface
            - hosts
            - interface
            - mcast-reporting-statistics
            - ssm-translate
            - static
            - statistics
                - group-interface
                - host
            - status
            - tunnel-interface
        - interface
            - ipsec
        - isa-service-chaining
        - isis
            - adjacency
            - bier-info
            - capabilities
            - database
            - flex-algo
            - hostname
            - interface
            - lfa-coverage
            - link-group-member-status
            - link-group-status
            - mapping-server
            - multi-part-tlv-stats
            - prefix-sids
            - routes
            - segment-routing-v6
                - end-sid
                - lfa-info
                - locator
                - micro-segment-locator
                - status
                - un-sid
            - sid-stats
            - spf-log
            - sr-adj-sets
            - sr-lfa-coverage
            - sr-lfa-info
            - statistics
            - status
            - summary-address
            - topology
            - unreachable-routes
        - l2tp
            - eth-tunnel
            - group
            - mlppp
                - bundles
            - peer
            - session
            - statistics
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show router l2tp tunnel

```
            - tunnel
            - vas-tunnel
        - ldp
            - bindings
                - active
                    - detail
                    - egress-if
                    - egress-lsp
                    - egress-nh
                    - ipv4
                    - ipv6
                    - p2mp
                    - prefixes
                    - summary
                - detail
                - ipv4
                - ipv6
                - label-type
                - p2mp
                    - stitching
                        - summary
                - prefixes
                - services
                - session
                - summary
            - discovery
            - fec-egress-stats
            - fec-originate
            - interface
            - lsp-bfd
            - parameters
            - session
            - session-parameters
            - statistics
            - statistics-summary
            - status
            - targ-peer
            - targ-peer-template
            - targ-peer-template-map
            - tcp-session-parameters
        - macsec
        - mcac
            - if-policy
            - policy
            - statistics
        - mld
            - group
            - group-interface
            - hosts
            - interface
            - ipsec-interface
            - ssm-translate
            - static
            - statistics
                - group-interface
                - host
            - status
        - mpls
            - bypass-tunnel
            - class-forwarding-policy
            - forwarding-policies
                - binding-label
                - endpoint
                - forwarding-policy
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

show router mpls forwarding-policies status

```
                - status
            - ingress-stats-template
            - interface
            - lsp
            - lsp-container
            - lsp-egress-stats
            - lsp-ingress-stats
            - lsp-self-ping
            - lsp-template
            - mpls-tp
                - lsp-egress-stats
                - lsp-ingress-stats
                - oam-template
                - protection-template
                - status
                - transit-path
            - p2mp-info
            - p2mp-lsp
            - path
            - sr-te-lsp
            - srlg-database
            - static-lsp
            - statistics-summary
            - status
            - tp-lsp
        - mpls-labels
            - label
            - label-range
            - summary
        - msdp
            - group
            - peer
            - source
            - source-active
            - source-active-rejected
            - statistics
            - status
        - mvpn
        - mvpn-extranet
        - mvpn-list
        - nat
            - domain
            - inside
            - l2-aware-blocks
            - lsn-blocks
            - pool
                - histogram
                    - extended-port-blocks-per-ip
                    - port-blocks
                    - ports
                    - subscribers-per-ip
                - statistics
            - subscriber-identification
            - summary
        - neighbor
        - network-domains
        - origin-validation
            - database
            - rpki-session
        - ospf
            - area
            - bier-info
            - capabilities
            - database
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            - flex-algo
            - hostname
            - interface
            - lfa-coverage
            - mapping-server
            - neighbor
            - opaque-database
            - prefix-sids
            - range
            - routes
            - sham-link
            - sham-link-neighbor
            - sid-stats
            - spf
            - sr-adj-sets
            - sr-lfa-coverage
            - statistics
            - status
            - virtual-link
            - virtual-neighbor
        - ospf3
            - area
            - capabilities
            - database
            - hostname
            - interface
            - lfa-coverage
            - neighbor
            - prefix-sids
            - range
            - routes
            - sid-stats
            - spf
            - sr-lfa-coverage
            - statistics
            - status
            - virtual-link
            - virtual-neighbor
        - p2mp-sr-tree
            - database
                - p2mp-policy
                - replication-segment
            - downstream-nodes
            - label
            - p2mp-policy
                - p2mp-candidate-path
            - replication-segment
                - downstream-nodes
            - statistics
            - status
            - tunnel
        - pbr-steering
        - pcep
            - pcc
                - detail
                - lsp-db
                - p2mp-sr
                - path-request
                - pce-associations
                    - diversity
                    - policy
                - peer
                - status
            - pce
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show router pcep pce detail

```
                - detail
                - peer
                - status
        - pcp-server
        - pim
            - anycast
            - crp
            - extranet-interface
            - group
            - interface
            - mc-ecmp-balance
            - neighbor
            - rp
            - rp-hash
            - s-pmsi
            - statistics
            - status
            - tunnel-interface
        - policy
        - policy-edits
        - radius-proxy-server
        - radius-server
        - rib-api
            - label
            - route
            - status
            - tunnel
        - rip
            - database
            - group
            - neighbor
            - peer
            - statistics
        - ripng
            - database
            - group
            - neighbor
            - peer
            - statistics
        - route-next-hop-policy
            - template
        - route-table
        - rsvp
            - interface
            - neighbor
            - session
            - statistics
            - status
        - rtr-advertisement
        - segment-routing
            - sr-mpls
                - prefix-sids
            - sr-policies
                - all
                - bgp
                - egress-statistics
                - ingress-statistics
                - static
                - static-policy
                - summary
        - segment-routing-v6
            - base-routing-instance
            - local-sid
            - locator
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                - micro-segment-local-sid
                - micro-segment-locator
                - summary
            - sgt-qos
                - application
                - dscp-map
            - static-arp
            - static-route
            - status
            - tunnel-interface
            - tunnel-table
            - twamp-light
            - unreachable-route-table
            - vrf-export-test
            - vrrp
                - instance
                - statistics
            - wlan-gw
                - isa-subnets
                - tunnel-qos
                - tunnels
            - wpp
        - saa
        - service
            - aa-sub-using
            - active-subscribers
                - ale-adjust
                - credit-control
                - filter
                - hierarchy
                    - diameter
                    - radius-acct
                - host-tracking
                    - groups
                - igmp
                - mld
                - pcc-rule
                - sub-mcac
                - subscriber
            - bonding
            - customer
            - dynamic-services
                - data-triggers
                - dynamic-services-policy
                - root-objects
                - saps
                - script
                    - snippets
                    - statistics
                - summary
            - egress-label
            - endpoint-using
            - evpn-mpls
            - fdb-info
            - fdb-mac
            - id
                - all
                - arp
                - arp-host
                - authentication
                    - statistics
                - base
                - bgp
                - bgp-ad
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show service id bgp-evpn

```
                - bgp-evpn
                    - evpn-l2-oper-attrs
                    - isid-route-target
                    - segment-routing-v6
                    - vxlan
                - bgp-ipvpn
                    - mpls
                    - segment-routing-v6
                - bgp-vpls
                - bgp-vpws
                - bmp
                    - station
                - dhcp
                    - lease-state
                    - statistics
                    - summary
                - dhcp6
                    - lease-state
                    - statistics
                    - summary
                - dynamic-services
                    - capture-sap
                - endpoint
                - epipe
                - es-pbr
                - ethernet-segment
                - etree
                - evpn-mcast-gateway
                - evpn-mpls
                - fdb
                - gsmp
                    - neighbors
                    - sessions
                - host-connectivity-verify
                    - statistics
                    - summary
                - host-tracking
                    - groups
                    - saps
                - i-vpls
                - igmp-snooping
                    - all
                    - base
                    - evpn-proxy-db
                    - mrouters
                    - mvr
                    - port-db
                    - proxy-db
                    - querier
                    - static
                    - statistics
                - interface
                - ipoe
                    - session
                    - summary
                - isid-policy
                - l2-route-table
                - l2pt
                - labels
                - log
                    - filter-id
                    - log-id
                    - snmp-trap-group
                    - syslog
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show service id mac-move

```
                - mac-move
                - mac-notification
                - mac-protect
                - macsec
                - managed-hosts
                - mfib
                - mld-snooping
                    - all
                    - base
                    - evpn-proxy-db
                    - mrouters
                    - mvr
                    - port-db
                    - proxy-db
                    - querier
                    - static
                    - statistics
                - mmrp
                - mrp
                - msap
                - mstp-configuration
                - mvrp
                - pbr-steering
                - pim-snooping
                    - group
                    - neighbor
                    - port
                    - statistics
                    - status
                - ppp
                    - session
                    - statistics
                    - summary
                - pppoe
                    - session
                    - statistics
                    - summary
                - provider-tunnel
                - proxy-arp
                - proxy-nd
                - ptp
                    - peer
                    - peers
                    - unicast
                - retailers
                - sap
                - sdp
                - segment-routing-v6
                    - micro
                - site
                - slaac
                    - host
                    - summary
                - source-address
                - spb
                    - adjacency
                    - base
                    - database
                    - fate-sharing
                    - fdb
                    - fid
                    - hostname
                    - interface
                    - mfib
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

show service id spb routes

```
                    - routes
                    - spf
                    - spf-log
                    - statistics
                    - status
                - split-horizon-group
                - spoke-sdp-fec
                - static-host
                - stp
                - subscriber-hosts
                - twamp-light
                - vccv-bfd
                - virtual-subnet
                - vpls-group
                - vxlan
                - wholesalers
            - ingress-label
            - ip-transport-using
            - ipfix
                - ipfix-export-policy
            - isid-using
            - l2-route-table
            - mac-list
            - md-auto-id
            - mrp-policy
            - nat
                - deterministic-script
                - firewall-hosts
                - firewall-neighbors
                - firewall-policy
                - l2-aware-hosts
                - l2-aware-subscribers
                - lsn-subscribers
                - map
                    - frag-stats
                    - map-domain
                    - map-e-domain
                - nat-classifier
                - nat-policy
                - nat-prefix-list
                - overview
                - pcp-server-policy
                - port-forwarding-entries
                    - classic-lsn-sub
                    - dslite-lsn-sub
                    - l2-aware-sub
                    - nat64-lsn-sub
                    - nat66-lsn-sub
                - statistics
                - syslog
                    - syslog-export-policy
                - up-nat-policy
            - oper-group
            - pbb
            - ppp
                - summary
            - provider-tunnel-using
            - proxy-arp-nd
            - pw-routing
            - pw-sap-using
            - pw-template
            - pw-template-using
            - saii-type2-using
            - sap-using
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show service sap-using aarp

```
            - aarp
            - app-profile
            - authentication-policy
            - encap-type
            - eth-cfm
                - collect-lmm-stats
                - facility
                - squelch-ingress-levels
            - eth-ring
            - eth-tunnel
            - ethernet-segment
            - interface
            - mc-ring
            - transit-policy
        - sdp
        - sdp-group
        - sdp-group-using
        - sdp-using
            - eth-cfm
                - collect-lmm-stats
                - squelch-ingress-levels
            - ethernet-segment
        - segment-routing-v6
        - service-name-using
        - service-using
        - site-using
        - spoke-sdp-fec-using
        - sub-services
        - subscriber-using
        - system
            - bgp-auto-rd
            - bgp-evpn
            - bgp-route-distinguisher
            - fdb-usage
            - gre-eth-bridged
            - pw-port-list
            - vxlan
        - taii-type2-using
        - template
            - epipe-sap-template
            - vpls-sap-template
            - vpls-sap-template-using
            - vpls-template
            - vpls-template-using
        - upnp
            - upnp-policy
        - vccv-bfd
        - vlan-aware-bundle
        - vxlan
        - vxlan-instance-using
    - sflow
    - sfm
        - icport
    - snmp
        - counters
        - streaming
            - counters
    - srrp
    - subscriber-mgmt
        - accu-stats
        - accu-stats-policy
        - accu-stats-subscribers
        - ancp-policy
        - ancp-string
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            - authentication
            - authentication-origin
            - bgp-peering-policy
            - category-map
            - credit-control-policy
            - diameter-application-policy
            - diameter-session
                - ccrt-replay
            - errors
                - mac
                - sap
                - sdp
                - unknown-origin
            - explicit-subscriber-map
            - gtp
                - peer-profile
                - s11
                    - session
                - statistics
                - summary
                - uplink
                    - session
            - host-lockout-policy
            - host-tracking-policy
            - http-redirect-policy
            - igmp-policy
            - interface-statistics
            - ipoe-session-policy
            - isa-filter
            - isa-policer
            - isa-service-chaining
                - mappings
                - vas-filter
            - local-user-db
            - mld-policy
            - msap-policy
            - pcc-rule
            - pfcp
                - association
                - local-node-id
                - peer
                - session
                - statistics
                - summary
                - up-resiliency
                    - fate-sharing-group
                    - health
            - pim-policy
            - ppp-policy
            - pppoe-client-policy
            - radius-accounting-policy
            - rip-policy
            - router-advertisement-policy
            - shcv-policy
            - sla-profile
            - statistics
            - status
                - system
            - steering-profile
            - sub-ident-policy
            - sub-mcac-policy
            - sub-profile
            - svlan-statistics
            - vrgw
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            - brg
                - brg-hosts
                - brg-profile
                - gateway
                    - bindings
                    - ds-lite-b4
                    - host
                    - hosts
                    - public-static-devices
                    - standby-ip-addresses
                - gateways
                - pppoe-client
            - lanext
                - bd
        - wlan-gw
            - gtp-statistics
            - ssid
            - statistics
            - tunnels
                - query-results
            - ue
                - query-results
    - system
        - alarm-contact-input
        - alarms
        - candidate
        - connections
        - cpu
        - cron
            - schedule
        - dhcp6
        - ethernet
            - efm-oam
        - file-transmission-profile
        - grpc
        - grpc-tunnel
            - tunnel
        - information
        - ip
        - l2tp
        - license
        - license-statistics
            - 24-hours
            - peak
            - week
        - lldp
        - load-balancing-alg
        - management-interface
            - commit-history
            - configuration-sessions
            - datastore-locks
            - remote-management
        - memory-pools
        - netconf
            - call-home
            - connection
            - counters
            - schema-path
        - ntp
        - port-topology
        - ptp
            - bmca
            - peer
            - peers
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

```
            - performance-monitoring
            - port
            - standby
            - statistics
            - unicast
        - rollback
        - satellite
            - eth-sat
                - local-forward
                - port-map
                - sync-if-timing
            - local-forward
        - script-control
            - script
            - script-policy
        - security
            - access-group
            - authentication
            - cli-session-group
            - cpm-filter
                - ip-filter
                - ipv6-filter
                - mac-filter
            - cpm-queue
            - cpu-protection
                - eth-cfm-monitoring
                - excessive-sources
                - policy
                - protocol-protection
                - violators
            - dist-cpu-protection
                - policy
            - dot1x
            - hash-control
                - custom-hash
            - keychain
            - management
            - management-access-filter
                - ip-filter
                - ipv6-filter
                - mac-filter
            - password-options
            - per-peer-queuing
            - profile
            - snmp
                - community
                - src-access-list
            - source-address
            - ssh
            - storage-encryption
                - information
            - tls
                - cert-profile
                - client-tls-profile
                - server-tls-profile
                - trust-anchor-profile
            - user
            - view
        - sntp
        - software-repository
        - ssh
            - client-known-hosts
        - switch-fabric
            - utilization
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show system sync-if-timing

```
            - sync-if-timing
            - telemetry
                - grpc
                    - subscription
                - persistent
                    - subscription
                - sensor-group
            - thresholds
            - time
        - test-oam
            - build-packet
                - packet
            - icmp
                - ping-template
                - ping-template-using
            - lag-ip-measurement
                - interface
                - interfaces
                - lag-ip-measurement-template
            - ldp-treetrace
            - link-measurement
                - interface
                - interfaces
                - measurement-template
                - measurement-template-using
            - lsp-bfd
            - oam-config-summary
            - oam-perf
            - service-activation-testhead
                - service-test
                - service-tests
            - twamp
                - client
                - server
                - twamp-light
                    - reflectors
                    - source-udp-port-pools
        - time
        - uptime
        - users
        - version
        - video
            - channel
            - interface
            - perfect-stream
                - channel
            - rtcp-request-stats
            - rtp-session
        - vrrp
            - policy
        - xiom
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

2.4 tools Commands

The CLI **tools** commands provide two primary functions:

- dump
- perform

The **tools dump** commands provide additional detailed and enhanced information about the router.

The **tools perform** commands provide the ability to trigger a variety of actions in the router, such as a card power cycle (**tools perform card power-cycle**), and APS switchovers.

```
- tools
    - dump
        - aaa
            - diameter
                - restarted-sessions
            - radius-acct-terminate-cause
            - radius-server-policy
        - anysec
            - port
            - resource-usage
            - service-encryption
            - summary-statistics
            - tunnel-encryption
        - application-assurance
            - aarp
            - esm-lease-state-no-aa
            - group
                - aa-anl-list
                - aa-sub
                    - app-group
                    - application
                    - charging-group
                    - count
                    - summary
                    - usage-monitor
                - aa-sub-list
                - aa-sub-search
                - admit-deny-stats
                - cflowd
                    - template
                - dns-ip-cache
                - event-log
                - flow-record-search
                - http-host-recorder
                - ip-identification-assist
                    - all-sources
                    - applications
                    - cache-contents
                    - passive-dns
                    - positive-app-id
                - policer
                - port-recorder
                - resources
                - summary
                - tethering
                - traffic-capture
            - resources
            - seen-ip
        - aps
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            - auto-boot
            - cflowd
                - cache
                - packet-size
                - top-flows
                - top-protocols
            - dhcp-rx-stats
            - epipe-map-access-to-egress-port
            - epipe-map-to-network
            - esa
                - firmware-versions
                - port-connectivity
            - eth-cfm
                - debug-packet
                - top-active-meps
            - eth-ring
            - eth-tunnel
            - filter
                - cam-utilization
                - overload
                - resources
                    - cpm
                    - dest-tracking
                        - ip
                        - ipv6
                        - sap
                        - sdp
                        - vprn-target
                    - egress-pbr
                    - gre-tunnel-template
                    - http-redirect
                    - iom
                    - ip
                    - ipv6
                    - mac
                    - pattern-match
                    - sticky-dest
            - ipsec
                - stats
                    - ike-stats
                - transport-mode
                    - stats
                        - ike-stats
            - lag
            - ldp-treetrace
            - li
                - wlan-gw
                    - ue
            - log
                - subscriptions
            - manufacturing
                - cmd
            - map-to-phy-port
            - mcast-path-mgr
            - mpls-resources
            - nat
                - deterministic-mapping
                - histogram
                - isa
                    - performance
                    - resources
                - l2-aware
                    - dynamic-blocks
                    - extended-blocks
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

tools dump nat sessions

```
            - sessions
        - ospf-overview
        - persistence
            - ancp
            - application-assurance
            - dhcp-server
            - nat-port-forwarding
            - python
            - submgt
            - summary
        - pfcp
            - stale-session-audit-status
        - port
            - gnss
            - pcs
            - rs-fec
            - transceiver
                - applications
        - power-shelf
            - power-module
        - pppoe
        - python
            - python-policy
        - qos
            - cam-state
            - match-criteria-overload
        - reassembly-resources
        - redundancy
            - multi-chassis
                - mc-endpoint
                - mc-ring
                - srrp-sync-database
                - sync-database
            - src-bmac-lsb
        - resource-usage
            - card
                - fp
                - mda
            - system
        - router
            - autoconfigure
                - dhcp-client
                - dhcp6-client
            - bfd
                - lsp-ldp
                - lsp-rsvp
            - bgp
                - routes
            - bier
                - bift
                - birt
            - dhcp
                - group-if-mapping
                - group-if-stats
            - dhcp6
                - group-if-mapping
            - fib
            - icmp-stats
            - ipoe-session
                - migration
            - isis
                - rlfa-backup-info
                - sr-adjacencies
                - sr-database
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                - ldp
                    - fec
                    - import-pmsi-routes
                    - instance
                    - interface
                    - lsp-bfd
                        - bfd-templates-in-use
                    - memory-usage
                    - peer
                    - session
                    - sockets
                    - timers
                - lsp-bfd
                    - local-bfd-discrim
                    - remote-bfd-discrim
                - mcast-umh-red
                - mpls
                    - bypass-tunnel
                    - forwarding-policies
                    - ftn
                    - ilm
                    - logger-event-bundling
                    - lsp-container
                    - lsp-history
                    - lspinfo
                    - memory-usage
                    - te-lspinfo
                    - tp-interface
                    - tp-tunnel
                - mvpn
                    - provider-tunnels
                - ospf
                    - abr
                    - area-range
                    - asbr
                    - bad-packet
                    - leaked-routes
                    - memory-usage
                    - request-list
                    - retransmission-list
                    - route-summary
                    - route-table
                    - sham-bad-packet
                    - sr-adjacencies
                    - sr-database
                - ospf3
                    - abr
                    - area-range
                    - asbr
                    - bad-packet
                    - leaked-routes
                    - memory-usage
                    - request-list
                    - retransmission-list
                    - route-summary
                    - route-table
                    - sr-adjacencies
                    - sr-database
                - pcep
                    - pcc
                        - lsp
                        - p2mp-sr
                    - pce
                        - lsp
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tools dump router pcep pce p2mp-sr

```
                    - p2mp-sr
            - pim
                - iom-failures
            - rib-api
                - label
                - tunnel
            - rsvp
                - neighbor
                - psb
                - rsb
                - tcsb
            - segment-routing
                - tunnel
            - segment-routing-v6
            - selective-fib-log
            - static-route
            - te-database
                - isis
                - ospf
                - ospf3
            - web-rd
                - http-client
        - satellite
            - eth-sat
        - security
            - dist-cpu-protection
                - violators
        - service
            - base-stats
            - dynamic-services
            - evpn
            - id
                - evpn
                - evpn-mpls
                - fdb
                    - card-status
                    - mac-status
                - ignore-sap-port-state
                - interface
                    - ignore-sap-port-state
                - loopback
                - provider-tunnels
                - spb
                    - default-multicast-list
                    - fid
                - srv6
                - vxlan
            - ignore-sap-port-state
            - iom-stats
            - l2pt-diags
            - loopback
            - mc-endpoint
            - msap
            - ppp
            - proxy-arp
            - proxy-nd
            - system
                - bgp-evpn
                    - ethernet-segment
            - vpls-fdb-stats
            - vpls-mfib-stats
            - vpls-pbb-mfib-stats
        - subscriber-mgmt
            - mcs-radius-accounting-stats
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            - pcc-rule
                - combinations
            - radius-attr-username
            - vrgw
                - brg
                    - gateway
        - system
            - congestion-status
            - cpm-http-redirect
                - redirect
                - summary
                - tcp
            - nsp-proxy
                - history
            - security
                - secure-boot
                    - uefi-vars
                - support-mode
                    - nonce
                    - session-tokens
                - tpm
                    - certificates
            - telemetry
                - expand-wildcard-path
                - on-change-paths
            - trim-mode
        - test-oam
            - lsp-bfd
                - tail
            - twamp
                - server
                    - error-counters
        - wlan-gw
            - isa
                - performance
                - resources
            - lanext
                - bd
                    - arp-table
                    - flood-table
                    - mac-table
                    - neighbor-table
                    - statistics
            - ue
    - perform
        - aaa
            - acct-off
            - acct-on
            - diameter
                - regenerate-osi
                - session-restart
            - route-downloader
                - start
        - application-assurance
            - aarp
            - group
                - aa-sub
                - load-balance
                - tethering
        - aps
            - clear
            - clear-lockout-annexb
            - exercise
            - force
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

tools perform aps lockout

```
            - lockout
            - lockout-annexb
            - request
        - auto-boot
        - card
            - power-cycle
        - cflowd
            - manual-export
        - chassis
            - check-bp-eprom
            - link-check
            - set-role
        - esa
            - fetch-ahs-log
            - fetch-hardware-data
            - reset-management-engine
        - eth-ring
            - clear
            - force
            - manual
        - eth-tunnel
            - aps
                - clear
                - exercise
                - force
                - lockout
                - manual
        - filter
            - ip-filter
                - entry
                    - activate-primary-action
            - ipv6-filter
                - entry
                    - activate-primary-action
            - mac-filter
                - entry
                    - activate-primary-action
            - redirect-policy
                - activate-best-dest
        - firmware
            - audit
            - upgrade
                - all
                - card
                - mda
                - sfm
        - ipsec
            - client-db
            - ike-initiate
            - transport-mode
                - ike-initiate
        - isa
            - lns-group
        - lag
            - clear-force
            - force
            - load-balance
        - log
            - generate-event
            - subscribe-to
            - test-event
            - unsubscribe-from
        - macsec
            - connectivity-association
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tools perform macsec connectivity-association auto-gen-psk

```
                - auto-gen-psk
        - mda
            - ptp-reset
        - nat
            - deterministic
                - calculate-maps
            - port-forwarding-action
                - l2-aware
                - lsn
            - recover-l2aw-bypass
        - persistence
            - downgrade
        - pfcp
            - trigger-cpf-session-audit
        - port
            - gnss
                - restart-position-survey
        - power-shelf
            - power-module
        - python-policy
        - python-script
            - protect
            - reload
        - redundancy
            - forced-single-sfm-overload
            - issu-post-process
            - mgmt-ethernet
            - multi-chassis
                - mc-ipsec
                    - force-switchover
                        - domain
                        - tunnel-group
                - sync-database-reconcile
        - router
            - autoconfigure
                - dhcp-client
                - dhcp6-client
            - bgp
                - next-hop-reprogram
            - dhcp
                - local-dhcp-server
                    - failover
                        - abort-startup-wait
                        - force-partner-down
                    - pool
                        - create-sticky-lease
                        - failover
                            - abort-startup-wait
                            - force-partner-down
                    - send-force-renew
            - dhcp6
                - local-dhcp-server
                    - failover
                        - abort-startup-wait
                        - force-partner-down
                    - pool
                        - failover
                            - abort-startup-wait
                            - force-partner-down
            - isis
                - ldp-sync-exit
                - overload
                - run-manual-spf
            - l2tp
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

tools perform router l2tp group

```
                - group
                    - drain
                    - stop
                    - tunnel
                        - drain
                        - start
                        - stop
                - peer
                    - drain
                - session
                - tunnel
                    - drain
                    - stop
            - mcac
                - recalc
            - mpls
                - adjust-autobandwidth
                - cspf
                - force-switch-path
                - manual-switch-path
                - optimize
                - resignal
                - resignal-bypass
                - revert
                - sr-te-cspf
                - switch-path
                - tp-tunnel
                    - clear
                    - force
                    - lockout
                    - manual
                - trap-suppress
                - update-path
            - ospf
                - ldp-sync-exit
                - overload
                - refresh-lsas
                - run-manual-spf
            - ospf3
                - ldp-sync-exit
                - overload
                - refresh-lsas
                - run-manual-spf
            - pcp-server
                - set-epoch-value
            - pim
                - mc-ecmp-rebalance
        - satellite
            - force-uplink-switch
        - security
            - authentication-server-check
            - dist-cpu-protection
                - release-hold-down
        - service
            - dynamic-services
                - evaluate-script
            - eval-epipe-sap-template
            - eval-pw-template
            - eval-vpls-sap-template
            - eval-vpls-template
            - id
                - admin-lock
                    - pw
                        - sdp
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                - endpoint
                    - force-switchover
                - eval-epipe-sap-template
                - eval-pw-template
                - eval-vpls-sap-template
                - eval-vpls-template
                - instantiate-data-saps
                - interface
                    - ignore-sap-port-state
                - loopback
                    - eth
                        - sap
                        - sdp
                    - pw
                        - sdp
                - mcac
                - mvpn
                    - umh-pair-id
                - proxy-arp
                    - dynamic-resolve
                - proxy-nd
                    - dynamic-resolve
                - spb
                    - run-manual-spf
            - pw-routing
                - eval-expired-fec
                - spoke-sdp-fec-release
        - subscriber-mgmt
            - bonding
                - eval-rates
            - coa
            - credit-reset
            - edit-ipoe-session
            - edit-lease-state
            - edit-ppp-session
            - edit-slaac-host
            - eval-fate-sharing-group-template
            - eval-group-interface-template
            - eval-ipoe-session
            - eval-lease-state
            - eval-msap
            - eval-ppp-session
            - eval-sap-template
            - eval-slaac-host
            - forcerenew
            - local-user-db
                - ipoe
                    - host-lookup
                    - router-advertisement
                - local-dhcp-db
                - ppp
                    - authentication
                    - host-lookup
            - ppp
                - ignore-ipv6cp-terminate-request
            - remap-lease-state
            - vrgw
                - brg
                    - pppoe-client
                        - restart
        - system
            - auto-node-provisioning
                - file
                - ipv4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tools perform system auto-node-provisioning ipv6

```
            - ipv6
        - cpm-http-redirect
            - tcp
                - settings
                    - data-retransmissions
                    - data-timeout
                    - established-timeout
                    - fin-ack-retransmissions
                    - fin-ack-timeout
                    - max-connections
                    - max-connections-per-host
                    - max-hosts
                    - syn-ack-retransmissions
                    - syn-ack-timeout
        - grpc
            - custom-proto
        - inter-chassis
            - sfm-interco-test
        - management-interface
            - configuration-mode
            - snmp
                - change-key
                - generate-key
        - nsp-proxy
            - clear-history
        - power-management
            - power-save
                - low-power-fabric
        - script-control
            - script-policy
                - stop
        - security
            - support-mode
                - generate-new-nonce
        - set-fabric-speed
        - set-trim-mode
        - ssh
            - client-known-hosts
                - remove-key
                - remove-my-key
            - gen-keypair
        - switch-fabric
            - failure-recovery
    - test-oam
        - icmp
            - ping-template-sync
    - wlan-gw
        - clear-ue
        - lanext
            - bd
                - clear-arp
                - clear-mac
                - clear-neighbor
                - clear-statistics
        - redundancy
            - force-switchover
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

3 2 Commands

3.1 24-hours

24-hours

Syntax

24-hours

24-hours application *license-app*

24-hours application *license-app* **history**

24-hours history

Context

[Tree] (show>system>license-statistics 24-hours)

Full Context

show system license-statistics 24-hours

Description

This command displays application license statistics for the last 24 hours.

Parameters

license-app

Specifies the application license.

Values lns, nat, sub-mgmt, wlan-gw, aa, ipsec

history

Displays additional 24 hour statistics.

Platforms

VSR

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4 a Commands

4.1 aa-anl-list

aa-anl-list

Syntax

aa-anl-list [**congested-only**] [**sort-type** { **top-by-subs** | **top-by-rate**} [**isa** *mda-id*]

aa-anl-list summary

Context

[Tree] (tools>dump>app-assure>group aa-anl-list)

Full Context

tools dump application-assurance group aa-anl-list

Description

This command displays the list of active ANLs detected by AA along with the associated conditions (for example, congestion, measured rate, and number of subscribers).

Parameters

congested-only

Specifies only congested ANLs.

sort-type

Filters by the specified sub-type.

Values **top-by-subs** — Displays the top ANLs sorted by measured ANL bandwidth.

top-by-rate — Displays the top ANLs sorted by those ANLs that have the highest number of subscribers.

mda-id

Specifies the slot and MDA in the format *slot*/*mda*.

Values *slot*—1 to 10

mda—1 or 2

summary

Displays summary information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of AA ANL list information.

Output example

```
A:Dut-C# tools dump application-assurance group 120:10 aa-anl-list
===============================================================================
Application-Assurance Access Network Location List: Group 120:10, ISA 3/1
===============================================================================
Type          Location               Congestion State     Rate (kbps) Subscribers
-------------------------------------------------------------------------------
AP-MAC+VLAN   23:89:be:c2:64:50+1034  RTT Limits Exceeded  21961       113
AP-MAC+VLAN   83:2d:3d:73:c4:9a+4090  RTT Limits Exceeded  15963       86
AP-MAC+VLAN   f2:ee:cc:47:71:f7+0034  Not Congested        6147        12
===============================================================================
```

4.2 aa-interface

aa-interface

Syntax

aa-interface isa *mda-id*

Context

[Tree] (show>app-assure>group aa-interface)

Full Context

show application-assurance group aa-interface

Description

This command displays AA interface information.

Parameters

mda-id

Specifies the MDA ID.

Values

<mda-id>	<slot>/<mda>
slot	[1 to 10] (depending on platform)
mda	[1 to 2]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

4.3 aa-sub

aa-sub

Syntax

aa-sub esm *sub-ident-string* [**snapshot**]

aa-sub esm-mac *esm-mac-name* [**snapshot**]

aa-sub sap *sap-id*

aa-sub spoke-id *sdp-id:vc-id* [**snapshot**]

aa-sub transit *transit-aasub-name* [**snapshot**]

Context

[Tree] (show>app-assure>group aa-sub)

Full Context

show application-assurance group aa-sub

Description

This command displays per-subscriber statistics.

Parameters

esm *sub-ident-string*

Specifies an existing subscriber identification string.

esm-mac *esm-mac-name*

Specifies an existing subscriber MAC.

sap *sap-id*

Specifies the physical port identifier portion of the SAP definition.

spoke-id sdp-id:vc-id

Specifies the spoke SDP ID and VC ID.

Values 1 to 17407

1 to 4294967295

snapshot

Specifies that the statistics retrieved include the sum of the statistics from the previous collection windows, and the statistics for any closed flows since the last collection window.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

transit *transit-aasub-name*

Specifies an existing transit subscriber name string up to 32 characters in length.

Platforms

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

Output

The following output is an example of AA subscriber information.

Output example

```
*A:Dut-C# show application-assurance group 1 aa-sub spoke-sdp 1:1 snapshot application count
===============================================================================
Application-Assurance Subscriber 1:1 (spoke-sdp)
Application Statistics (snapshot)
===============================================================================
Application                    Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
Unknown                          0% 0               0             0
===============================================================================
*A:Dut-C#


show application-assurance group 1 aa-sub {esm <sub-ident-string> | esm-mac <esm-mac-name> |
 sap <sap-id> | spoke-sdp <sdp-id:vc-id> } summary
===============================================================================
Application-Assurance Subscriber summary (realtime | snapshot)
===============================================================================
AA-Subscriber        : <sub-ident-string> or <sap-id> or <sdp-id:vc-id>
ISA assigned         : <Slot/MDA> Unassigned
App-Profile          : <app-profile-name>
App-Profile divert   : Yes or No
capacity-cost        : 100 // for sap/spoke-sdp & esm aa-sub)
Traffic                  Octets           Packets         Flows
-------------------------------------------------------------------------------
Admitted from subscriber: 0               0               0
Denied from subscriber:   0               0               0
Active flows from subscriber:                             0
Admitted to subscriber:   0               0               0
Denied to subscriber:     0               0               0
Active flows to subscriber:                               0
Total flow duration:      0 seconds
Terminated flows:                                         0
Short Duration flows:                                     0
Medium Duration flows:                                    0
Long Duration flows:                                      0

Top App-Groups           Octets           Packets         Flows
-------------------------------------------------------------------------------
<app-group-name>         100000           3000            30
<app-group-name>         90000            3000            30
<app-group-name>         80000            3000            30
-------------------------------------------------------------------------------
Application Service Options (ASO)
-------------------------------------------------------------------------------
Characteristic                 Value                          Derived from
-------------------------------------------------------------------------------
Server                         Block                          default
ServiceBw                      SuperUser                      app-profile
Teleworker                     Yes                            override
VideoBoost                     Priority                       override
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Total characteristics            : 4
Total derived from aso defaults  : 1
Total derived from app-profile   : 1
Total derived from overrides     : 2
-------------------------------------------------------------------------------


A:ALA-IPD# show application-assurance group 1 aa-sub {esm <sub-ident-string>
| esm-mac <esm-mac-name> | sap <sap-id> | spoke-sdp <sdp-id:vc-id> | transit
<transit-aasub-name>} summary
===============================================================================
Application-Assurance Subscriber summary (realtime | snapshot)
===============================================================================
AA-Subscriber       : 1:1 (spoke-sdp)
ISA assigned        : 3/1
App-Profile         : app_prof_D_4
App-Profile divert  : Yes
Capacity cost       : 1
-------------------------------------------------------------------------------
Traffic                   Octets            Packets         Flows
-------------------------------------------------------------------------------
Admitted from subscriber: 0                 0               0
Denied from subscriber:   0                 0               0
Active flows from subscriber:                               0
Admitted to subscriber:   0                 0               0
Denied to subscriber:     0                 0               0
Active flows to subscriber:                                 0
Total flow duration:      0 seconds
Terminated flows:                                           0
Short Duration flows:                                       0
Medium Duration flows:                                      0
Long Duration flows:                                        0

Top App-Groups            Octets            Packets         Flows
-------------------------------------------------------------------------------
<app-group-name>          100000            3000            30
<app-group-name>          90000             3000            30
<app-group-name>          80000             3000            30
===============================================================================
A:ALA-IPD#

A:ALA-IPD# show application-assurance group 1 aa-sub transit <transit-aasub-name>
summary
===============================================================================
Application-Assurance Subscriber summary (realtime | snapshot)
===============================================================================
AA-Subscriber        : <transit-aasub-name>
App-Profile          : <app-profile-name>

aa-filter            : aa-ip <aa-ip-filter-id> or aa-prefix <aa-prefix-filter-id>
    Parent              : SAP <sap-id> or Spoke-SDP <id> or N/A
    Parent ISA assigned  : <Slot/MDA> or <None (fail-to-closed | fail-to-open)> or
Unassigned or N/A
    Parent app-profile   : <app-profile-name> or N/A
    Parent divert        : Yes or No or N/A
    Parent capacity-cost : 2000 or N/A
Traffic                   Octets            Packets         Flows
-------------------------------------------------------------------------------
Admitted from subscriber: 0                 0               0
Denied from subscriber:   0                 0               0
Active flows from subscriber:                               0
Admitted to subscriber:   0                 0               0
Denied to subscriber:     0                 0               0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Active flows to subscriber:                                0
Total flow duration:      0 seconds
Terminated flows:                                          0
Short Duration flows:                                      0
Medium Duration flows:                                     0
Long Duration flows:                                       0

Top App-Groups            Octets            Packets         Flows
-------------------------------------------------------------------------------
<app-group-name>          100000            3000            30
<app-group-name>          90000             3000            30
<app-group-name>          80000             3000            30
===============================================================================
A:ALA-IPD#
show application-assurance group 1 aa-sub {esm <sub-ident-string> | esm-mac <esm-mac-name> |sap
 <sap-id> | spoke-sdp <sdp-id:vc-id> | transit <transit-aasub-name>} count


A:ALA-IPD# show application-assurance group 1 aa-sub {esm <sub-ident-string> | esm-mac <esm-
mac-name> | sap <sap-id> | spoke-sdp <sdp-id:vc-id> | transit <transit-aasub-name>} snapshot
count
===============================================================================
Application-Assurance Subscriber esm|sap|spoke-sdp|transit <name>
Application Group, Application and Protocol Statistics (realtime | snapshot)
===============================================================================
Application Group               Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
Games                             0% 0               0             0
Mail                              0% 0               0             0
Peer to Peer                      0% 0               0             0
Unknown                           0% 0               0             0
Web                               0% 0               0             0
===============================================================================
Application                     Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
SIP                               0% 0               0             0
-------------------------------------------------------------------------------
Protocol statistics are not configured in statistics>aa-sub
===============================================================================
A:ALA-IPD#


A:ALA-IPD# show application-assurance group 1 aa-sub {esm <sub-ident-string> | esm-mac <esm-
mac-name> | sap <sap-id> | spoke-sdp <sdp-id:vc-id> | transit <transit-aasub-name>}
application count detail
===============================================================================
Application-Assurance Subscriber esm|esm-mac|sap|spoke-sdp|transit <name>
Application Statistics (realtime | snapshot)
===============================================================================
    Subscriber                        Application:
Type                      Octets            Packets         Flows
-------------------------------------------------------------------------------
    name                              SIP:
Admitted from subscriber: 0                 0               0
Denied from subscriber:   0                 0               0
Active flows from subscriber:                               0
Admitted to subscriber:   0                 0               0
Denied to subscriber:     0                 0               0
Active flows to subscriber:                                 0
Max per min from sub:     1000              10
Max per min to sub:       2000              20
Total flow duration:      0 seconds
Terminated flows:                                           0
Short Duration flows:                                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Medium Duration flows:                                  0
Long Duration flows:                                    0
===============================================================================
A:ALA-IPD#
```

aa-sub

Syntax

aa-sub dsm mac *mac-address* [**snapshot**]

aa-sub esm *sub-ident-string*

aa-sub esm-mac *esm-mac-name*

aa-sub transit *transit-aasub-name*

Context

[Tree] (tools>dump>app-assure>group aa-sub)

Full Context

tools dump application-assurance group aa-sub

Description

This command displays **aa-sub** command information for a specific ISA.

Parameters

esm-mac-name

Specifies the ESM MAC name; a maximum of 32 characters.

mac-address

Specifies the MAC address in *xx:xx:xx:xx:xx:xx* or *xx-xx-xx-xx-xx-xx* format.

snapshot

Displays snapshot statistics.

sub-ident-string

Specifies the AA subscriber identifier string, up to 32 characters.

transit-aasub-name

Specifies the AA transit subscriber name, up to 32 characters.

Platforms

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

Output

The following output is an example of AA subscriber information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:Dut-C# tools dump application-assurance group 120:10 aa-sub dsm mac  00:01:02:00:00:00
 summary
===============================================================================
Application-Assurance Subscriber Summary (realtime)
===============================================================================
MAC                     : 00:01:02:00:00:00 (dsm)
ISA assigned            : 3/1
Group                   : 120:10
App-Profile             : AppPro1
HTTP URL Parameters     : (Not Specified)
Access Network Location  : 04:7d:be:fb:64:a8+0243 (Not Congested)
ANL Type                : AP-MAC+VLAN
Last HTTP Notified Time  : N/A

-------------------------------------------------------------------------------
Traffic                         Octets              Packets            Flows
-------------------------------------------------------------------------------
From subscriber:
  Admitted                           0                    0                0
  Denied                             0                    0                0
  Active flows                                                             0
To subscriber:
  Admitted                           0                    0                0
  Denied                             0                    0                0
  Active flows                                                             0
Flow counts:
  Short duration                                                           0
  Med duration                                                             0
  Long duration                                                            0
Total flow duration :  0 seconds

-------------------------------------------------------------------------------
Application Service Options (ASO)
-------------------------------------------------------------------------------
Characteristic              Value          Derived from
-------------------------------------------------------------------------------
Char1                       val10          default
===============================================================================
```

aa-sub

Syntax

aa-sub esm *sub-ident-string*

aa-sub esm-mac *esm-mac-name*

aa-sub sap *sap-id*

aa-sub spoke-id *sdp-id:vc-id*

aa-sub transit *transit-aasub-name*

Context

[Tree] (tools>perform>app-assure>group aa-sub)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform application-assurance group aa-sub

Description

This command performs application assurance group aa-sub operations.

Parameters

esm *sub-ident-string*

Specifies an existing subscriber identification string.

esm-mac *esm-mac-name*

Specifies an existing subscriber MAC.

sap *sap-id*

Specifies the physical port identifier portion of the SAP definition.

spoke-id sdp-id:vc-id

Specifies the spoke SDP ID and VC ID.

Values 1 to 17407
1 to 4294967295

transit *transit-aasub-name*

Specifies an existing transit subscriber name string up to 32 characters in length.

Platforms

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

4.4 aa-sub-list

aa-sub-list

Syntax

aa-sub-list [**isa** *mda-id*]

aa-sub-list policers-exceeded

aa-sub-list summary

Context

[Tree] (show>app-assure>group aa-sub-list)

Full Context

show application-assurance group aa-sub-list

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays AA subscriber lists.

Parameters

isa *mda-id*

Displays the slot and MDA ID.

Values 1 to 10 (depending on chassis model)

1, 2

summary

Displays summary information.

Platforms

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

Output

The following output is an example of AA subscriber list information.

Output example

```
*A:Dut-C# show application-assurance group 74:40346 aa-sub-list summary
===============================================================================
Application-Assurance Subscriber Summary for Group 74:40346
===============================================================================
           all        esm        sap        spoke-sdp  transit    esm-mac
-------------------------------------------------------------------------------
Total      100        0          0          0          0          100
Overrides  100        0          0          0          0          100
-------------------------------------------------------------------------------
Total number of aa-subs found               : 100
Total number of aa-subs with overrides found : 100
===============================================================================

*A:Dut-C# show application-assurance group 224:10559 aa-sub-list
===============================================================================
Application-Assurance Subscriber List for Group 224:10559
===============================================================================
type      aa-sub                  ISA      App-Profile             divert
                                  assigned
-------------------------------------------------------------------------------
sap       1/1/1:113               3/2      prof_224_10559_1        Yes
sap       1/1/1:241               3/2      prof_224_10559_1        Yes
sap       1/1/1:369               3/2      prof_224_10559_1        Yes
sap       1/1/1:497               3/2      prof_224_10559_1        Yes
sap       1/1/4:113               3/2      prof_224_10559_2        Yes
sap       1/1/4:241               3/2      prof_224_10559_2        Yes
sap       1/1/4:369               3/2      prof_224_10559_2        Yes
sap       1/1/4:497               3/2      prof_224_10559_2        Yes
-------------------------------------------------------------------------------
Total number of aa-subs found              : 8
===============================================================================
*A:Dut-C#


A:Dut-C show application-assurance group 1 aa-sub-list
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Application-Assurance Subscriber List for Group 1
===============================================================================
type      aa-sub                   ISA       App-Profile             divert
                                   assigned
-------------------------------------------------------------------------------
group 1:1
-------------------------------------------------------------------------------
sap       2/1/1:100                all       ap1                     Yes
sap       2/1/1:200                esa-1/1   ap2                     Yes
-------------------------------------------------------------------------------
Number of aa-subs found in group 1:1              : 2
Total number of aa-subs found                     : 2
===============================================================================
*A:Dut-C#


*A:Dut-C# show application-assurance group 224:10559 aa-sub-list isa 3/2
===============================================================================
Application-Assurance Subscriber List for Group 224:10559, isa 3/2
===============================================================================
type      aa-sub                   ISA      App-Profile             divert
                                   assigned
-------------------------------------------------------------------------------
sap       1/1/1:113                3/2      prof_224_10559_1        Yes
sap       1/1/1:241                3/2      prof_224_10559_1        Yes
sap       1/1/1:369                3/2      prof_224_10559_1        Yes
sap       1/1/1:497                3/2      prof_224_10559_1        Yes
sap       1/1/4:113                3/2      prof_224_10559_2        Yes
sap       1/1/4:241                3/2      prof_224_10559_2        Yes
sap       1/1/4:369                3/2      prof_224_10559_2        Yes
sap       1/1/4:497                3/2      prof_224_10559_2        Yes
-------------------------------------------------------------------------------
Total number of aa-subs found              : 8
===============================================================================
*A:Dut-C#

A:ALA-IPD# show application-assurance group 2 aa-sub-list [isa <mda-id>]
===============================================================================
Application-Assurance Subscriber List for Group 2, isa <slot/mda>
===============================================================================
type      aa-sub                   ISA      App-Profile             divert
                                   assigned
-------------------------------------------------------------------------------
group 2:50
-------------------------------------------------------------------------------
esm       Bob                      3/1      Grp2P50appProf1         Yes
esm       Fred                     1/1      Grp2P50appProf2         Yes
sap       1/2/9                    3/1      Grp2P50appProf1         Yes
sap       1/2/10                   1/1      Grp2P50appProf2         Yes
spoke-sdp 1:7                      1/1      Grp2P50appProf1         Yes
spoke-sdp 2:101                    3/1      Grp2P50appProf2         Yes
esm-mac   Sub3-000102030405        1/1      Grp2P50appProf2         Yes
-------------------------------------------------------------------------------
group 2:32656
-------------------------------------------------------------------------------
esm       Alex                     1/1      appProf1                Yes
esm       Sub1                     3/1      Lite                    Yes
esm       Max                      3/1      appProf1                Yes
esm       tcpr_sub                 1/1      appProf2                Yes
sap       1/2/5                    3/1      appProf1                Yes
sap       1/2/6                    1/1      appProf1                Yes
sap       2/2/4:111                1/1      Power                   Yes
spoke-sdp 1:6                      1/1      appProf1                Yes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
spoke-sdp 2:100                    3/1      appProf2                Yes
esm-mac   Sub4-000203040506        3/1      appProf2                Yes
-------------------------------------------------------------------------------
Number of aa-subs found in group 2:50       : 6
Number of aa-subs found in group 2:32656    : 9
Total number of aa-subs found               : 15
===============================================================================
A:ALA-IPD#


A:ALA-IPD# show application-assurance group 2:32656 aa-sub-list [isa <mda-id>
===============================================================================
Application-Assurance Subscriber List for Group 2:32656, isa <slot/mda>
===============================================================================
type    aa-sub                     ISA      App-Profile             divert
                                   assigned
-------------------------------------------------------------------------------
esm       Alex                     1/1      appProf1                Yes
esm       Sub1                     3/1      Lite                    Yes
esm       Max                      3/1      appProf1                Yes
esm       tcpr_sub                 1/1      appProf2                Yes
sap       1/2/5                    3/1      appProf1                Yes
sap       1/2/6                    1/1      appProf1                Yes
sap       2/2/4:111                1/1      Power                   Yes
spoke-sdp 2:100                    1/1      appProf8                Yes
esm-mac   diameter_esm-000100000001 3/2      appProf2                Yes
esm-mac   diameter_esm-000100000002 3/2      appProf2                Yes
-------------------------------------------------------------------------------
Number of aa-subs : 8
===============================================================================
A:ALA-IPD#

*A:Dut-C# show application-assurance group 74 aa-sub-list isa 3/2
===============================================================================
Application-Assurance Subscriber List for Group 74, isa 3/2
===============================================================================
type      aa-sub                   ISA       App-Profile             divert
                                   assigned
-------------------------------------------------------------------------------
group 74:40346
-------------------------------------------------------------------------------
esm-mac   diameter_esm-000100000001 3/2      appProf2                 Yes
esm-mac   diameter_esm-000100000002 3/2      appProf2                 Yes
```

aa-sub-list

Syntax

aa-sub-list [**filter-by-type** *sub-type*] [**isa** *mda-id*] **quarantined-only**

aa-sub-list [**filter-by-type** *sub-type*] [**isa** *mda-id*] **policers-exceeded**

aa-sub-list summary

Context

[Tree] (tools>dump>app-assure>group aa-sub-list)

Full Context

tools dump application-assurance group aa-sub-list

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the AA subscriber list for a specific ISA.

Parameters

filter-by-type *sub-type*

Filters by the specified sub-type.

Values dsm, esm, esm-mac, sap, spoke-sdp, transit

mda-id

Specifies the slot and MDA in the format *slot*/*mda*.

Values *slot*—1 to 10

mda—1 or 2

summary

Displays summary information.

quarantined-only

Displays the AA subscribers that are under quarantine.

policers-exceeded

Displays subscribers that have exceeded policer resources.

Platforms

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

Output

The following output is an example of AA subscriber list information.

Output example

```
*A:Dut-C#  tools dump application-assurance group 1 aa-sub-list quarantined-only
===============================================================================
Application-Assurance Sub List (quarantined): Group 1, ISA 3/1
===============================================================================
Type          AA-Sub                        App Profile                  Part
                                                                         Id
              (Quarantined Since)           (Last Quarantine Event)
-------------------------------------------------------------------------------
esm           Sub1                          app-profile-1                0
              (01/30/2018 14:25:22)         (01/30/2018 15:27:3)
spoke-Sdp     1000:150                      app-profile-2                0
              (01/30/2018 13:25:22)         (01/30/2018 16:27:3)
esm-mac       Sub3-000102030405             app-profile-1                0
              (01/30/2018 12:25:22)         (01/30/2018 17:27:3)
transit       t1                            app-profile-4                0
              (01/30/2018 11:25:22)         (01/30/2018 18:27:3)
-------------------------------------------------------------------------------
Number of AA Subscribers  : 4


*A:Dut-C# tools dump application-assurance group 1 aa-sub-list summary
===============================================================================
Application-Assurance Subscriber Summary for Group 1, ISA 5/2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
             all      esm      sap      spoke-   transit  dsm      esm-mac
                                        sdp
-------------------------------------------------------------------------------
Total        0        0        0        0        0        0        0
Overrides    0        0        0        0        0        0        0
Pol Exceeded 0        0        0        0        0        0        0
Congested    0        0        0        0        0        0        0
Quarantined  0        0        0        0        0        0        0

-------------------------------------------------------------------------------
Total number of aa-subs found                                  : 0
Total number of aa-subs with overrides found                   : 0
Total number of aa-subs with policer resources exceeded found : 0
Total number of congested aa-subs found                        : 0
Total number of quarantined aa-subs found                      : 0
===============================================================================
```

4.5 aa-sub-search

aa-sub-search

Syntax

aa-sub-search *search-type granularity* [**direction** *direction*] [**max-count** *max-count*]

Context

[Tree] (tools>dump>app-assure>group aa-sub-search)

Full Context

tools dump application-assurance group aa-sub-search

Description

This command displays AA aa-sub information.

Parameters

search-type

Specifies the type of search.

Values top

granularity

Specifies the granularity of the search.

Values bytes, packets, flows

direction *direction*

Specifies the network/subscriber direction.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values from-sub, to-sub, both

max-count ***max-count***

Specifies the maximum flows to display.

Values 1 to 100

Platforms

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

Output

The following output is an example of AA subscriber search information.

Output example

```
A:Dut-C#  tools dump application-assurance group 74 aa-sub-search top bytes
===============================================================================
Application-Assurance aa-sub search for Group 74: Top 10 by bytes (both)
===============================================================================
Entry isa   SubType     SubName
         From-sub-count   To-sub-count         Group:Partition Interval(UTC)
1     3/2   esm-mac     "diameter_esm-000100000001"
         40                42                  74:40346        "01/13/2017 14:39:18"
2     3/2   esm-mac     "diameter_esm-000100000002"
         40                42                  74:40346        "01/13/2017 14:39:18"
3     3/2   esm-mac     "diameter_esm-000100000003"
         40                42                  74:40346        "01/13/2017 14:39:18"
4     3/2   esm-mac     "diameter_esm-000100000004"
         40                42                  74:40346        "01/13/2017 14:39:18"
5     3/2   esm-mac     "diameter_esm-000100000005"
         40                42                  74:40346        "01/13/2017 14:39:18"
6     3/2   esm-mac     "diameter_esm-000100000006"
         40                42                  74:40346        "01/13/2017 14:39:18"
7     3/2   esm-mac     "diameter_esm-000100000007"
         40                42                  74:40346        "01/13/2017 14:39:18"
8     3/2   esm-mac     "diameter_esm-000100000008"
         40                42                  74:40346        "01/13/2017 14:39:18"
9     3/2   esm-mac     "diameter_esm-000100000009"
         40                42                  74:40346        "01/13/2017 14:39:18"
10    3/2   esm-mac     "diameter_esm-00010000000a"
         40                42                  74:40346        "01/13/2017 14:39:18"

Total number of aa-subs found:  10
```

4.6 aa-sub-study

aa-sub-study

Syntax

aa-sub-study esm *sub-ident-string* [**snapshot**]

aa-sub-study esm-mac *esm-mac-name* [**snapshot**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

aa-sub-study sap *sap-id* [**snapshot**]

aa-sub-study spoke-sdp *sdp-id:vc-id* [**snapshot**]

aa-sub-study transit *transit-aasub-name* [**snapshot**]

Context

[Tree] (show>app-assure>group aa-sub-study)

Full Context

show application-assurance group aa-sub-study

Description

This command displays per-subscriber special study statistics.

Parameters

esm *sub-ident-string*

Specifies an existing subscriber identification string.

esm-mac *esm-mac-name*

Specifies an existing subscriber MAC.

sap *sap-id*

Specifies the physical port identifier portion of the SAP definition.

spoke-id sdp-id:vc-id

Specifies the spoke SDP ID and VC ID.

Values 1 to 17407

1 to 4294967295

snapshot

Specifies that the statistics retrieved include the sum of the statistics from the previous collection windows, and the statistics for any closed flows since the last collection window.

transit *transit-aasub-name*

Specifies an existing transit subscriber name string.

Platforms

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

4.7 aa-sub-using

aa-sub-using

Syntax

aa-sub-using

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

aa-sub-using app-profile *app-profile-name*

Context

[Tree] (show>service aa-sub-using)

Full Context

show service aa-sub-using

Description

This command displays the subscribers and associated services diverted to Application Assurance using a specific app profile name.

Parameters

app-profile-name

Specifies the application profile name.

Platforms

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

Output

The following output is an example of AA subscriber using information.

Output example

```
*A:Dut-C# show service aa-sub-using
===============================================================================
Aa-Subscribers
===============================================================================
aa-sub-type  aa-sub-name                    app-profile-name
-------------------------------------------------------------------------------
esm-mac      diameter_esm-000100000001      app-prof~%;&+-!?
esm-mac      diameter_esm-000100000002      app-prof~%;&+-!?
....
esm-mac      diameter_esm-000100000064      app-prof~%;&+-!?
-------------------------------------------------------------------------------
Number of ESM subs                : 0
Number of ESM mac subs            : 100
Number of SAP subs                : 0
Number of Spoke-Sdp subs          : 0
Number of Transit subs            : 0
Total number of aa-subs           : 100
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.8 aa-transit-redundancy

aa-transit-redundancy

Syntax

aa-transit-redundancy [*aatr-id*]

Context

[Tree] (show>app-assure aa-transit-redundancy)

Full Context

show application-assurance aa-transit-redundancy

Description

This command displays information about AATR instances configured on the system.

Parameters

aatr-id

Specifies the AATR instance ID for which to display information. If an ID is not specified, the system displays summary information about all configured AATR instances.

Values 1 to 16

Platforms

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

Output

The following output is an example of AATR information, and Table 4: Output fields: aa-transit-redundancy describes the output fields.

Output example

```
A:node-2>show>app-assure aa-transit-redundancy

===============================================================================
AATR Instance Table
===============================================================================
ID    Description                                   Admin Oper  Activity
                                                                State
-------------------------------------------------------------------------------
1     aatr 1 on node-2                              Up    Down  standAlone
12    aatr 12 on node-2                             Up    Down  standAlone
-------------------------------------------------------------------------------
No. of AATR Entries: 2
===============================================================================
*A:node-2>show>app-assure aa-transit-redundancy 12

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
AATR Instance 12
===============================================================================
Description    : aatr 12 on node-2
Admin State    : Up

Peer IP        : 12.12.12.12

Oper State     : Down                  Oper Flags     : activityUnknown
Activity State : standAlone
Parent Sub     : sap 1/1/7:25
Transit IP PID : 65535
===============================================================================
```

Table 4: Output fields: aa-transit-redundancy

Label	Description
ID	The AATR instance ID
Description	The AATR instance description
Admin State	The administrative status of the AATR instance
Oper State	The operational status of the AATR instance
Activity State	The current AATR instance activity state
Peer IP	The peer IP address
Oper Flags	The reason for the AATR instance operational status: • adminDown(0) - AATR instance is administratively down • noTransit(1) - no transit policy using AATR instance • noAutoCreate(2) - transit policy does not have auto-create enabled • noSeenIp(3) - transit policy does not have seen-IP detection enabled • noParentSub(4) - no parent SAP or spoke SDP using transit policy • peerNotConnected(5) - peer AATR instance is not connected, or no communication established • peerAdminDown(6) - peer AATR instance is administratively down or unreachable • peerNoTransit(7) - peer side: no transit policy using AATR instance • peerNoAutoCreate(8) - peer side: transit policy does not have auto-create enabled • peerNoSeenIp(9) - peer side: transit policy does not have seen-IP detection enabled • peerNoParentSub(10) - peer side: no parent SAP or spoke SDP using transit policy • subTypeMismatch(11) - mismatch detected in the subscriber types between peer AATR instances

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• peerPlcyIdMismatch(12) - mismatch detected in the policy ID between peer AATR instances
Parent Sub	The parent subscriber interface
Transit IP PID	The transit IP policy ID

4.9 aaa

aaa

Syntax

aaa

Context

[Tree] (clear aaa)

Full Context

clear aaa

Description

Commands in this context clear authentication, authorization, and accounting data.

Platforms

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

aaa

Syntax

aaa

Context

[Tree] (show aaa)

Full Context

show aaa

Description

Commands in this context display authentication, authorization, and accounting data.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

aaa

Syntax

aaa

Context

[Tree] (tools>dump aaa)

Full Context

tools dump aaa

Description

Commands in this context dump authentication, authorization, and accounting information.

Platforms

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

aaa

Syntax

aaa

Context

[Tree] (tools>perform aaa)

Full Context

tools perform aaa

Description

Commands in this context perform AAA operations.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.10 aarp

aarp

Syntax

aarp

aarp *aarpId*

Context

[Tree] (show>app-assur aarp)

Full Context

show application-assurance aarp

Description

This command displays the Application Assurance Redundancy Protocol (AARP) instance status.

Parameters

aarpId

Specifies an integer that identifies an AARP instance.

Values 1 to 65535

detail

Displays detailed information.

Platforms

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

aarp

Syntax

aarp *aarpId* **event-history** [**clear**]

Context

[Tree] (tools>dump>application-assurance aarp)

Full Context

tools dump application-assurance aarp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command dumps application-assurance AARP information for a specified instance.

Parameters

aarpId

Specifies the AARP ID.

Values 1 to 65535

event-history

Dumps historical information for the instance.

clear

Clears the event history after reading.

Platforms

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

aarp

Syntax

aarp *aarpId* **force-evaluate**

Context

[Tree] (tools>perform>app-assure aarp)

Full Context

tools perform application-assurance aarp

Description

This command performs Application Assurance Redundancy Protocol instance operations.

Parameters

aarpId

Specifies an integer that identifies an AARP instance.

Values 1 to 65535

force-evaluate

Forces a re-evaluation of the preferred AARP instance.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.11 abort-startup-wait

abort-startup-wait

Syntax

abort-startup-wait

Context

[Tree] (tools>perform>router>dhcp>server>failover abort-startup-wait)

[Tree] (tools>perform>router>dhcp>server>pool>failover abort-startup-wait)

[Tree] (tools>perform>router>dhcp6>server>pool>failover abort-startup-wait)

[Tree] (tools>perform>router>dhcp6>server>failover abort-startup-wait)

Full Context

tools perform router dhcp local-dhcp-server failover abort-startup-wait

tools perform router dhcp local-dhcp-server pool failover abort-startup-wait

tools perform router dhcp6 local-dhcp-server pool failover abort-startup-wait

tools perform router dhcp6 local-dhcp-server failover abort-startup-wait

Description

This command aborts the running start-up-wait time, forcing the DCHP server to transition immediately to the COMMUNICATIONS-INTERRUPTED state.

The start-up-wait time is started after a boot to enable two redundant routers to synchronize the DHCP server lease database before transitioning to the (PRE-)NORMAL state when the last state record from the peer is synchronized. If the last state record is not received before the start-up-wait time expires, it is assumed that the remote DHCP server is not operational and the DHCP server goes in COMMUNICATIONS-INTERRUPTED state.

Platforms

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

4.12 access-group

access-group

Syntax

access-group [*group-name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>system>security access-group)

Full Context

show system security access-group

Description

This command displays access-group information.

Platforms

All

Output

The following output is an example of access group information, and Table 5: Output fields: system security access group describes the output fields.

Output example

```
A:ALA-1# show system security access-group
===============================================================================
Access Groups
===============================================================================
group name        security  security  read          write         notify
                  model     level     view          view          view
-------------------------------------------------------------------------------
snmp-ro           snmpv1    none      no-security                 no-security
snmp-ro           snmpv2c   none      no-security                 no-security
snmp-rw           snmpv1    none      no-security   no-security   no-security
snmp-rw           snmpv2c   none      no-security   no-security   no-security
snmp-rwa          snmpv1    none      iso           iso           iso
snmp-rwa          snmpv2c   none      iso           iso           iso
snmp-trap         snmpv1    none                                  iso
snmp-trap         snmpv2c   none                                  iso
-------------------------------------------------------------------------------
No. of Access Groups: 8
===============================================================================
```

Table 5: Output fields: system security access group

Label	Description
Group name	The access group name
Security model	The security model required to access the views configured in this node
Security level	Specifies the required authentication and privacy levels to access the views configured in this node
Read view	Specifies the view to read the MIB objects
Write view	Specifies the view to configure the contents of the agent

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Notify view	Specifies the view to send a trap about MIB objects
No. of access groups	The total number of configured access groups

4.13 accounting-policy

accounting-policy

Syntax

accounting-policy [acct-*policy-id*] [**access** | **network**] [**associations**]

Context

[Tree] (show>log accounting-policy)

Full Context

show log accounting-policy

Description

This command displays accounting policy information.

Parameters

policy-id

Specifies the policy ID that uniquely identifies the accounting policy, expressed as a decimal integer.

Values 1 to 99

access

Specifies to only display access accounting policies.

network

Specifies to only display network accounting policies.

association

Displays accounting-policy associations.

Platforms

All

Output

The following output is an example of accounting policy information, and Table 6: Output fields: accounting policy describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:ALA-1# show log accounting-policy
===============================================================================
Accounting Policies
===============================================================================
Policy Type    Def Admin Oper  Intvl     File Record Name
Id                 State State           Id
-------------------------------------------------------------------------------
1      network No  Up    Up    15        1    network-ingress-packets
2      network Yes Up    Up    15        2    network-ingress-octets
10     access  Yes Up    Up    5         3    complete-service-ingress-egress
===============================================================================
A:ALA-1#


A:ALA-1# show log accounting-policy 10
===============================================================================
Accounting Policies
===============================================================================
Policy Type    Def Admin Oper  Intvl     File Record Name
Id                 State State           Id
-------------------------------------------------------------------------------
10     access  Yes Up    Up    5         3 complete-service-ingress-egress

Description : (Not Specified)

This policy is applied to:
    Svc Id: 100  SAP : 1/1/8:0     Collect-Stats
    Svc Id: 101  SAP : 1/1/8:1     Collect-Stats
    Svc Id: 102  SAP : 1/1/8:2     Collect-Stats
    Svc Id: 103  SAP : 1/1/8:3     Collect-Stats
    Svc Id: 104  SAP : 1/1/8:4     Collect-Stats
    Svc Id: 105  SAP : 1/1/8:5     Collect-Stats
    Svc Id: 106  SAP : 1/1/8:6     Collect-Stats
    Svc Id: 107  SAP : 1/1/8:7     Collect-Stats
    Svc Id: 108  SAP : 1/1/8:8     Collect-Stats
    Svc Id: 109  SAP : 1/1/8:9     Collect-Stats
...
===============================================================================
A:ALA-1#

A:ALA-1# show log accounting-policy network
===============================================================================
Accounting Policies
===============================================================================
Policy Type    Def Admin Oper  Intvl     File Record Name
Id                 State State           Id
-------------------------------------------------------------------------------
1      network No  Up    Up    15        1    network-ingress-packets
2      network Yes Up    Up    15        2    network-ingress-octets
===============================================================================
A:ALA-1#


A:ALA-1# show log accounting-policy access
===============================================================================
Accounting Policies
===============================================================================
Policy Type    Def Admin Oper  Intvl     File Record Name
Id                 State State           Id
-------------------------------------------------------------------------------
10     access  Yes Up    Up    5         3 complete-service-ingress
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:ALA-1#
```

Table 6: Output fields: accounting policy

Label	Description
Policy ID	The identifying value assigned to a specific policy.
Type	Identifies accounting record type forwarded to the configured accounting file. access — Indicates that the policy is an access accounting policy. network — Indicates that the policy is a network accounting policy. none — Indicates no accounting record types assigned.
Def	Yes — Indicates that the policy is a default access or network policy. No — Indicates that the policy is not a default access or network policy.
Admin State	Displays the administrative state of the policy. Up — Indicates that the policy is administratively enabled. Down — Indicates that the policy is administratively disabled.
Oper State	Displays the operational state of the policy. Up — Indicates that the policy is operationally up. Down — Indicates that the policy is operationally down.
Intvl	Displays the interval, in minutes, in which statistics are collected and written to their destination. The default depends on the record name type.
File ID	The log destination.
Record Name	The accounting record name which represents the configured record type.
This policy is applied to	Specifies the entity where the accounting policy is applied.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.14 accounting-records

accounting-records

Syntax

accounting-records

Context

[Tree] (show>log accounting-records)

Full Context

show log accounting-records

Description

This command displays accounting policy record names.

Platforms

All

Output

The following output is an example of accounting records output information, and Table 7: Output fields: accounting records describes the output fields. Table 8: Default collection interval for accounting records lists the accounting record names available and the default collection intervals.

Output example

Note:
aa, video and subscriber records are not applicable to the 7950 XRS.

```
# show log accounting-records
===========================================================
Accounting Policy Records
===========================================================
Record # Record Name                        Def. Interval
-----------------------------------------------------------
1        service-ingress-octets             5
2        service-egress-octets              5
3        service-ingress-packets            5
4        service-egress-packets             5
5        network-ingress-octets             15
6        network-egress-octets              15
7        network-ingress-packets            15
8        network-egress-packets             15
9        compact-service-ingress-octets     5
10       combined-service-ingress           5
11       combined-network-ing-egr-octets    15
12       combined-service-ing-egr-octets    5
13       complete-service-ingress-egress    5
14       combined-sdp-ingress-egress        5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
15       complete-sdp-ingress-egress        5
16       complete-subscriber-ingress-egress 5
17       aa-protocol                        15
18       aa-application                     15
19       aa-app-group                       15
20       aa-subscriber-protocol             15
21       aa-subscriber-application          15
23       custom-record-subscriber           5
24       custom-record-service              5
25       custom-record-aa-sub               15
26       queue-group-octets                 15
27       queue-group-packets                15
28       combined-queue-group               15
29       combined-mpls-lsp-ingress          5
30       combined-mpls-lsp-egress           5
31       combined-ldp-lsp-egress            5
32       saa                                5
33       video                              10
34       kpi-system                         5
35       kpi-bearer-mgmt                    5
36       kpi-bearer-traffic                 5
37       kpi-ref-point                      5
38       kpi-path-mgmt                      5
39       kci-iom-3                          5
40       kci-system                         5
41       kci-bearer-mgmt                    5
42       kci-path-mgmt                      5
43       complete-kpi                       5
44       complete-kci                       5
45       kpi-bearer-group                   5
46       kpi-ref-path-group                 5
47       kpi-kci-bearer-mgmt                5
48       kpi-kci-path-mgmt                  5
49       kpi-kci-system                     5
50       complete-kpi-kci                   5
51       aa-performance                     15
52       complete-ethernet-port             15
53       extended-service-ingress-egress    5
54       complete-network-ing-egr           15
55       aa-partition                       15
56       complete-pm                        5
63       aa-admit-deny                      15
0        nat-binding-port-block             0
65       network-interface-ingress-octets   15
66       network-interface-egress-octets    15
67       network-interface-ingress-packets  15
68       network-interface-egress-packets   15
69       combined-network-interface-ingress 15
70       combined-network-interface-egress  15
71       complete-network-interface-ing-egr 15
72       access-egress-octets               15
73       access-egress-packets              15
74       combined-access-egress             15
75       combined-network-egress            15
76       complete-service-activation-test   5
77       combined-mpls-srte-egress          5
===============================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 7: Output fields: accounting records

Label	Description
Record #	The record ID that uniquely identifies the accounting policy, expressed as a decimal integer.
Record Name	The accounting record name.
Def. Interval	The default interval, in minutes, in which statistics are collected and written to their destination.

Table 8: Default collection interval for accounting records

Record Type	Accounting Record Name	Default Interval
1	service-ingress-octets	5
2	service-egress-octets	5
3	service-ingress-packets	5
4	service-egress-packets	5
5	network-ingress-octets	15
6	network-egress-octets	15
7	network-ingress-packets	15
8	network-egress-packets	15
9	compact-service-ingress-octets	5
10	combined-service-ingress	5
11	combined-network-ing-egr-octets	15
12	combined-service-ing-egr-octets	5
13	complete-service-ingress-egress	5
14	combined-sdp-ingress-egress	5
15	complete-sdp-ingress-egress	5
16	complete-subscriber-ingress-egress	5
17	aa-protocol	15
18	aa-application	15
19	aa-app-group	15

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Record Type	Accounting Record Name	Default Interval
20	aa-subscriber-protocol	15
21	aa-subscriber-application	15
23	custom-record-subscriber	5
24	custom-record-service	5
25	custom-record-aa-sub	15
26	queue-group-octets	15
27	queue-group-packets	15
28	combined-queue-group	15
29	combined-mpls-lsp-ingress	5
30	combined-mpls-lsp-egress	5
31	combined-ldp-lsp-egress	5
32	saa	5
33	video	10
34	kpi-system	5
35	kpi-bearer-mgmt	5
36	kpi-bearer-traffic	5
37	kpi-ref-point	5
38	kpi-path-mgmt	5
39	kci-iom-3	5
40	kci-system	5
41	kci-bearer-mgmt	5
42	kci-path-mgmt	5
43	complete-kpi	5
44	complete-kci	5
45	kpi-bearer-group	5
46	kpi-ref-path-group	5
47	kpi-kci-bearer-mgmt	5

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Record Type	Accounting Record Name	Default Interval
48	kpi-kci-path-mgmt	5
49	kpi-kci-system	5
50	complete-kpi-kci	5
51	aa-performance	15
52	complete-ethernet-port	15
53	extended-service-ingress-egress	5
54	complete-network-ing-egr	15
55	aa-partition	15
56	complete-pm	5
63	aa-admit-deny	15
0	nat-binding-port-block	0
65	network-interface-ingress-octets	15
66	network-interface-egress-octets	15
67	network-interface-ingress-packets	15
68	network-interface-egress-packets	15
69	combined-network-interface-ingress	15
70	combined-network-interface-egress	15
71	complete-network-interface-ing-egr	15
72	access-egress-octets	15
73	access-egress-packets	15
74	combined-access-egress	15
75	combined-network-egress	15
76	complete-service-activation-test	5
77	combined-mpls-srte-egress	5

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.15 acct-off

acct-off

Syntax

acct-off [**radius-server-policy** *policy-name*] [**force**] [**acct-terminate-cause** *number*]

Context

[Tree] (tools>perform>aaa acct-off)

Full Context

tools perform aaa acct-off

Description

This command triggers a RADIUS Accounting-Off message:

- for all radius-server-policies that have acct-on-off configured
- for the specified radius-server-policy if the acct-on-off is configured

The Accounting-Off message is not sent when the last successful event for the radius server policy was an Accounting-Off message. In this case, an Accounting-On should be sent first. By specifying the keyword **force**, this is overruled.

Parameters

policy-name

Specifies the **radius-server-policy** for which the Accounting-Off should be sent.

force

Sends an Accounting-On also if the last successful event was an Accounting-Off.

number

Overrides the default Acct-Terminate-Cause (User-Request) in the Accounting-Off message.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.16 acct-on

acct-on

Syntax

acct-on [**radius-server-policy** *policy-name*] [**force**]

Context

[Tree] (tools>perform>aaa acct-on)

Full Context

tools perform aaa acct-on

Description

This command triggers a RADIUS Accounting-On message:

- for all radius-server-policies that have acct-on-off configured.
- for the specified radius-server-policy if the acct-on-off is configured

The Accounting-On message is not sent when the last successful event for the RADIUS server policy was an Accounting-On message. In this case, an Accounting-Off should be sent first. By specifying the keyword **force**, this is overruled.

Parameters

policy-name

Specifies the **radius-server-policy** for which the Accounting-On should be sent.

force

Sends an Accounting-On also if the last successful event was an Accounting-On.

Platforms

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

4.17 acct-on-off-group

acct-on-off-group

Syntax

acct-on-off-group [*group-name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>aaa acct-on-off-group)

Full Context

show aaa acct-on-off-group

Description

This command displays Acct-On-Off group information and the associated RADIUS server policies.

Parameters

group-name

Displays information pertaining to the specified acct-on-off group.

Platforms

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

Output

The following output is an example of AAA Acct-On-Off group information, and Table 9: Output fields: Acct-On-Off group describes the output fields.

Output example

```
# show aaa acct-on-off-group "group-1"
===============================================================================
Acct-On-Off-Group Information
===============================================================================
acct on off group name               : group-1
  - controlling Radius-Server-policy :
        aaa-server-policy-3
  - monitored by Radius-Server-policy :
        aaa-server-policy-4
-------------------------------------------------------------------------------
Nbr of Acct-on-off-groups displayed : 1
-------------------------------------------------------------------------------
===============================================================================
```

Table 9: Output fields: Acct-On-Off group

Label	Description
acct on off group name	The name of a RADIUS server policy Accounting-On-Off-Group
controlling Radius-Server-policy	The controlling RADIUS server policy name
monitored by Radius-Server-policy	The policy monitored a RADIUS server policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Nbr of Acct-on-off-groups displayed	The RADIUS policy that controls the Acct-On-Off group

4.18 accu-stats

accu-stats

Syntax

accu-stats subscriber *subscriber-id*

Context

[Tree] (show>subscriber-mgmt accu-stats)

Full Context

show subscriber-mgmt accu-stats

Description

This command displays the accumulated statistics for both online and offline statistics.

Parameters

subscriber-id

Specifies the subscriber ID, up to 32 characters.

Platforms

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

Output

The following output is an example of subscriber statistics, and Table 10: Output fields: accumulated statistics describes the output fields.

Output example

```
A:active# show subscriber-mgmt accu-stats subscriber home-1
===============================================================================
Subscriber accumulated statistics for "home-1”
===============================================================================

-------------------------------------------------------------------------------
Subscriber accumulated statistics ingress queue 1
-------------------------------------------------------------------------------
                                    packets               octets
-------------------------------------------------------------------------------
Offered high priority               0                     0
Offered low priority                0                     0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dropped high priority               0                    0
Dropped low priority                0                    0
Forwarded in-profile                0                    0
Forwarded out-of-profile            0                    0
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Subscriber accumulated statistics egress queue 1
-------------------------------------------------------------------------------
                                    packets              octets
Forwarded in-profile                0                    0
Forwarded out-of-profile            0                    0
Dropped in-profile                  0                    0
Dropped out-of--profile             0                    0
-------------------------------------------------------------------------------
===============================================================================
```

Table 10: Output fields: accumulated statistics

Field	Description
packets	The number of packets associated with this policy
octets	The number of octets associated with this policy
Offered high priority	The number of offered high priority packets or octets
Offered low priority	The number of offered low priority packets or octets
Dropped high priority	The number of dropped high priority packets or octets
Forwarded in-profile	The number of forwarded in-profile packets or octets
Forwarded out-of-profile	The number of forwarded out-of-profile packets or octets
Dropped in-profile	The number of dropped in-profile packets or octets
Dropped out-of-profile	The number of dropped out-of-profile packets or octets

accu-stats

Syntax

accu-stats active-subs no-accu-stats-policy

accu-stats active-subs sub-profile *profile-name*

accu-stats inactive-subs

accu-stats subscriber *subscriber-id*

Context

[Tree] (clear>subscriber-mgmt accu-stats)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear subscriber-mgmt accu-stats

Description

This command removes the accumulated statistics for a subscriber.

Parameters

active-subs no accu-stats-policy

Removes the accumulated statistics that are no longer associated with an **accu-stats-policy**. These are active subscribers that are referencing a subscriber profile that removed an **accu-stats-policy**.

active-subs sub-profile *profile-name*

Removes the accumulated statistics for the specified subscriber profile.

inactive-subs

Removes the accumulated statistics from all inactive subscribers.

profile-name

Specifies the subscriber profile up to 32 characters.

subscriber-id

Specifies the subscriber up to 32 characters.

Platforms

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

4.19 accu-stats-policy

accu-stats-policy

Syntax

accu-stats-policy

accu-stats-policy *policy-name* [**associations**]

Context

[Tree] (show>subscriber-mgmt accu-stats-policy)

Full Context

show subscriber-mgmt accu-stats-policy

Description

This command displays the configuration of the accumulated statistics policy for the subscriber profile that referenced the accumulated statistics policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

policy-name

Specifies the policy name, up to 32 characters.

associations

Lists the sub-profile that referenced the policy.

Platforms

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

Output

The following output is an example of subscriber management accumulated statistics information, and Table 11: Output fields: accumulated statistics policy describes the output fields.

Output example

```
A:active# show subscriber-mgmt accu-stats-policy "accu-stats-policy-01” associations
===============================================================================
Subscriber profile associations
===============================================================================
no-prof
sub-prof
-------------------------------------------------------------------------------
===============================================================================
No. of subscriber profiles: 2
===============================================================================
```

```
A:active# show subscriber-mgmt accu-stats-policy "accu-stats-policy-01”
===============================================================================
Subscriber accumulated statistics policy accu-stats-policy-01
===============================================================================
Description                         : (Not Specified)
Last management change              : 09/23/2016 16:48:46
===============================================================================

===============================================================================
Entries
===============================================================================
Direction Type     Id
-------------------------------------------------------------------------------
ingress   queue    1
egress    queue    1
===============================================================================
```

Table 11: Output fields: accumulated statistics policy

Field	Description
Description	The user provided description of this policy
Last management change	The date and time of the last management change
Direction Type	The specific direction for the policer or the queue to be stored, ingress or egress

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
ID	The queue ID
No. of subscriber profiles	The number of entries matching the search criteria

4.20 accu-stats-subscribers

accu-stats-subscribers

Syntax

accu-stats-subscribers [**subscriber** *sub-ident*] [**sub-profile** *name*]

Context

[Tree] (show>subscriber-mgmt accu-stats-subscribers)

Full Context

show subscriber-mgmt accu-stats-subscribers

Description

This command lists all subscribers on the system that had referenced an accumulated statistics policy. The list contains subscribers that are currently referencing an **accu-stats-policy** as well as subscribers that no longer reference an **accu-stats-policy** (due to removal of the policy from the subscriber profile).

Parameters

sub-ident

Specifies a specific subscriber ID, up to 32 characters.

sub-profile *name*

Lists all subscribers that are referencing the specified subscriber profile, up to 32 characters.

Platforms

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

Output

The following outputs are examples of subscriber management information:

- Output example: subscriber management accumulated statistics
- Output example: subscriber management status system, Table 12: Output fields: status system

Output example: subscriber management accumulated statistics

```
*DUT# show subscriber-mgmt accu-stats-subscribers
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Subscribers with accumulated statistics
===============================================================================
Subscriber                          : home-1
Subscriber profile                  : no-prof
Accumulated-stats policy            : accu-stats-policy-01
-------------------------------------------------------------------------------
Subscriber                          : home-2
Subscriber profile                  : no-prof
Accumulated-stats policy            : accu-stats-policy-02
-------------------------------------------------------------------------------
Subscriber                          : twamp-host
Subscriber profile                  : no-prof
Accumulated-stats policy            : (Unknown)
-------------------------------------------------------------------------------
No. of Subscribers with accumulated statistics: 3
===============================================================================
```

Output example: subscriber management status system

Note: The **show subscriber-mgmt status system** command shows the number of subscribers using accumulated statistics and whether the statistics usage has reached the peak value.

```
*A:Dut-C# show subscriber-mgmt status system
===============================================================================
Subscriber Management System Status
===============================================================================
Chassis 1
-------------------------------------------------------------------------------
Memory usage high                                       : No
DHCP message processing overload                        : No
Statistics usage high                                   : Yes
Number of subscribers using statistics                  : 131072
Data-trigger statistics
-------------------------------------------------------------------------------
Packets received                                        : 0
Packets dropped                                         : 0
Packets in queue (actual)                               : 0
Packets in queue (peak)                                 : 0
Bridged Residential Gateway statistics
-------------------------------------------------------------------------------
BRG initialized                                         : 0
BRG operational                                         : 0
BRG in connectivity verification                        : 0
BRG on hold                                             : 0
BRG authenticated by proxy                              : 0
===============================================================================
```

Table 12: Output fields: status system

Field	Description
Chassis	The chassis number
Memory usage high	The memory usage of the subscriber management function on this chassis is near the limit; Yes or No
DHCP message processing overload	The subscriber management DHCP message processing function is in overload; Yes or No

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Statistics usage high	The memory used for subscriber statistics on this chassis is near the limit; Yes or No
Number of subscribers using statistics	The number of subscribers using memory to store accumulated statistics
Packets received	The number of data packets received that may trigger creation of data-triggered subscriber hosts on this system
Packets dropped	The number of data packets dropped that could have triggered creation of data-triggered subscriber hosts on this system
Packets in queue (actual)	The number of data packets currently in the waiting queue that may trigger creation of data-triggered subscriber hosts on this system
Packets in queue (peak)	The maximum value of the packets in queue object since the start up of this system or the last time that the value of packets in queue was reset
BRG initialized	The number of BRGs with the init timer running; waiting for the first host
BRG operational	The number of BRGs in the normal operating state, with dynamic hosts
BRG in connectivity verification	The number of BRGs with no hosts, pinging the residential gateway
BRG on hold	The number of BRGs with no hosts attached, in hold
BRG authenticated by proxy	The number of BRGs in this system

4.21 activate-best-dest

activate-best-dest

Syntax

activate-best-dest

Context

[Tree] (tools>perform>filter>redirect-policy activate-best-dest)

Full Context

tools perform filter redirect-policy activate-best-dest

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command allows the operator to force a PBR switch to the best destination selected by the redirect policy when that destination is not currently active as result of sticky destination functionality being enabled for the specified redirect policy. If **hold-time-up** is running, the timer is also expired.

Platforms

All

4.22 activate-primary-action

activate-primary-action

Syntax

activate-primary-action

Context

[Tree] (tools>perform>filter>mac-filter>entry activate-primary-action)

[Tree] (tools>perform>filter>ipv6-filter>entry activate-primary-action)

[Tree] (tools>perform>filter>ip-filter>entry activate-primary-action)

Full Context

tools perform filter mac-filter entry activate-primary-action

tools perform filter ipv6-filter entry activate-primary-action

tools perform filter ip-filter entry activate-primary-action

Description

This command allows an operator to activate the primary action for the given filter policy entry. If the primary action is already active, the command has no effect. If a secondary action is active, the primary action will be activated unless the primary target is down. If the sticky destination timer is running for the primary action entry, it will expire.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.23 active

active

Syntax

active egress-lsp [*tunnel-id*]

active detail [*family*] [**egress-if** *port-id*]

active detail [*family*] [**egress-lsp** *tunnel-id*]

active detail [**egress-nh** *ip-address*] [*family*]

active egress-if *port-id* [**summary** | **detail**] [*family*]

active egress-lsp *tunnel-id* [**summary** | **detail**] [*family*]

active egress-nh [**family**] [**summary** | **detail**] *ip-address*

active ipv4 [**summary** | **detail**] [**egress-if** *port-id*]

active ipv4 [**summary** | **detail**] [**egress-lsp** *tunnel-id*]

active ipv4 [**summary** | **detail**] [**egress-nh** *ip-address*]

active ipv6 [**summary** | **detail**] [**egress-if** *port-id*]

active ipv6 [**summary** | **detail**] [**egress-nh** *ip-address*]

active ipv6 [**summary** | **detail**] [**egress-lsp** *tunnel-id*]

active p2mp p2mp-id *identifier* **root** *ip-address* [**summary** | **detail**] [**egress-if** *port-id*]

active p2mp p2mp-id *identifier* **root** *ip-address* [**summary** | **detail**] [**egress-lsp** *tunnel-id*]

active p2mp p2mp-id *identifier* **root** *ip-address* [**summary** | **detail**] [**egress-nh** *ip-address*]

active p2mp p2mp-id *identifier* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-if** *port-id*] **inner-root** *ip-address*

active p2mp p2mp-id *identifier* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-lsp** *tunnel-id*] **inner-root** *ip-address*

active p2mp p2mp-id *identifier* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-nh** *ip-address*] **inner-root** *ip-address*

active p2mp [**family**] [**summary** | **detail**] [**egress-if** *port-id*] [**opaque-type** *opaque-type*]

active p2mp [**family**] [**summary** | **detail**] [**egress-lsp** *tunnel-id*] [**opaque-type** *opaque-type*]

active p2mp [**family**] [**summary** | **detail**] [**egress-nh** *ip-address*] [**opaque-type** *opaque-type*]

active p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**summary** | **detail**] [**egress-if** *port-id*] **inner-root** *ip-address*

active p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**summary** | **detail**] [**egress-lsp** *tunnel-id*] **inner-root** *ip-address*

active p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**summary** | **detail**] [**egress-nh** *ip-address*] **inner-root** *ip-address*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

active p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-if** *port-id*]

active p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-lsp** *tunnel-id*]

active p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-nh** *ip-address*]

active p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**innermost-root** *ip-address*]

active prefixes [**family**] [**summary** | **detail**] [**egress-if** *port-id*] [**community** *community*]

active prefixes [**family**] [**summary** | **detail**] [**egress-lsp** *tunnel-id*] [**community** *community*]

active prefixes [**egress-nh** *ip-address*] [**family**] [**summary** | **detail**] [**community** *community*]

active prefixes prefix *ip-prefix*/*ip-prefix-length* [**summary** | **detail**] [**egress-if** *port-id*] [**community** *community*]

active prefixes prefix *ip-prefix/ip-prefix-length* [**summary** | **detail**] [**egress-lsp** *tunnel-id*] [**community** *community*]

active prefixes prefix *ip-prefix/ip-prefix-length* [**egress-nh** *ip-address*] [**summary** | **detail**] [**community** *community*]

active summary [*family*] [**egress-if** *port-id*]

active summary [*family*] [**egress-lsp** *tunnel-id*]

active summary [**egress-nh** *ip-address*] [**family**]

Context

[Tree] (show>router>ldp>bindings active)

Full Context

show router ldp bindings active

Description

This command display information about LDP active bindings.

Parameters

detail

Displays detailed information.

summary

Displays information in a summarized format.

family

Displays either IPv4 or IPv6 active LDP information.

opaque-type *opaque-type*

Specifies the type of a Multi-Point Opaque Value Element.

Values generic, ssm, vpn-ssm, recursive-ssm

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

egress-lsp *tunnel-id*

Displays LDP active bindings by matching on the egress RSVP-TE LSP *tunnel-id* for LDP FECs which are tunneled over a RSVP-TE LSP. The *tunnel-id* for the RSVP-TE LSP can be found in the output of the **show router mpls lsp detail** command and in the **show router tunnel-table** command. It is not the *path LSP ID* shown in the output of the **show router mpls lsp path detail** command.

Values 0 to 4294967295

egress-nh *ip-address*

Displays LDP active bindings by matching egress-nh.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

egress-if *port-id*

Displays LDP active bindings by matching egress-if.

inner-root *ip-address*

Displays recursive FECs whose inner root address matches the specified address.

innermost-root *ip-address*

Displays recursive FECs whose inner root address matches the specified address and non-recursive FECs that have a root address that matches the specified address.

p2mp source *ip-address*

Displays LDP active P2MP source bindings.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

p2mp-id *identifier*

Displays LDP active P2MP identifier bindings.

Values 0 to 4294 967 295

group *mcast-address*

Displays the P2MP group multicast address bindings.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

root *ip-address*

Displays root IP address information.

rd *rd*

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

prefix *ip-prefix*/*ip-prefix-length*

Specifies information for the specified IP prefix and mask length.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

community

The string defining the LDP community assigned to the session. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string.

Platforms

All

Output

The following outputs are examples of LDP binding information:

- Output example: active LDP bindings
- Output example: active LDP P2MP bindings
- Output example: LDP prefix-specific and recursive bindings

Output example: active LDP bindings

```
*A:Dut-C# show router ldp bindings active
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Label Status:
        U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        e - Label ELC
FEC Flags:
        LF - Lower FEC, UF - Upper FEC, M - Community Mismatch, BA - ASBR Backup FEC
        (S) - Static           (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop     (BU) - Alternate Next-hop for Fast Re-Route
        (I) - SR-ISIS Next Hop (O) - SR-OSPF Next Hop
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        (C) - FEC resolved with class-based-forwarding
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.1/32                            Push              --      262143
10.10.2.1                               1/1/1

10.20.1.1/32                            Swap            262141    262143
10.10.2.1                               1/1/1

10.20.1.2/32                            Push              --      262143
10.10.12.2                              lag-1

10.20.1.2/32                            Swap            262140    262143
10.10.12.2                              lag-1

10.20.1.3/32                            Pop             262143      --
  --                                      --

10.20.1.4/32                            Push              --      262143
10.10.11.4                              2/1/2

10.20.1.4/32                            Swap            262139    262143
10.10.11.4                              2/1/2

10.20.1.5/32                            Push              --      262143
10.10.5.5                               2/1/1

10.20.1.5/32                            Swap            262137    262143
10.10.5.5                               2/1/1

10.20.1.6/32                            Push              --      262137
10.10.11.4                              2/1/2

10.20.1.6/32                            Swap            262135    262137
10.10.11.4                              2/1/2

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 11
===============================================================================

===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                     Op              IngLbl    EgrLbl
EgrNextHop                                 EgrIf/LspId
-------------------------------------------------------------------------------
3ffe::a14:101/128                          Push              --      262142
fe80::21                                   1/1/1

3ffe::a14:101/128                          Swap            262136    262142
fe80::21                                   1/1/1

3ffe::a14:102/128                          Push              --      262142
fe80::122                                  lag-1

3ffe::a14:102/128                          Swap            262138    262142
fe80::122                                  lag-1

3ffe::a14:103/128                          Pop             262142      --
  --                                      --
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3ffe::a14:104/128                               Push              --      262142
fe80::114                                       2/1/2

3ffe::a14:104/128                               Swap            262134    262142
fe80::114                                       2/1/2

3ffe::a14:105/128                               Push              --      262142
fe80::55                                        2/1/1

3ffe::a14:105/128                               Swap            262132    262142
fe80::55                                        2/1/1

3ffe::a14:106/128                               Push              --      262136
fe80::114                                       2/1/2

3ffe::a14:106/128                               Swap            262133    262136
fe80::114                                       2/1/2

-------------------------------------------------------------------------------
No. of IPv6 Prefix Active Bindings: 11
===============================================================================

===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                     Interface
RootAddr                                    Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP Generic IPv6 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                     Interface
RootAddr                                    Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                       Interface
RootAddr                                    Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                       Interface
RootAddr                                    Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                     RD              Op
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                     RD              Op
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

*A:Dut-C# show router ldp bindings active detail

===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
-------------------------------------------------------------------------------
Prefix         : 10.20.1.1/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262143
Egr Int/LspId  : 1/1/1
EgrNextHop     : 10.10.2.1
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.2.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 10.20.1.1/32
Op             : Swap
Ing Lbl        : 262141             Egr Lbl    : 262143
Egr Int/LspId  : 1/1/1
EgrNextHop     : 10.10.2.1
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.2.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 10.20.1.2/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262143
Egr Int/LspId  : lag-1
EgrNextHop     : 10.10.12.2
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.12.3
Metric         : 333                Mtu        : 1500
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Prefix         : 10.20.1.2/32
Op             : Swap
Ing Lbl        : 262140             Egr Lbl    : 262143
Egr Int/LspId  : lag-1
EgrNextHop     : 10.10.12.2
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.12.3
Metric         : 333                Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32
Op             : Pop
Ing Lbl        : 262143             Egr Lbl    :   --
Egr Int/LspId  :   --
EgrNextHop     :   --
Egr. Flags     : None               Ing. Flags : None
-------------------------------------------------------------------------------
Prefix         : 10.20.1.4/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262143
Egr Int/LspId  : 2/1/2
EgrNextHop     : 10.10.11.4
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.11.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 10.20.1.4/32
Op             : Swap
Ing Lbl        : 262139             Egr Lbl    : 262143
Egr Int/LspId  : 2/1/2
EgrNextHop     : 10.10.11.4
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.11.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 10.20.1.5/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262143
Egr Int/LspId  : 2/1/1
EgrNextHop     : 10.10.5.5
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.5.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 10.20.1.5/32
Op             : Swap
Ing Lbl        : 262137             Egr Lbl    : 262143
Egr Int/LspId  : 2/1/1
EgrNextHop     : 10.10.5.5
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.5.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 10.20.1.6/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262137
Egr Int/LspId  : 2/1/2
EgrNextHop     : 10.10.11.4
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.11.3
Metric         : 2000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 10.20.1.6/32
Op             : Swap
Ing Lbl        : 262135             Egr Lbl    : 262137
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Egr Int/LspId  : 2/1/2
EgrNextHop     : 10.10.11.4
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.11.3
Metric         : 2000               Mtu        : 1500
===============================================================================
No. of IPv4 Prefix Active Bindings: 11
===============================================================================

===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:101/128
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262142
Egr Int/LspId  : 1/1/1
EgrNextHop     : fe80::21
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.2.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:101/128
Op             : Swap
Ing Lbl        : 262136             Egr Lbl    : 262142
Egr Int/LspId  : 1/1/1
EgrNextHop     : fe80::21
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.2.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:102/128
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262142
Egr Int/LspId  : lag-1
EgrNextHop     : fe80::122
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.12.3
Metric         : 333                Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:102/128
Op             : Swap
Ing Lbl        : 262138             Egr Lbl    : 262142
Egr Int/LspId  : lag-1
EgrNextHop     : fe80::122
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.12.3
Metric         : 333                Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:103/128
Op             : Pop
Ing Lbl        : 262142             Egr Lbl    :   --
Egr Int/LspId  :   --
EgrNextHop     :   --
Egr. Flags     : None               Ing. Flags : None
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:104/128
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262142
Egr Int/LspId  : 2/1/2
EgrNextHop     : fe80::114
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.11.3
Metric         : 1000               Mtu        : 1500
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:104/128
Op             : Swap
Ing Lbl        : 262134             Egr Lbl    : 262142
Egr Int/LspId  : 2/1/2
EgrNextHop     : fe80::114
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.11.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:105/128
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262142
Egr Int/LspId  : 2/1/1
EgrNextHop     : fe80::55
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.5.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:105/128
Op             : Swap
Ing Lbl        : 262132             Egr Lbl    : 262142
Egr Int/LspId  : 2/1/1
EgrNextHop     : fe80::55
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.5.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:106/128
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262136
Egr Int/LspId  : 2/1/2
EgrNextHop     : fe80::114
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.11.3
Metric         : 2000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:106/128
Op             : Swap
Ing Lbl        : 262133             Egr Lbl    : 262136
Egr Int/LspId  : 2/1/2
EgrNextHop     : fe80::114
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.11.3
Metric         : 2000               Mtu        : 1500
===============================================================================
No. of IPv6 Prefix Active Bindings: 11
===============================================================================
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
No Matching Entries Found
===============================================================================
===============================================================================
LDP Generic IPv6 P2MP Bindings (Active)
===============================================================================
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
No Matching Entries Found
===============================================================================
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LDP In-Band-SSM IPv6 P2MP Bindings (Active)
===============================================================================
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings (Active)
===============================================================================
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings (Active)
===============================================================================
No Matching Entries Found
===============================================================================
*A:Dut-C# show router ldp bindings active  egress-if  2/1/2
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.4/32                            Push              --      262143
10.10.11.4                              2/1/2

10.20.1.4/32                            Swap            262139    262143
10.10.11.4                              2/1/2

10.20.1.6/32                            Push              --      262137
10.10.11.4                              2/1/2

10.20.1.6/32                            Swap            262135    262137
10.10.11.4                              2/1/2

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 4
===============================================================================
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                     Op              IngLbl    EgrLbl
EgrNextHop                                 EgrIf/LspId
-------------------------------------------------------------------------------
3ffe::a14:104/128                          Push              --      262142
fe80::114                                  2/1/2

3ffe::a14:104/128                          Swap            262134    262142
fe80::114                                  2/1/2

3ffe::a14:106/128                          Push              --      262136
fe80::114                                  2/1/2

3ffe::a14:106/128                          Swap            262133    262136
fe80::114                                  2/1/2

-------------------------------------------------------------------------------
No. of IPv6 Prefix Active Bindings: 4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP Generic IPv6 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                   Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                   Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                   RD              Op
RootAddr                                Interface       IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                   RD              Op
RootAddr                                Interface       IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

*A:Dut-C# show router ldp bindings active  egress-nh 10.10.11.4
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.4/32                            Push              --      262143
10.10.11.4                              2/1/2

10.20.1.4/32                            Swap            262139    262143
10.10.11.4                              2/1/2

10.20.1.6/32                            Push              --      262137
10.10.11.4                              2/1/2

10.20.1.6/32                            Swap            262135    262137
10.10.11.4                              2/1/2

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 4
===============================================================================
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP Generic IPv6 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                   Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-SSM IPv6 P2MP Bindings (Active)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Source
Group                                   Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                   RD              Op
RootAddr                                Interface       IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                   RD              Op
RootAddr                                Interface       IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

*A:Dut-C# show router ldp bindings active ipv4
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.1/32                            Push              --      262143
10.10.2.1                               1/1/1

10.20.1.1/32                            Swap            262141    262143
10.10.2.1                               1/1/1

10.20.1.2/32                            Push              --      262143
10.10.12.2                              lag-1

10.20.1.2/32                            Swap            262140    262143
10.10.12.2                              lag-1

10.20.1.3/32                            Pop             262143      --
  --                                      --

10.20.1.4/32                            Push              --      262143
10.10.11.4                              2/1/2

10.20.1.4/32                            Swap            262139    262143
10.10.11.4                              2/1/2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.5/32                                Push              --      262143
10.10.5.5                                   2/1/1

10.20.1.5/32                                Swap            262137    262143
10.10.5.5                                   2/1/1

10.20.1.6/32                                Push              --      262137
10.10.11.4                                  2/1/2

10.20.1.6/32                                Swap            262135    262137
10.10.11.4                                  2/1/2

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 11
===============================================================================
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                     Interface
RootAddr                                    Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                       Interface
RootAddr                                    Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                       RD              Op
RootAddr                                    Interface       IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

*A:Dut-C# show router ldp bindings active ipv6
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                      Op              IngLbl    EgrLbl
EgrNextHop                                  EgrIf/LspId
-------------------------------------------------------------------------------
3ffe::a14:101/128                           Push              --      262142
fe80::21                                    1/1/1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3ffe::a14:101/128                                Swap            262136    262142
fe80::21                                         1/1/1

3ffe::a14:102/128                                Push              --      262142
fe80::122                                        lag-1

3ffe::a14:102/128                                Swap            262138    262142
fe80::122                                        lag-1

3ffe::a14:103/128                                Pop             262142      --
  --                                            --

3ffe::a14:104/128                                Push              --      262142
fe80::114                                        2/1/2

3ffe::a14:104/128                                Swap            262134    262142
fe80::114                                        2/1/2

3ffe::a14:105/128                                Push              --      262142
fe80::55                                         2/1/1

3ffe::a14:105/128                                Swap            262132    262142
fe80::55                                         2/1/1

3ffe::a14:106/128                                Push              --      262136
fe80::114                                        2/1/2

3ffe::a14:106/128                                Swap            262133    262136
fe80::114                                        2/1/2

-------------------------------------------------------------------------------
No. of IPv6 Prefix Active Bindings: 11
===============================================================================
===============================================================================
LDP Generic IPv6 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                  Interface
RootAddr                                 Op              IngLbl    EgrLbl
EgrNH                                    EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                    Interface
RootAddr                                 Op              IngLbl    EgrLbl
EgrNH                                    EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                    RD              Op
RootAddr                                 Interface       IngLbl    EgrLbl
EgrNH                                    EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
*A:Dut-C# show router ldp bindings active summary
 No. of IPv4 Prefix Active Bindings: 11
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 No. of IPv6 Prefix Active Bindings: 11
 No. of Generic IPv4 P2MP Active Bindings: 0
 No. of Generic IPv6 P2MP Active Bindings: 0
 No. of In-Band-SSM IPv4 P2MP Active Bindings: 0
 No. of In-Band-SSM IPv6 P2MP Active Bindings: 0
 No. of In-Band-VPN-SSM IPv4 P2MP Active Bindings: 0
 No. of In-Band-VPN-SSM IPv6 P2MP Active Bindings: 0
*A:Dut-C#

*A:Dut-C# show router ldp bindings active prefixes
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.1/32                            Push              --      262143
10.10.2.1                               1/1/1

10.20.1.1/32                            Swap            262141    262143
10.10.2.1                               1/1/1

10.20.1.2/32                            Push              --      262143
10.10.12.2                              lag-1

10.20.1.2/32                            Swap            262140    262143
10.10.12.2                              lag-1

10.20.1.3/32                            Pop             262143      --
  --                                      --

10.20.1.4/32                            Push              --      262143
10.10.11.4                              2/1/2

10.20.1.4/32                            Swap            262139    262143
10.10.11.4                              2/1/2

10.20.1.5/32                            Push              --      262143
10.10.5.5                               2/1/1

10.20.1.5/32                            Swap            262137    262143
10.10.5.5                               2/1/1

10.20.1.6/32                            Push              --      262137
10.10.11.4                              2/1/2

10.20.1.6/32                            Swap            262135    262137
10.10.11.4                              2/1/2

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 11
===============================================================================
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                     Op              IngLbl    EgrLbl
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
EgrNextHop                                      EgrIf/LspId
-------------------------------------------------------------------------------
3ffe::a14:101/128                               Push              --      262142
fe80::21                                        1/1/1

3ffe::a14:101/128                               Swap            262136    262142
fe80::21                                        1/1/1

3ffe::a14:102/128                               Push              --      262142
fe80::122                                       lag-1

3ffe::a14:102/128                               Swap            262138    262142
fe80::122                                       lag-1

3ffe::a14:103/128                               Pop             262142      --
  --                                           --

3ffe::a14:104/128                               Push              --      262142
fe80::114                                       2/1/2

3ffe::a14:104/128                               Swap            262134    262142
fe80::114                                       2/1/2

3ffe::a14:105/128                               Push              --      262142
fe80::55                                        2/1/1

3ffe::a14:105/128                               Swap            262132    262142
fe80::55                                        2/1/1

3ffe::a14:106/128                               Push              --      262136
fe80::114                                       2/1/2

3ffe::a14:106/128                               Swap            262133    262136
fe80::114                                       2/1/2

-------------------------------------------------------------------------------
No. of IPv6 Prefix Active Bindings: 11
===============================================================================
*A:Dut-C#

*A:Dut-C# show router ldp bindings active prefixes ipv4
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.1/32                            Push              --      262143
10.10.2.1                               1/1/1

10.20.1.1/32                            Swap            262141    262143
10.10.2.1                               1/1/1

10.20.1.2/32                            Push              --      262143
10.10.12.2                              lag-1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.2/32                                Swap            262140    262143
10.10.12.2                                  lag-1

10.20.1.3/32                                Pop             262143      --
  --                                          --

10.20.1.4/32                                Push              --      262143
10.10.11.4                                  2/1/2

10.20.1.4/32                                Swap            262139    262143
10.10.11.4                                  2/1/2

10.20.1.5/32                                Push              --      262143
10.10.5.5                                   2/1/1

10.20.1.5/32                                Swap            262137    262143
10.10.5.5                                   2/1/1

10.20.1.6/32                                Push              --      262137
10.10.11.4                                  2/1/2

10.20.1.6/32                                Swap            262135    262137
10.10.11.4                                  2/1/2

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 11
===============================================================================
*A:Dut-C#

*A:Dut-C# show router ldp bindings active prefixes ipv6

===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                      Op              IngLbl    EgrLbl
EgrNextHop                                  EgrIf/LspId
-------------------------------------------------------------------------------
3ffe::a14:101/128                           Push              --      262142
fe80::21                                    1/1/1

3ffe::a14:101/128                           Swap            262136    262142
fe80::21                                    1/1/1

3ffe::a14:102/128                           Push              --      262142
fe80::122                                   lag-1

3ffe::a14:102/128                           Swap            262138    262142
fe80::122                                   lag-1

3ffe::a14:103/128                           Pop             262142      --
  --                                        --

3ffe::a14:104/128                           Push              --      262142
fe80::114                                   2/1/2

3ffe::a14:104/128                           Swap            262134    262142
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
fe80::114                                       2/1/2

3ffe::a14:105/128                               Push              --      262142
fe80::55                                        2/1/1

3ffe::a14:105/128                               Swap            262132    262142
fe80::55                                        2/1/1

3ffe::a14:106/128                               Push              --      262136
fe80::114                                       2/1/2

3ffe::a14:106/128                               Swap            262133    262136
fe80::114                                       2/1/2

-------------------------------------------------------------------------------
No. of IPv6 Prefix Active Bindings: 11
===============================================================================
*A:Dut-C#

*A:Dut-C# show router ldp bindings active prefixes prefix 3ffe::a14:101/128 detail
egress-if 1/1/1
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:101/128
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262142
Egr Int/LspId  : 1/1/1
EgrNextHop     : fe80::21
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.2.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:101/128
Op             : Swap
Ing Lbl        : 262136             Egr Lbl    : 262142
Egr Int/LspId  : 1/1/1
EgrNextHop     : fe80::21
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.2.3
Metric         : 1000               Mtu        : 1500
===============================================================================
No. of IPv6 Prefix Active Bindings: 2
===============================================================================
*A:Dut-C#

*A:Dut-C# show router ldp bindings active prefixes prefix 3ffe::a14:101/128 egress-
nh fe80::21
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                    Op             IngLbl    EgrLbl
EgrNextHop                                EgrIf/LspId
-------------------------------------------------------------------------------
3ffe::a14:101/128                         Push             --      262142
fe80::21                                  1/1/1

3ffe::a14:101/128                         Swap            262136    262142
fe80::21                                  1/1/1

-------------------------------------------------------------------------------
No. of IPv6 Prefix Active Bindings: 2
===============================================================================
*A:Dut-C#

*A:SRU4# show router ldp bindings active p2mp
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                   Interface
RootAddr                                  Op             IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
-------------------------------------------------------------------------------
8193                                      77156
192.168.1.1                               Pop            255042      --
  --                                        --

8193                                      77156
192.168.1.1                               Swap           255042    259773
192.168.110.110                           3/1/5:1

8193                                      77156
192.168.1.1                               Pop            258780BU    --
  --                                        --

8193                                      77156
192.168.1.1                               Swap           258780BU  259773
192.168.110.110                           3/1/5:1

8194                                      77157
192.168.1.1                               Pop            255041      --
  --                                        --

8194                                      77157
192.168.1.1                               Swap           255041    259772
192.168.110.110                           3/1/5:1

8194                                      77157
192.168.1.1                               Pop            258779BU    --
  --                                        --

8194                                      77157
192.168.1.1                               Swap           258779BU  259772
192.168.110.110                           3/1/5:1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
8195                                    77158
192.168.1.1                             Pop             255040      --
  --                                      --

8195                                    77158
192.168.1.1                             Swap            255040    259769
192.168.110.110                         3/1/5:1

8195                                    77158
192.168.1.1                             Pop             258777BU    --
  --                                      --

8195                                    77158
192.168.1.1                             Swap            258777BU  259769
*A:SRU4#
```

Output example: active LDP P2MP bindings

```
A:Dut-C# show router ldp bindings active p2mp
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID ::)
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        LF - Lower FEC, UF - Upper FEC
===============================================================================
LDP Recursive with In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
RootAddr
InnerRootAddr
Source                                  Interface
Group                                   Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
10.4.0.2
10.20.1.6
10.0.101.10                             73728
192.168.1.1                             Pop             262135      --
  --                                      --
10.4.0.2 (UF)
10.20.1.6
10.0.101.10                             73728
192.168.1.1                             Swap            262135    Stitched
  --                                      --
10.20.1.3 (LF)
10.20.1.6
10.0.101.10                             Unknw
192.168.1.1                             Push              --      262139
10.3.0.1                                lag-1
10.20.1.3 (LF)
10.20.1.6
10.0.101.10                             Unknw
192.168.1.1                             Push              --      262139
10.33.0.1                               1/1/2:2
-------------------------------------------------------------------------------
No. of In-Band-SSM IPv4 P2MP Active Bindings: 4
===============================================================================


*A:SRU4# show router ldp bindings active p2mp p2mp-id 1 root 192.168.1.2
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                  Interface
RootAddr                                 Op              IngLbl    EgrLbl
EgrNH                                    EgrIf/LspId
-------------------------------------------------------------------------------
1                                        73728
192.168.1.2                              Pop             253348      --
  --                                       --

1                                        73728
192.168.1.2                              Swap            253348    256245
192.168.58.6                             3/2/3:8

1                                        73728
192.168.1.2                              Pop             260103BU    --
  --                                       --

1                                        73728
192.168.1.2                              Swap            260103BU  256245
192.168.58.6                             3/2/3:8

-------------------------------------------------------------------------------
No. of Generic IPv4 P2MP Active Bindings: 4
===============================================================================
*A:SRU4#


*A:SRU4# show router ldp bindings active p2mp p2mp-id 1 root 192.168.1.2 summary
 No. of Generic IPv4 P2MP Active Bindings: 4
*A:SRU4# show router ldp bindings active p2mp p2mp-id 1 root 192.168.1.2 detail
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
-------------------------------------------------------------------------------
P2MP Type      : 1                 P2MP-Id    : 1
Root-Addr      : 192.168.1.2
-------------------------------------------------------------------------------
Op             : Pop
Ing Lbl        : 253348
Egr Lbl        :   --
Egr Int/LspId  :   --
EgrNextHop     :   --
Egr. Flags     : None              Ing. Flags : None
-------------------------------------------------------------------------------
P2MP Type      : 1                 P2MP-Id    : 1
Root-Addr      : 192.168.1.2
-------------------------------------------------------------------------------
Op             : Swap
Ing Lbl        : 253348
Egr Lbl        : 256245
Egr Int/LspId  : 3/2/3:8
EgrNextHop     : 192.168.58.6
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : src-1.8
Metric         : 1                  Mtu        : 1500
-------------------------------------------------------------------------------
P2MP Type      : 1                  P2MP-Id    : 1
Root-Addr      : 192.168.1.2
-------------------------------------------------------------------------------
Op             : Pop
Ing Lbl        : 260103BU
Egr Lbl        :   --
Egr Int/LspId  :   --
EgrNextHop     :   --
Egr. Flags     : None               Ing. Flags : None
-------------------------------------------------------------------------------
P2MP Type      : 1                  P2MP-Id    : 1
Root-Addr      : 192.168.1.2
-------------------------------------------------------------------------------
Op             : Swap
Ing Lbl        : 260103BU
Egr Lbl        : 256245
Egr Int/LspId  : 3/2/3:8
EgrNextHop     : 192.168.58.6
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : src-1.8
Metric         : 1                  Mtu        : 1500
===============================================================================
No. of Generic IPv4 P2MP Active Bindings: 4
===============================================================================
*A:SRU4#

*A:SRU4# show router ldp bindings active p2mp p2mp-
id 1 root 192.168.1.2 detail egress-
if 3/2/3:8
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
-------------------------------------------------------------------------------
P2MP Type      : 1                  P2MP-Id    : 1
Root-Addr      : 192.168.1.2
-------------------------------------------------------------------------------
Op             : Swap
Ing Lbl        : 253348
Egr Lbl        : 256245
Egr Int/LspId  : 3/2/3:8
EgrNextHop     : 192.168.58.6
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : src-1.8
Metric         : 1                  Mtu        : 1500
-------------------------------------------------------------------------------
P2MP Type      : 1                  P2MP-Id    : 1
Root-Addr      : 192.168.1.2
-------------------------------------------------------------------------------
Op             : Swap
Ing Lbl        : 260103BU
Egr Lbl        : 256245
Egr Int/LspId  : 3/2/3:8
EgrNextHop     : 192.168.58.6
Egr. Flags     : None               Ing. Flags : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Egr If Name    : src-1.8
Metric         : 1                 Mtu        : 1500
===============================================================================
No. of Generic IPv4 P2MP Active Bindings: 2
===============================================================================
*A:SRU4#


*A:SRU4# show router ldp bindings active p2mp p2mp-id 1 root 192.168.1.2 egress-nh
 192.168.58.6
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                     Interface
RootAddr                                    Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
1                                           73728
192.168.1.2                                 Swap            253348    256245
192.168.58.6                                3/2/3:8

1                                           73728
192.168.1.2                                 Swap            260103BU  256245
192.168.58.6                                3/2/3:8

-------------------------------------------------------------------------------
No. of Generic IPv4 P2MP Active Bindings: 2
===============================================================================
*A:SRU4#


*A:SRU4# show router ldp bindings active p2mp ipv4 summary
 No. of Generic IPv4 P2MP Active Bindings: 8870
 No. of In-Band-SSM IPv4 P2MP Active Bindings: 182
 No. of In-Band-VPN-SSM IPv4 P2MP Active Bindings: 0
*A:SRU4#
*A:SRU4# show router ldp bindings active p2mp ipv4 detail
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
-------------------------------------------------------------------------------
P2MP Type      : 1                 P2MP-Id    : 8193
Root-Addr      : 192.168.1.1
-------------------------------------------------------------------------------
Op             : Pop
Ing Lbl        : 255042
Egr Lbl        :   --
Egr Int/LspId  :   --
EgrNextHop     :   --
Egr. Flags     : None              Ing. Flags : None
-------------------------------------------------------------------------------
P2MP Type      : 1                 P2MP-Id    : 8193
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Root-Addr      : 192.168.1.1
-------------------------------------------------------------------------------
Op             : Swap
Ing Lbl        : 255042
Egr Lbl        : 259773
Egr Int/LspId  : 3/1/5:1
EgrNextHop     : 192.168.110.110
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : sicily1-1:1
Metric         : 1                  Mtu        : 9194
-------------------------------------------------------------------------------
P2MP Type      : 1                  P2MP-Id    : 8193
Root-Addr      : 192.168.1.1
-------------------------------------------------------------------------------
Op             : Pop
Ing Lbl        : 258780BU
Egr Lbl        :   --
Egr Int/LspId  :   --
EgrNextHop     :   --
Egr. Flags     : None               Ing. Flags : None
-------------------------------------------------------------------------------
P2MP Type      : 1                  P2MP-Id    : 8193
Root-Addr      : 192.168.1.1
-------------------------------------------------------------------------------
Op             : Swap
Ing Lbl        : 258780BU
Egr Lbl        : 259773
Egr Int/LspId  : 3/1/5:1
EgrNextHop     : 192.168.110.110
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : sicily1-1:1
Metric         : 1                  Mtu        : 9194
-------------------------------------------------------------------------------
P2MP Type      : 1                  P2MP-Id    : 8194
Root-Addr      : 192.168.1.1
-------------------------------------------------------------------------------
Op             : Pop
Ing Lbl        : 255041
*A:SRU4#


*A:SRU4# show router ldp bindings active p2mp ipv4 egress-if  3/1/5:1
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                  Interface
RootAddr                                 Op             IngLbl    EgrLbl
EgrNH                                    EgrIf/LspId
-------------------------------------------------------------------------------
8193                                     77156
192.168.1.1                              Swap           255042    259773
192.168.110.110                          3/1/5:1

8193                                     77156
192.168.1.1                              Swap           258780BU  259773
192.168.110.110                          3/1/5:1

8194                                     77157
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
192.168.1.1                                 Swap            255041    259772
192.168.110.110                             3/1/5:1

8194                                        77157
192.168.1.1                                 Swap            258779BU  259772
192.168.110.110                             3/1/5:1

8195                                        77158
192.168.1.1                                 Swap            255040    259769
192.168.110.110                             3/1/5:1

8195                                        77158
192.168.1.1                                 Swap            258777BU  259769
192.168.110.110                             3/1/5:1

8196                                        77159
192.168.1.1                                 Swap            255039    259768
192.168.110.110                             3/1/5:1

8196                                        77159
192.168.1.1                                 Swap            258772BU  259768
192.168.110.110                             3/1/5:1

8197                                        77160
192.168.1.1                                 Swap            255034    259762
192.168.110.110                             3/1/5:1

8197                                        77160
192.168.1.1                                 Swap            258758BU  259762
192.168.110.110                             3/1/5:1

8198                                        77161
192.168.1.1                                 Swap            255033    259761
192.168.110.110                             3/1/5:1

8198                                        77161
192.168.1.1                                 Swap            258755BU  259761
*A:SRU4#


*A:SRU4# show router ldp bindings active p2mp ipv4 egress-nh 192.168.110.110
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                     Interface
RootAddr                                    Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
8193                                        77156
192.168.1.1                                 Swap            255042    259773
192.168.110.110                             3/1/5:1

8193                                        77156
192.168.1.1                                 Swap            258780BU  259773
192.168.110.110                             3/1/5:1

8194                                        77157
192.168.1.1                                 Swap            255041    259772
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
192.168.110.110                          3/1/5:1

8194                                     77157
192.168.1.1                              Swap            258779BU  259772
192.168.110.110                          3/1/5:1

8195                                     77158
192.168.1.1                              Swap            255040    259769
192.168.110.110                          3/1/5:1

8195                                     77158
192.168.1.1                              Swap            258777BU  259769
192.168.110.110                          3/1/5:1

8196                                     77159
192.168.1.1                              Swap            255039    259768
192.168.110.110                          3/1/5:1

8196                                     77159
192.168.1.1                              Swap            258772BU  259768
192.168.110.110                          3/1/5:1

8197                                     77160
192.168.1.1                              Swap            255034    259762
192.168.110.110                          3/1/5:1

8197                                     77160
192.168.1.1                              Swap            258758BU  259762
192.168.110.110                          3/1/5:1

8198                                     77161
192.168.1.1                              Swap            255033    259761
192.168.110.110                          3/1/5:1

8198                                     77161
192.168.1.1                              Swap            258755BU  259761
*A:SRU4#


*A:SRU4# show router ldp bindings active p2mp ipv4 egress-if  3/1/5:1 opaque-type
 generic
===============================================================================
LDP Bindings (IPv4 LSR ID 192.168.1.4:0)
             (IPv6 LSR ID 3ffe::6e14:104[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                  Interface
RootAddr                                 Op              IngLbl    EgrLbl
EgrNH                                    EgrIf/LspId
-------------------------------------------------------------------------------
8193                                     77156
192.168.1.1                              Swap            255042    259773
192.168.110.110                          3/1/5:1

8193                                     77156
192.168.1.1                              Swap            258780BU  259773
192.168.110.110                          3/1/5:1

8194                                     77157
192.168.1.1                              Swap            255041    259772
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
192.168.110.110                          3/1/5:1

8194                                     77157
192.168.1.1                              Swap            258779BU  259772
192.168.110.110                          3/1/5:1

8195                                     77158
192.168.1.1                              Swap            255040    259769
192.168.110.110                          3/1/5:1

8195                                     77158
192.168.1.1                              Swap            258777BU  259769
192.168.110.110                          3/1/5:1

8196                                     77159
192.168.1.1                              Swap            255039    259768
192.168.110.110                          3/1/5:1

8196                                     77159
192.168.1.1                              Swap            258772BU  259768
192.168.110.110                          3/1/5:1

8197                                     77160
192.168.1.1                              Swap            255034    259762
192.168.110.110                          3/1/5:1

8197                                     77160
192.168.1.1                              Swap            258758BU  259762
192.168.110.110                          3/1/5:1

8198                                     77161
192.168.1.1                              Swap            255033    259761
192.168.110.110                          3/1/5:1

8198                                     77161
192.168.1.1                              Swap            258755BU  259761
*A:SRU4#
```

Output example: LDP prefix-specific and recursive bindings

```
A:Dut-C# show router ldp bindings active p2mp source 10.0.101.10 group 192.168.1.1
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID ::)
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        LF - Lower FEC, UF - Upper FEC
===============================================================================
LDP Recursive with In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
RootAddr
InnerRootAddr
Source                                   Interface
Group                                    Op              IngLbl    EgrLbl
EgrNH                                    EgrIf/LspId
-------------------------------------------------------------------------------
10.4.0.2
10.20.1.6
10.0.101.10                              73728
192.168.1.1                              Pop             262135      --
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  --                                          --
10.4.0.2 (UF)
10.20.1.6
10.0.101.10                                 73728
192.168.1.1                                 Swap            262135    Stitched
  --                                          --
10.20.1.3 (LF)
10.20.1.6
10.0.101.10                                 Unknw
192.168.1.1                                 Push              --      262139
10.3.0.1                                    lag-1
10.20.1.3 (LF)
10.20.1.6
10.0.101.10                                 Unknw
192.168.1.1                                 Push              --      262139
10.33.0.1                                   1/1/2:2
-------------------------------------------------------------------------------
No. of In-Band-SSM IPv4 P2MP Active Bindings: 4
===============================================================================


A:Dut-C# show router ldp bindings active p2mp source 10.0.101.10 group 192.168.1.1
innermost-root 10.20.1.6
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID ::)
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        LF - Lower FEC, UF - Upper FEC
===============================================================================
LDP Recursive with In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
RootAddr
InnerRootAddr
Source                                      Interface
Group                                       Op              IngLbl    EgrLbl
EgrNH                                       EgrIf/LspId
-------------------------------------------------------------------------------
10.4.0.2
10.20.1.6
10.0.101.10                                 73728
192.168.1.1                                 Pop             262135      --
  --                                          --
10.4.0.2 (UF)
10.20.1.6
10.0.101.10                                 73728
192.168.1.1                                 Swap            262135    Stitched
  --                                          --
10.20.1.3 (LF)
10.20.1.6
10.0.101.10                                 Unknw
192.168.1.1                                 Push              --      262139
10.3.0.1                                    lag-1
10.20.1.3 (LF)
10.20.1.6
10.0.101.10                                 Unknw
192.168.1.1                                 Push              --      262139
10.33.0.1                                   1/1/2:2
-------------------------------------------------------------------------------
No. of In-Band-SSM IPv4 P2MP Active Bindings: 4
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:Dut-C# show router ldp bindings active p2mp source 10.0.101.10 group 192.168.1.1
inner-root 10.20.1.6 root 10.20.1.3
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID ::)
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        LF - Lower FEC, UF - Upper FEC
===============================================================================
LDP Recursive with In-Band-SSM IPv4 P2MP Bindings (Active)
===============================================================================
RootAddr
InnerRootAddr
Source                                    Interface
Group                                     Op              IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.3 (LF)
10.20.1.6
10.0.101.10                               Unknw
192.168.1.1                               Push              --      262139
10.3.0.1                                  lag-1
10.20.1.3 (LF)
10.20.1.6
10.0.101.10                               Unknw
192.168.1.1                               Push              --      262139
10.33.0.1                                 1/1/2:2
-------------------------------------------------------------------------------
No. of In-Band-SSM IPv4 P2MP Active Bindings: 2


*A:Dut-C# show router ldp bindings active prefixes prefix 3ffe::a14:101/128
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                    Op              IngLbl    EgrLbl
EgrNextHop                                EgrIf/LspId
-------------------------------------------------------------------------------
3ffe::a14:101/128                         Push              --      262142
fe80::21                                  1/1/1

3ffe::a14:101/128                         Swap            262136    262142
fe80::21                                  1/1/1

-------------------------------------------------------------------------------
No. of IPv6 Prefix Active Bindings: 2
===============================================================================


*A:Dut-C# show router ldp bindings active prefixes prefix 3ffe::a14:101/128 detail
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3:0)
             (IPv6 LSR ID 3ffe::a14:103[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:101/128
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262142
Egr Int/LspId  : 1/1/1
EgrNextHop     : fe80::21
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.2.3
Metric         : 1000               Mtu        : 1500
-------------------------------------------------------------------------------
Prefix         : 3ffe::a14:101/128
Op             : Swap
Ing Lbl        : 262136             Egr Lbl    : 262142
Egr Int/LspId  : 1/1/1
EgrNextHop     : fe80::21
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : ip-10.10.2.3
Metric         : 1000               Mtu        : 1500
===============================================================================
No. of IPv6 Prefix Active Bindings: 2
===============================================================================
*A:Dut-C#


*A:Dut-C>config>router>isis# show router ldp  bindings active  prefixes prefix
10.20.1.1/32
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID 3ffe::a14:103)
===============================================================================
Label Status:
        U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        e - Label ELC
FEC Flags:
        LF - Lower FEC, UF - Upper FEC, BA - ASBR Backup FEC
        (S) - Static           (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop     (BU) - Alternate Next-hop for Fast Re-Route
        (I) - SR-ISIS Next Hop (O) - SR-OSPF Next Hop
        (C) - FEC resolved with class-based-forwarding
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.1/32(I)                         Swap            262122    474387
10.10.2.1                               1/1/1

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 1
===============================================================================


*A:Dut-C>config>router>isis# show router ldp  bindings prefixes prefix 10.20.1.1/32
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID 3ffe::a14:103)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Label Status:
        U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        e - Label ELC
FEC Flags:
        LF - Lower FEC, UF - Upper FEC, BA - ASBR Backup FEC
===============================================================================
LDP IPv4 Prefix Bindings
===============================================================================
Prefix                                  IngLbl                  EgrLbl
Peer                                    EgrIntf/LspId
EgrNextHop
-------------------------------------------------------------------------------
10.20.1.1/32                            262122U                 262131
10.20.1.2:0                               --
  --

10.20.1.1/32                            262122U                 262140
10.20.1.4:0                               --
  --

10.20.1.1/32                            262122U                 262139
10.20.1.5:0                               --
  --

-------------------------------------------------------------------------------
No. of IPv4 Prefix Bindings: 3
===============================================================================


*A:Dut-C# show router ldp bindings  prefixes prefix 10.20.1.6/32
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID ::)
===============================================================================
Label Status:
        U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        e - Label ELC
FEC Flags:
        LF - Lower FEC, UF - Upper FEC, BA - ASBR Backup FEC
===============================================================================
LDP IPv4 Prefix Bindings
===============================================================================
Prefix                                  IngLbl                  EgrLbl
Peer                                    EgrIntf/LspId
EgrNextHop
-------------------------------------------------------------------------------
10.20.1.6/32                            262142U                 262142
10.20.1.1:0                               --
  --

10.20.1.6/32                            262142U                   --
10.20.1.2:0                               --
  --

-------------------------------------------------------------------------------
No. of IPv4 Prefix Bindings: 2
===============================================================================


*A:Dut-C# show router ldp bindings active prefixes prefix 10.20.1.6/32
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID ::)
===============================================================================
Label Status:
        U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        e - Label ELC
FEC Flags:
        LF - Lower FEC, UF - Upper FEC, BA - ASBR Backup FEC
        (S) - Static           (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop     (BU) - Alternate Next-hop for Fast Re-Route
        (I) - SR-ISIS Next Hop (O) - SR-OSPF Next Hop
        (C) - FEC resolved with class-based-forwarding
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.6/32(B)                         Swap            262142    262142
10.20.1.2                               LspId 65545

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 1


*A:Dut-C# show router ldp bindings active prefixes prefix 10.20.1.3/32

===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.2:0)
             (IPv6 LSR ID ::[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
        (C) - FEC resolved with class-based-forwarding
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
10.20.1.3/32                            Push              --      262143
10.20.1.3                               LspId 5

10.20.1.3/32                            Push              --      262143
10.20.1.3                               LspId 6

10.20.1.3/32                            Push              --      262143
10.20.1.3                               LspId 7

10.20.1.3/32                            Push              --      262143
10.20.1.3                               LspId 8

10.20.1.3/32(C)                         Swap            262141    262143
10.20.1.3                               LspId 5

10.20.1.3/32(C)                         Swap            262141    262143
10.20.1.3                               LspId 6

10.20.1.3/32(C)                         Swap            262141    262143
10.20.1.3                               LspId 7
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.3/32(C)                             Swap            262141    262143
10.20.1.3                                   LspId 8
-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 8
===============================================================================


show router ldp bindings active prefixes prefix 10.20.1.3/32 detail

===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.2:0)
             (IPv6 LSR ID ::[0])
===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
        (C) - FEC resolved with class-based-forwarding
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262143
Egr Int/LspId  : LspId 5
EgrNextHop     : 10.20.1.3
Egr. Flags     : None               Ing. Flags : None
Lsp Name       : B_C_5
Metric         : 1000               Mtu        : 1492
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262143
Egr Int/LspId  : LspId 6
EgrNextHop     : 10.20.1.3
Egr. Flags     : None               Ing. Flags : None
Lsp Name       : B_C_6
Metric         : 1000               Mtu        : 1492
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262143
Egr Int/LspId  : LspId 7
EgrNextHop     : 10.20.1.3
Egr. Flags     : None               Ing. Flags : None
Lsp Name       : B_C_7
Metric         : 1000               Mtu        : 1492
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32
Op             : Push
Ing Lbl        :   --               Egr Lbl    : 262143
Egr Int/LspId  : LspId 8
EgrNextHop     : 10.20.1.3
Egr. Flags     : None               Ing. Flags : None
Lsp Name       : B_C_8
Metric         : 1000               Mtu        : 1492
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32(C)
Op             : Swap
Ing Lbl        : 262141             Egr Lbl    : 262143
Egr Int/LspId  : LspId 5
EgrNextHop     : 10.20.1.3
Egr. Flags     : None               Ing. Flags : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Lsp Name       : B_C_5
Metric         : 1000              Mtu        : 1492
CBF Default LSP: No                CBF FC     : None
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32(C)
Op             : Swap
Ing Lbl        : 262141            Egr Lbl    : 262143
Egr Int/LspId  : LspId 6
EgrNextHop     : 10.20.1.3
Egr. Flags     : None              Ing. Flags : None
Lsp Name       : B_C_6
Metric         : 1000              Mtu        : 1492
CBF Default LSP: No                CBF FC     : None
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32(C)
Op             : Swap
Ing Lbl        : 262141            Egr Lbl    : 262143
Egr Int/LspId  : LspId 7
EgrNextHop     : 10.20.1.3
Egr. Flags     : None              Ing. Flags : None
Lsp Name       : B_C_7
Metric         : 1000              Mtu        : 1492
CBF Default LSP: Yes               CBF FC     : be l2 af l1 h2 ef h1 nc
-------------------------------------------------------------------------------
Prefix         : 10.20.1.3/32(C)
Op             : Swap
Ing Lbl        : 262141            Egr Lbl    : 262143
Egr Int/LspId  : LspId 8
EgrNextHop     : 10.20.1.3
Egr. Flags     : None              Ing. Flags : None
Lsp Name       : B_C_8
Metric         : 1000              Mtu        : 1492
CBF Default LSP: No                CBF FC     : None
===============================================================================
No. of IPv4 Prefix Active Bindings: 8
===============================================================================
```

4.24 active-subscribers

active-subscribers

Syntax

active-subscribers detail

active-subscribers mirror

active-subscribers [**summary**]

Context

[Tree] (show>service active-subscribers)

Full Context

show service active-subscribers

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays active subscriber information.

Parameters

detail

Displays detailed output.

mirror

Displays active subscriber mirror information.

summary

Displays active subscriber information in a brief format.

Platforms

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

Output

The following output are examples of active service subscriber information, and Table 13: Output fields: active subscriber describes the output fields:

- Output example: active subscribers
- Output example: active subscribers mirroring
- Output example: detailed active subscribers

Output example: active subscribers

```
*A:Dut-C# show service active-subscribers
===============================================================================
Active Subscribers
===============================================================================
-------------------------------------------------------------------------------
Subscriber hpolSub1 (hpolSubProf2)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
(1) SLA Profile Instance sap:lag-1:2000.1 - sla:hpolSlaProf1
-------------------------------------------------------------------------------
IP Address
                MAC Address          Session        Origin       Svc        Fwd
-------------------------------------------------------------------------------
239.1.4.194
                00:01:00:00:03:c1    PPP 1          IPCP         1000       Y
-------------------------------------------------------------------------------
(2) SLA Profile Instance sap:lag-1:2000.1 - sla:hpolSlaProf2
-------------------------------------------------------------------------------
IP Address
                MAC Address          Session        Origin       Svc        Fwd
-------------------------------------------------------------------------------
239.1.4.35
                00:01:00:00:03:22    N/A            ARP-Host     1000       Y
239.1.4.195
                00:01:00:00:03:c2    PPP 1          IPCP         1000       Y
-------------------------------------------------------------------------------
Subscriber hpolSub16 (hpolSubProf1)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
(1) SLA Profile Instance sap:[lag-1:2000.2] - sla:hpolSlaProf1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
IP Address
                MAC Address          Session        Origin       Svc        Fwd
-------------------------------------------------------------------------------
239.1.4.224
                00:01:00:00:03:df    PPP 1          IPCP         1000       Y
-------------------------------------------------------------------------------
Subscriber hpolSub2 (hpolSubProf1)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
(1) SLA Profile Instance sap:lag-1:2000.1 - sla:hpolSlaProf1
-------------------------------------------------------------------------------
IP Address
                MAC Address          Session        Origin       Svc        Fwd
-------------------------------------------------------------------------------
239.1.4.196
                00:01:00:00:03:c3    PPP 1          IPCP         1000       Y
-------------------------------------------------------------------------------
Number of active subscribers : 3
===============================================================================
*A:Dut-C#
```

Output example: active subscribers mirroring

```
*A:EsrC# show service active-subscribers mirror
===============================================================================
Active Subscribers
===============================================================================
Subscriber user1 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-----------------------------------------------
1.1.0.1         00:00:01:00:00:01 Static
                    Ingress mirror:      100   l2 af l1 nc
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:11 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-----------------------------------------------
11.1.0.1        00:00:01:00:00:01 Static
                    Ingress mirror:      100   l2 af l1 nc
-----------------------------------------------
Subscriber user10 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-----------------------------------------------
1.1.0.10        00:00:01:00:00:01 Static
                    Ingress mirror:      100   af ef h1 nc
-----------------------------------------------
Subscriber user11 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-----------------------------------------------
1.1.0.11        00:00:01:00:00:02 Static
                    Egress  mirror:      100   l2 ef h1
-----------------------------------------------
Subscriber user12 (sub1)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.12        00:00:01:00:00:03 Static
                    Ingress mirror:      100   be l2 af l1 h2 ef h1 nc
                    Egress  mirror:      100   be l2 af l1 h2 ef h1 nc
-------------------------------------------
Subscriber user13 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.13        00:00:01:00:00:01 Static
                    Ingress mirror:      100   l1 ef h1
-------------------------------------------
Subscriber user14 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.14        00:00:01:00:00:02 Static
                    Egress  mirror:      100   l2 h2 ef h1
-------------------------------------------
Subscriber user15 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.15        00:00:01:00:00:03 Static
                    Ingress mirror:      100   l1 nc
                    Egress  mirror:      100   l1 nc
-------------------------------------------
Subscriber user16 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.16        00:00:01:00:00:01 Static
                    Ingress mirror:      100   be l2 af nc
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:11 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
11.1.0.16       00:00:01:00:00:01 Static
                    Ingress mirror:      100   be l2 af nc
-------------------------------------------
Subscriber user17 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla2
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.17        00:00:01:00:00:01 Static
                    Egress  mirror:      100   af l1 h1
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:11 - sla:sla2
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IP Address      MAC Address       Origin
-------------------------------------------
11.1.0.17       00:00:01:00:00:01 Static
                    Egress  mirror:      100   af l1 h1
-------------------------------------------
Subscriber user18 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla3
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.18        00:00:01:00:00:01 Static
                    Ingress mirror:      100   h2
                    Egress  mirror:      100   h2
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:11 - sla:sla3
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
11.1.0.18       00:00:01:00:00:01 Static
                    Ingress mirror:      100   h2
                    Egress  mirror:      100   h2
-------------------------------------------
Subscriber user2 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.2         00:00:01:00:00:01 Static
                    Egress  mirror:      100   be l2 af l1 h2 ef h1 nc
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:11 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
11.1.0.2        00:00:01:00:00:01 Static
                    Egress  mirror:      100   be l2 af l1 h2 ef h1 nc
-------------------------------------------
Subscriber user3 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.3         00:00:01:00:00:01 Static
                    Ingress mirror:      100   be l2 af l1 h2 ef h1 nc
                    Egress  mirror:      100   be l2 af l1 h2 ef h1 nc
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:11 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
11.1.0.3        00:00:01:00:00:01 Static
                    Ingress mirror:      100   be l2 af l1 h2 ef h1 nc
                    Egress  mirror:      100   be l2 af l1 h2 ef h1 nc
-------------------------------------------
Subscriber user4 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.4         00:00:01:00:00:01 Static
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                    Ingress mirror:      100   be l2 af l1 h2 ef h1 nc
-------------------------------------------
Subscriber user5 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.5         00:00:01:00:00:01 Static
                    Egress  mirror:      100   be l2 af l1 h2 ef h1 nc
-------------------------------------------
Subscriber user6 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.6         00:00:01:00:00:01 Static
                    Ingress mirror:      100   be af l1 h2
                    Egress  mirror:      100   be af l1 h2
-------------------------------------------
Subscriber user7 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.7         00:00:01:00:00:01 Static
                    Ingress mirror:      100   be l2 af l1 h2 ef h1 nc
-------------------------------------------
Subscriber user8 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.8         00:00:01:00:00:01 Static
                    Egress  mirror:      100   be af l1 h1 nc
-------------------------------------------
Subscriber user9 (sub1)
-------------------------------------------------------------------------------
SLA Profile Instance sap:lag-8:1 - sla:sla1
-------------------------------------------------------------------------------
IP Address      MAC Address       Origin
-------------------------------------------
1.1.0.9         00:00:01:00:00:01 Static
                    Ingress mirror:      100   be l2 af l1 h2 ef h1 nc
                    Egress  mirror:      100   be l2 af l1 h2 ef h1 nc
===============================================================================
*A:EsrC#
```

Output example: detailed active subscribers

```
*B:Dut-C# show service active-subscribers detail
===============================================================================
Active Subscribers
===============================================================================
-------------------------------------------------------------------------------
Subscriber basic1
           (sub__S1)
-------------------------------------------------------------------------------
I. Sched. Policy : N/A
E. Sched. Policy : HSch1                          E. Agg Rate Limit: Max
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                                E. Min Resv Bw   : 1
I. Policer Ctrl. : N/A
E. Policer Ctrl. : N/A
I. vport-hashing : Disabled
I. sec-sh-hashing: Disabled
Q Frame-Based Ac*: Disabled
Acct. Policy     : N/A                          Collect Stats    : Disabled
ANCP Pol.        : N/A
Accu-stats-pol   : (Not Specified)
HostTrk Pol.     : N/A
IGMP Policy      : igmp1
MLD Policy       : mld1
PIM Policy       : N/A
Sub. MCAC Policy : N/A
NAT Policy       : N/A
Firewall Policy  : N/A
UPnP Policy      : N/A
NAT Prefix List  : N/A
Allow NAT bypass : No
NAT access mode  : auto
Def. Encap Offset: none                         Encap Offset Mode: none
Vol stats type   : full
Preference       : 5
LAG hash class   : 1
LAG hash weight  : 1
Sub. ANCP-String : "basic1"
Sub. Int Dest Id : ""
Igmp Rate Adj    : N/A
RADIUS Rate-Limit: N/A
Oper-Rate-Limit  : Maximum
-------------------------------------------------------------------------------
Radius Accounting
-------------------------------------------------------------------------------
Policy           : radacct
Session Opti.Stop: False
* indicates that the corresponding row element may have been truncated.
-------------------------------------------------------------------------------
(1) SLA Profile Instance
    - sap:1/1/2:51 (VPRN 10 - gi-1-6)
    - sla:slaS2S1
-------------------------------------------------------------------------------
Description          : SLA Profile Id slaS2S1
Control plane(s)     : local
Host Limits          : No Limit
Session Limits       : No Limit
Egr Sched-Policy     : N/A
Ingress Qos-Policy   : 11                    Egress Qos-Policy : 110
Ingress Queuing Type : Service-queuing (Not Applicable to Policer)
Ingr IP Fltr-Id      : N/A                   Egr IP Fltr-Id    : N/A
Ingr IPv6 Fltr-Id    : N/A                   Egr IPv6 Fltr-Id  : N/A
Ingress Report-Rate  : Maximum
Egress Report-Rate   : Maximum
Egress Remarking     : from Sap Qos
Credit Control Pol.  : N/A
Category Map         : (Not Specified)
Use ing L2TP DSCP    : false
Default SPI sharing  : per-sap
Hs-Agg-Rate-Limit    : Maximum
Egress HS Q stat mode: no-override
Bonding Rate-thresh. : high 90 low 80
Bonding Weight       : weight 100 5
Hs-Oper-Rate-Limit   : Maximum
Egr hqos mgmt status : disabled
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
IP Address
              MAC Address        Session            Origin       Svc        Fwd
-------------------------------------------------------------------------------
3fe0:0:0:10::/64
              10:00:00:00:01:10  N/A                DHCP6        10         Y
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
SLA Profile Instance statistics
-------------------------------------------------------------------------------
                          Packets                 Octets
Off. HiPrio           : 0                         0
Off. LowPrio          : 5                         670
Off. Uncolor          : 0                         0
Off. Managed          : 0                         0
Queueing Stats (Ingress QoS Policy 11)
Dro. HiPrio           : 0                         0
Dro. LowPrio          : 0                         0
For. InProf           : 0                         0
For. OutProf          : 5                         670
Queueing Stats (Egress QoS Policy 110)
Dro. In/InplusProf    : 0                         0
Dro. Out/ExcProf      : 0                         0
For. In/InplusProf    : 0                         0
For. Out/ExcProf      : 5                         670
-------------------------------------------------------------------------------
SLA Profile Instance per Queue statistics
-------------------------------------------------------------------------------
                          Packets                 Octets
Ingress Queue 2 (Unicast) (Priority)
Off. HiPrio           : 0                         0
Off. LowPrio          : 0                         0
Dro. HiPrio           : 0                         0
Dro. LowPrio          : 0                         0
For. InProf           : 0                         0
For. OutProf          : 0                         0
Ingress Queue 3 (Unicast) (Priority)
Off. HiPrio           : 0                         0
Off. LowPrio          : 0                         0
Dro. HiPrio           : 0                         0
Dro. LowPrio          : 0                         0
For. InProf           : 0                         0
For. OutProf          : 0                         0
Ingress Queue 4 (Unicast) (Priority)
Off. HiPrio           : 0                         0
Off. LowPrio          : 0                         0
Dro. HiPrio           : 0                         0
Dro. LowPrio          : 0                         0
For. InProf           : 0                         0
For. OutProf          : 0                         0
Ingress Queue 5 (Unicast) (Priority)
Off. HiPrio           : 0                         0
Off. LowPrio          : 0                         0
Dro. HiPrio           : 0                         0
Dro. LowPrio          : 0                         0
For. InProf           : 0                         0
For. OutProf          : 0                         0
Ingress Queue 6 (Unicast) (Priority)
Off. HiPrio           : 0                         0
Off. LowPrio          : 0                         0
Dro. HiPrio           : 0                         0
Dro. LowPrio          : 0                         0
For. InProf           : 0                         0
For. OutProf          : 0                         0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ingress Queue 7 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0
Ingress Queue 8 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0
Ingress Queue 9 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 5                       670
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 5                       670
Egress Queue 1
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Egress Queue 2
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Egress Queue 3
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 5                       670
Egress Queue 4
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Egress Queue 5
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Egress Queue 6
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Egress Queue 7
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Egress Queue 8
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
-------------------------------------------------------------------------------
(2) SLA Profile Instance
    - sap:1/1/2:113 (VPRN 10 - gi-1-11)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    - sla:sla17S1 PPP session:23
-------------------------------------------------------------------------------
Description          : SLA Profile Id sla17S1
Control plane(s)     : local
Host Limits          : No Limit
Session Limits       : No Limit
Egr Sched-Policy     : N/A
Ingress Qos-Policy   : 17                    Egress Qos-Policy : 110
Ingress Queuing Type : Service-queuing (Not Applicable to Policer)
Ingr IP Fltr-Id      : N/A                   Egr IP Fltr-Id    : N/A
Ingr IPv6 Fltr-Id    : N/A                   Egr IPv6 Fltr-Id  : N/A
Ingress Report-Rate  : Maximum
Egress Report-Rate   : Maximum
Egress Remarking     : from Sap Qos
Credit Control Pol.  : ccpol
Category Map         : (Not Specified)
Use ing L2TP DSCP    : false
Default SPI sharing  : per-session
Hs-Agg-Rate-Limit    : Maximum
Egress HS Q stat mode: no-override
Bonding Rate-thresh. : high 90 low 80
Bonding Weight       : weight 100 5
Hs-Oper-Rate-Limit   : Maximum
Egr hqos mgmt status : disabled
-------------------------------------------------------------------------------
Credit Control Policy: ccpol
Category Map         : catmap1
Diameter Session Gy  : router.be;1624914238;80
CC Failure Handling  : terminate
Number of categories
static               : 1
gx-session           : 0
gx-pcc               : 0
Category Name        : cat1
Ingress Queues       : 1
Egress Queues        : 1
Ingress Policers     : (Not Specified)
Egress Policers      : (Not Specified)
Credit Volume Used   : 0                     Credit Time Used     : 213
Credit Volume Avail. : 0                     Credit Time Avail.   : 87
Credit Volume Thres. : 0                     Credit Time Thres.   : 0
Credit Expired       : False                 Credit Negotiating   : False
Out Of Credit Action : None                  Quota Holding Time   : 0
Validity Time Used   : 212                   Validity Time Avail. : 988
HTTP Rdr URL Override: (Not Specified)
-------------------------------------------------------------------------------
IP Address
             MAC Address        Session            Origin       Svc        Fwd
-------------------------------------------------------------------------------
10.1.0.111
             10:00:00:00:01:91  PPP 1              IPCP         10         Y
3fe1:0:0:11::/64
             10:00:00:00:01:91  PPP 1              SLAAC        10         Y
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
SLA Profile Instance statistics
-------------------------------------------------------------------------------
                       Packets                 Octets
Off. HiPrio          : 0                       0
Off. LowPrio         : 10                      1320
Off. Uncolor         : 0                       0
Off. Managed         : 0                       0
Queueing Stats (Ingress QoS Policy 17)
Dro. HiPrio          : 0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 10                    1320
Queueing Stats (Egress QoS Policy 110)
Dro. In/InplusProf    : 0                     0
Dro. Out/ExcProf      : 0                     0
For. In/InplusProf    : 0                     0
For. Out/ExcProf      : 10                    1320
-------------------------------------------------------------------------------
SLA Profile Instance per Queue statistics
-------------------------------------------------------------------------------
                        Packets               Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                     0
Off. LowPrio          : 0                     0
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0
Ingress Queue 2 (Unicast) (Priority)
Off. HiPrio           : 0                     0
Off. LowPrio          : 10                    1320
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 10                    1320
Ingress Queue 3 (Unicast) (Priority)
Off. HiPrio           : 0                     0
Off. LowPrio          : 0                     0
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0
Egress Queue 1
Dro. In/InplusProf    : 0                     0
Dro. Out/ExcProf      : 0                     0
For. In/InplusProf    : 0                     0
For. Out/ExcProf      : 0                     0
Egress Queue 2
Dro. In/InplusProf    : 0                     0
Dro. Out/ExcProf      : 0                     0
For. In/InplusProf    : 0                     0
For. Out/ExcProf      : 0                     0
Egress Queue 3
Dro. In/InplusProf    : 0                     0
Dro. Out/ExcProf      : 0                     0
For. In/InplusProf    : 0                     0
For. Out/ExcProf      : 10                    1320
Egress Queue 4
Dro. In/InplusProf    : 0                     0
Dro. Out/ExcProf      : 0                     0
For. In/InplusProf    : 0                     0
For. Out/ExcProf      : 0                     0
Egress Queue 5
Dro. In/InplusProf    : 0                     0
Dro. Out/ExcProf      : 0                     0
For. In/InplusProf    : 0                     0
For. Out/ExcProf      : 0                     0
Egress Queue 6
Dro. In/InplusProf    : 0                     0
Dro. Out/ExcProf      : 0                     0
For. In/InplusProf    : 0                     0
For. Out/ExcProf      : 0                     0
Egress Queue 7
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Egress Queue 8
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
-------------------------------------------------------------------------------
Number of active subscribers : 1
===============================================================================
*B:Dut-C#
```

Table 13: Output fields: active subscriber

Field	Description
Active Subscribers	The active subscriber's name
IP Address	The IP address of the active subscriber
MAC Address	The MAC address of the active subscriber
Session	The session type
Origin	The IPCP parameter
Svc	The service ID
Fwd	Option to forward
Number of active subscribers	The total number of active subscribers

4.25 adjacency

adjacency

Syntax

adjacency [**detail**]

Context

[Tree] (show>service>id>spb adjacency)

Full Context

show service id spb adjacency

Description

This command displays SPB adjacency information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

detail

Shows detailed information

Platforms

All

Output

The following output is an example of service SPB adjacency information.

Output example

```
===============================================================================
ISIS Adjacency
===============================================================================
System ID               Usage State Hold Interface                    MT Enab
-------------------------------------------------------------------------------
Dut-B                   L1    Up    19   sap:1/2/2:1.1                No
Dut-C                   L1    Up    21   sap:1/2/3:1.1                No
-------------------------------------------------------------------------------
Adjacencies : 2
===============================================================================
```

adjacency

Syntax

adjacency [*ip-address* | *ip-int-name* | *nbr-system-id*] [**detail**]

Context

[Tree] (show>router>isis adjacency)

Full Context

show router isis adjacency

Description

This command displays information regarding IS-IS neighbors. When no *ip-address*, *ip-int-name,* or *nbr-system-id* is specified, all adjacencies are displayed.

Parameters

ip-address

When specified, only adjacencies with that interface is displayed.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ip-int-name

When specified, only adjacencies with that interface is displayed.

nbr-system-id

When specified, only the adjacency with that ID is displayed.

detail

All output is displayed in the detailed format.

mt-id-number

Specifies the multi topology ID number for this route.

Platforms

All

Output

The following output is an example of IS-IS adjacency information, and Table 14: Output fields: adjacency describes the output fields.

Output example

```
A:dut-04# show router isis adjacency

===============================================================================
Rtr Base ISIS Instance 0 Adjacency
===============================================================================
System ID               Usage State Hold Interface                    MT-ID
-------------------------------------------------------------------------------
dut-01                  L2    Up    27   to-dut-01                    0,2
dut-02                  L2    Up    21   to-dut-02                    2
-------------------------------------------------------------------------------
Adjacencies : 2
===============================================================================



A:dut-04# show router isis adjacency detail

===============================================================================
Rtr Base ISIS Instance 0 Adjacency (detail)
===============================================================================
Hostname    : dut-01
SystemID    : 0010.0100.0101                  SNPA        : 52:54:00:c2:c1:30
Interface   : to-dut-01                       Up Time     : 0d 23:07:01
State       : Up                              Priority    : 0
Nbr Sys Typ : L2                              L. Circ Typ : L2
Hold Time   : 21                              Max Hold    : 27
Adj Level   : L2                              MT Enabled  : Yes
Topology    : Unicast, IPv6-Unicast

IPv6 Neighbor         : fe80::25a:ffff:fe00:0
IPv6 Adj SID          : Label 524278
IPv6 SID Protect      : Yes
IPv6 SID Allocation   : Dynamic
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPv4 Neighbor         : 100.1.4.1
IPv4 Adj SID          : Label 524279
IPv4 SID Protect      : Yes
IPv4 SID Allocation   : Dynamic
Restart Support       : Disabled
Restart Status        : Not currently being helped
Restart Supressed     : Disabled
Number of Restarts    : 0
Last Restart at       : Never

-------------------------------------------------------------------------------
SRv6 SID Information
-------------------------------------------------------------------------------
SID
  Type              Locator                           Function
    SRH-mode          Protection                        Algorithm Allocation
-------------------------------------------------------------------------------
5f00:0:e01f::
  uA                uloc0-base                        57375
    PSP-USD           Unprotected                       0         Dynamic
5f00:0:e020::
  uA                uloc0-base                        57376
    PSP-USD           Protected                         0         Dynamic
5f00:10:e010::
  uA                uloc1-128                         57360
    PSP-USD           Unprotected                       128       Dynamic
5f00:10:e011::
  uA                uloc1-128                         57361
    PSP-USD           Protected                         128       Dynamic
5f00:1000:0:104:13::
  End.X             floc0-base                        19
    PSP               Unprotected                       0         Dynamic
5f00:1000:0:104:14::
  End.X             floc0-base                        20
    PSP               Protected                         0         Dynamic
5f00:1000:10:104:a::
  End.X             floc1-128                         10
    PSP-USP-USD       Unprotected                       128       Static
5f00:1000:10:104:f::
  End.X             floc1-128                         15
    PSP               Unprotected                       128       Dynamic
5f00:1000:10:104:10::
  End.X             floc1-128                         16
    PSP               Protected                         128       Dynamic
-------------------------------------------------------------------------------

Hostname    : dut-02
SystemID    : 0000.0000.0102                  SNPA        : aa:c1:ab:4a:7d:c2
Interface   : to-dut-02                       Up Time     : 0d 23:08:38
State       : Up                              Priority    : 0
Nbr Sys Typ : L2                              L. Circ Typ : L2
Hold Time   : 29                              Max Hold    : 30
Adj Level   : L2                              MT Enabled  : Yes
Topology    :  IPv6-Unicast

IPv6 Neighbor         : fe80::a8c1:abff:fe4a:7dc2
IPv6 Adj SID          : Label 524281
IPv6 SID Protect      : Yes
IPv6 SID Allocation   : Dynamic
IPv4 Neighbor         : 0.0.0.0
Restart Support       : Disabled
Restart Status        : Not currently being helped
Restart Supressed     : Disabled
Number of Restarts    : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Last Restart at       : Never
FF Receive Window     : N.A.
FF Burst Size         : N.A.
FF LSP Tx Interval    : N.A.
FF LSPs per PSNP      : N.A.
FF PSNP Interval      : 500 ms
FF Flags              : -

-------------------------------------------------------------------------------
SRv6 SID Information
-------------------------------------------------------------------------------
SID
  Type              Locator                          Function
    SRH-mode          Protection                       Algorithm Allocation
-------------------------------------------------------------------------------
5f00:0:e01b::
  uA                uloc0-base                       57371
    PSP-USD           Unprotected                      0         Dynamic
5f00:0:e01c::
  uA                uloc0-base                       57372
    PSP-USD           Protected                        0         Dynamic
5f00:10:e00c::
  uA                uloc1-128                        57356
    PSP-USD           Unprotected                      128       Dynamic
5f00:10:e00d::
  uA                uloc1-128                        57357
    PSP-USD           Protected                        128       Dynamic
5f00:1000:0:104:f::
  End.X             floc0-base                       15
    PSP               Unprotected                      0         Dynamic
5f00:1000:0:104:10::
  End.X             floc0-base                       16
    PSP               Protected                        0         Dynamic
5f00:1000:10:104:b::
  End.X             floc1-128                        11
    PSP               Unprotected                      128       Dynamic
5f00:1000:10:104:c::
  End.X             floc1-128                        12
    PSP               Protected                        128       Dynamic
-------------------------------------------------------------------------------


===============================================================================
```

Table 14: Output fields: adjacency

Label	Description
Interface	Interface name associated with the neighbor.
System-id	Neighbor’s system ID.
Level	1-L1 only, 2-L2 only, 3-L1 and L2.
State	Up, down, new, one-way, initializing, or rejected.
Hold	Hold time remaining for the adjacency.
SNPA	Subnetwork point of attachment, MAC address of the next hop.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Circuit type	Level on the interface L1, L2, or both.
Expires In	Number of seconds until adjacency expires.
Priority	Priority to become designated router.
Up/down transitions	Number of times neighbor state has changed.
Event	Event causing last transition.
Last transition	Time since last transition change.
Speaks	Supported protocols (only IP).
IP address	IP address of neighbor.
MT enab	Yes — The neighbor is advertising at least 1 non MTID#0.
Topology	Derived from the MT TLV in the IIH • MT#0, MT#2 => "Topology : Unicast, IPv6-Unicast” • Native IPv4 or native IPv6 => "Topology : Unicast” Not supported MTIDs => Topology line suppressed
IPv4 SID Allocation	Indicates whether the IPv4 adjacency SID was statically configured or dynamically allocated
IPv6 SID Allocation	Indicates whether the IPv6 adjacency SID was statically configured or dynamically allocated
SRv6 SID Information	Lists SRv6 adjacency SIDs associated with the ISIS adjacency. Each SID entry includes type, locator, function, SRH-mode, protection, algorithm, and allocation
SID	The SRv6 segment identifier value
Type	The SRv6 SID function type (for example, End.X)
Locator	The locator name associated with the SRv6 SID
Function	The function in decimal value assigned to the SRv6 SID within the locator
SRH-mode	The SRH behavior mode for the SRv6 SID (for example, PSP)
Protection	Indicates whether the SRv6 adjacency SID is protected or unprotected
Algorithm	The flex-algorithm identifier value associated with the SRv6 SID
Allocation	Indicates whether the SRv6 adjacency SID was statically configured or dynamically allocated

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

adjacency

Syntax

adjacency [*system-id*]

Context

[Tree] (clear>router>isis adjacency)

Full Context

clear router isis adjacency

Description

This command clears and resets the entries from the IS-IS adjacency database.

Parameters

system-id

When the system ID is entered, only the specified entries are removed from the IS-IS adjacency database.

Platforms

All

adjacency

Syntax

adjacency [*system-id*]

Context

[Tree] (clear>service>id>spb adjacency)

Full Context

clear service id spb adjacency

Description

This command clears and resets IS-IS adjacencies.

Parameters

system-id

Specifies the system ID. When the system ID is entered, only the specified entries are removed from the IS-IS adjacency database.

Values 6-octet system identifier (xxxx.xxxx.xxxx)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

4.26 adjust-autobandwidth

adjust-autobandwidth

Syntax

adjust-autobandwidth [**lsp** *lsp-name* [**force** [**bandwidth** *mbps*]]]

Context

[Tree] (tools>perform>router>mpls adjust-autobandwidth)

Full Context

tools perform router mpls adjust-autobandwidth

Description

This command initiates an immediate auto-bandwidth adjustment attempt for either one specific LSP or all active LSPs. The auto-bandwidth adjustment is made to the primary or secondary path of the LSP, whichever is the currently active path. If an LSP is not specified, the system assumes the command applies to all LSPs.

The optional **force** parameter, which is available only when an LSP is referenced, determines whether to apply **adjust-up** and **adjust-down** threshold checks.

The adjust count and maximum average data rate are not reset when using this command to manually initiate an auto-bandwidth adjustment, regardless of whether the bandwidth adjustment succeeds or fails. The overflow count is reset only if the manual auto-bandwidth adjustment attempt succeeds.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters. If this parameter is not specified, the command applies to all active LSPs.

force

Keyword to force the bandwidth adjustment to ignore configured thresholds.
If this parameter is not specified, the maximum average data rate must differ from the current bandwidth reservation by more than the **adjust-up** or **adjust-down** thresholds, otherwise no bandwidth adjustment occurs.

bandwidth *mbps*

Specifies the bandwidth that the LSP should be immediately resized to, in Mb/s.

If a **bandwidth** is specified as part of the **force** parameter, the bandwidth of the LSP is changed to the specified value, otherwise the bandwidth is changed to the maximum average data rate that has been measured by the system in the current adjust interval.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0 to 6400000

Platforms

All

4.27 admin

admin

Syntax

admin

Context

[Tree] (show>app-assure>group>policy admin)

Full Context

show application-assurance group policy admin

Description

This command displays the application-assurance policy uncommitted changes.

Platforms

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

Output

The following output is an example of admin information.

Output example

```
*A:ALA-48>show>app-assure>group>policy# admin
                begin
                app-filter
                    entry 10 create
                        shutdown
                    exit
                exit
                app-qos-policy
                    entry 10 create
                        shutdown
                    exit
                exit
                commit
*A:ALA-48>show>app-assure>group>policy#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.28 admin-group

admin-group

Syntax

admin-group [*name*]

Context

[Tree] (show>router>if-attribute admin-group)

Full Context

show router if-attribute admin-group

Description

This command displays administrative group statistics.

Parameters

name

Displays entries that are associated with the specified administrative group name, up to 32 characters.

Platforms

All

Output

The following output is an example of administrative group statistics, and Table 15: Output fields: administrative group describes the output fields.

Output example

```
*A:node-3# show router if-attribute admin-group
===============================================
Interface Administrative Groups
===============================================
Group Name                      Group Value
-----------------------------------------------
Admin                           4
admin                           1
-----------------------------------------------
No. of Groups: 2
===============================================
*A:node-3#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 15: Output fields: administrative group

Label	Description
Group Name	The name of the administrative group
Group Value	The integer value of the administrative group
No. of Groups	The total number of displayed administrative groups

4.29 admin-lock

admin-lock

Syntax

admin-lock

Context

[Tree] (tools>perform>service>id admin-lock)

Full Context

tools perform service id admin-lock

Description

Commands in this context apply an administrative lock for a spoke SDP that is bound to a VLL SAP, another spoke-\ sdp or a VPLS interface for an MPLS-TP PW. After the PW is locked, it can be put into loopback mode. The command must be executed at both ends of the PW or MS-PW represented by the spoke-\ SDP. Test traffic can then be injected using a test SAP.

Platforms

All

4.30 admit-deny-stats

admit-deny-stats

Syntax

admit-deny-stats

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump>app-assure>group admit-deny-stats)

Full Context

tools dump application-assurance group admit-deny-stats

Description

This command displays application-assurance admit-deny statistics.

Platforms

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

Output

The following output is an example of AA admit-deny statistics information.

Output example

```
tools dump application-assurance group 1 admit-deny-stats
===============================================================================
Application-Assurance Group 1 Admit-Deny Statistics
===============================================================================
-------------------------------------------------------------------------------
Packet Validation Statistics
     Admitted Sub-To-Net  Denied Sub-To-Net  Admitted Net-To-Sub  Denied Net-To-Sub
     (Packets)            (Packets)          (Packets)            (Packets)
-------------------------------------------------------------------------------
Error
     0                    0                  0                    0
Fragments: Out-Of-Order
     0                    0                  0                    0
Fragments: All
     0                    0                  0                    0
Overload
     N/A                  0                  N/A                  0
-------------------------------------------------------------------------------
TCP Validation Statistics
     Admitted Sub-To-Net  Denied Sub-To-Net  Admitted Net-To-Sub  Denied Net-To-Sub
     (Packets)            (Packets)          (Packets)            (Packets)
-------------------------------------------------------------------------------
2    0                    0                  0                    0
net  14                   1                  15                   1
-------------------------------------------------------------------------------
```

4.31 adv-config-policy

adv-config-policy

Syntax

adv-config-policy [*policy-name*] [**association**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>qos adv-config-policy)

Full Context

show qos adv-config-policy

Description

This command displays advanced QoS policy information.

Parameters

policy-name

The name of the advanced QoS policy.

association

Displays associations related to the specified adv-config-policy.

Platforms

All

Output

The following output is an example of advanced QoS policy information, and Table 16: Output fields: QoS scheduler hierarchy customer describes the output fields.

Output example

```
*A:PE# show qos adv-config-policy "adv1"
===============================================================================
QoS Advanced Configure Policy
===============================================================================
Policy Name             : adv1
Description             : (Not Specified)
OM Add PIR Prcnt        : 0.00          OM Add Rate             : 0
 OM Add [min-only : false] [active-min-only : false]
OM Gran PIR Prcnt       : 0.00          OM Gran Rate            : 0
Max Dec PIR Prcnt       : 100.00        Max Dec Rate            : 0
Abv Off PIR Prcnt       : 100.00        Abv Off Rate            : max
BWD Gran PIR Prcnt      : 0.00          BWD Gran Rate           : 0
Fast Start              : Disabled      Fast Stop               : Disabled
Time Average Factor     : 0  [dec-only : false]
Hi Rate Hold Time       : 0  [active-min-only : false]
Sample Interval         : 1             Enqueue on PIR Zero     : false
Limit PIR Zero Drain    : false         Init LUB with min PIR   : false
Internal Sched Wght Mode: no-override
Unconsumed Agg-rate     : 100.00        Delta Consumed Agg-rate      : 20.00
Unconsumed Hi-tier-rate : 100.00        Delta Consumed Hi-tier-rate  : 5.00
===============================================================================
*APE#
```

Table 16: Output fields: QoS scheduler hierarchy customer

Label	Description
Policy Name	Displays the policy name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Description	Displays the policy description.
OM Add PIR Prcnt	Displays the percentage of the administrative PIR by which the measured rate is increased.
OM Add Rate	Displays the amount, in kb/s, by which the measured rate is increased.
OM Add	min-only — When this option is true, the system uses the specified increase as a minimum offered rate even for inactive queues or policers associated with the policy. active-min-only — When this option is true, the respective rate or percentage is treated as the minimum offered rate for a queue only when the queue has an actual non-zero offered rate. This is intended to limit the artificial increase in offered rate to queues that are currently active. When a queue's measured offered rate drops to zero, the system stops enforcing the minimum value.
OM Gran PIR Prcnt	Displays the percentage of the child's administrative PIR that is used as the threshold sensitivity to the offered rate change. If a value of 0 or 0.00 is used, the system will interpret this equivalent to no granularity.
OM Gran Rate	Displays the explicit rate, in kb/s, that are used as the child's offered rate change sensitivity value. If a rate sensitivity of 0 is specified, the system interprets this equivalent to no granularity.
Max Dec PIR Prcnt	Displays the percentage of the child's administrative PIR that is used as the decrement limit to the offered rate change. If a value of 100 or 100.00 is used, the system interprets this equivalent as **no max-decrement**.
Max Dec Rate	Displays the rate, in kb/s, that is used as the child's offered rate change sensitivity value. If a rate sensitivity of 0 is specified, the system interprets this equivalent to no granularity.
Abv Off PIR Prcnt	Displays the percentage of the child's administrative PIR that is used as the fair share increase limit. The new operational PIR result is capped by the child's PIR. If a value of 0 or 0.00 is specified, the system will disable the fair share increase function and only configure the actual distribution rate. If a value of 100 or 100.00 is used, the system will interpret this equivalent to executing the **no above-offered-cap** command and return the fair-share operation to the default behavior.
Abv Off Rate	Specifies the explicit rate, in kb/s, that is used as the limit to the child's fair share increase to the operational PIR. The new operational PIR result is capped by the child's PIR.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	If a value of 0 is used, the system will disable the fair share increase function and only configure the actual distribution rate.
BWD Gran PIR Prcnt	Displays the percentage of the child's administrative PIR that is used as the rounding step value. If a value of 0 or 0.00 is used, the system will interpret this equivalent to **no granularity**.
BWD Gran Rate	Displays the rate, in kb/s, that is used as the rounding step value. If a value of 0 is used, the system will interpret this equivalent to **no granularity**.
Fast Start	Displays whether fast detection of initial bandwidth on a child policer or queue associated with the policy is enabled.
Fast Stop	Displays whether fast detection of lack of offered rate on a child policer or queue associated with the policy is enabled.
Time Average Factor	Displays the time average factor used to calculate the weight of the new offered rate using a portion of the previous offered rate. If **dec-only** is true, the time average factor adjustment is only applied if the new offered rate is decreasing compared to the previous offered rate.
Hi Rate Hold Time	Displays the time period that the current offered rate is maintained for a child policer or queue when it is seen that the offered rate is decreasing. The offered measurement that triggers the hold time is used when the hold timer expires, unless a higher offered rate is seen in the interim. When a higher rate is observed, the hold timer is canceled and the higher offered rate is used immediately. If **active-min-only** is true, the respective rate or percentage is treated as the minimum offered rate for a queue, only when the queue has an actual non-zero offered rate.
Sample Interval	Displays the number of intervening sample periods before a new offered rate is measured.
Enqueue on PIR Zero	Displays whether **enqueue-on-pir-zero** is enabled. If it is enabled, when the operational PIR is set to zero, the queue's MBS remains set to the normal value and is not also set to zero.
Limit PIR Zero Drain	If true, the system to use the minimum configurable PIR instead of an H-QoS derived zero operational PIR.
Init LUB with min PIR	If true, new queues associated with a LUB context are assigned a minimum rate operational PIR to be applied to the queue for use by enqueued packets prior to an H-QoS iteration.
Internal Sched Wght Mode	Specifies the internal scheduler weight:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	default — Specifies that queues are equally weighted, except at ingress for mixed-speed LAGs without per-fp-inq-queuing enabled and at egress for all mixed-speed LAGs, in which cases the queues are weighted based on port speed. **force-equal** — Specifies that the queues are always equally weighted. **offered-load** — Specifies that the queues are weighted based on observed offered load. **capped-offered-load** — Specifies that the queues are weighted based on observed offered load capped by PIR.
Unconsumed Agg-rate	Displays the percentage of the unconsumed aggregate rate that can be given to a queue at the end of an H-QoS pass.
Delta Consumed Agg-rate	Displays the percentage of the delta consumed aggregate rate that can be given to a queue at the end of an H-QoS pass.
Unconsumed Hi-tier-rate	Displays the percentage of the unconsumed higher tier rate that can be given to a queue at the end of an H-QoS pass.
Delta Consumed Hi-tier-rate	Displays the percentage of the delta consumed higher tier rate that can be given to a queue at the end of an H-QoS pass.

4.32 agg-rate

agg-rate

Syntax

agg-rate

Context

[Tree] (show>qos agg-rate)

Full Context

show qos agg-rate

Description

This command displays aggregate rate information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.33 aggregate

aggregate

Syntax

aggregate [*family*] [**active**] [**detail**]

Context

[Tree] (show>router aggregate)

Full Context

show router aggregate

Description

This command displays aggregated routes.

Parameters

active

This keyword filters out inactive aggregates.

detail

This keyword displays detailed information.

family

Specifies the family to display.

Values ipv4, ipv6

Platforms

All

Output

The following output is an example of router aggregate information, and Table 17: Output fields: aggregate describes the output fields.

Output example

```
*A:ALA-12# show router 3 aggregate
===============================================================================
Aggregates (Service: 3)
===============================================================================
Prefix                Summary  AS Set   Aggr AS     Aggr IP-Address   State
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of Aggregates: 0
-------------------------------------------------------------
*A:ALA-12#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-A>config>router# show router aggregate

===============================================================================
Aggregates (Router: Base)
===============================================================================
Prefix                                          Aggr IP-Address   Aggr AS
   Summary                                         AS Set          State
     NextHop                                                       NextHopType
-------------------------------------------------------------------------------
10.2.3.0/24                                     0.0.0.0           0
   False                                           False            Inactive
    10.2.2.2                                                        Indirect

10.2.0.0/16                                     0.0.0.0           0
   False                                           False            Active
                                                                    None
-------------------------------------------------------------------------------
No. of Aggregates: 2
===============================================================================


*A:CPM133>config>router# show router aggregate

===============================================================================
Aggregates (Router: Base)
===============================================================================
Prefix                                          Aggr IP-Address   Aggr AS
   Summary                                         AS Set          State
     NextHop                                      Community      NextHopType
-------------------------------------------------------------------------------
10.0.0.0/8                                       0.0.0.0          0
   False                                           False           Inactive
                                                 100:33         Blackhole
-------------------------------------------------------------------------------
No. of Aggregates: 1
===============================================================================
```

Table 17: Output fields: aggregate

Label	Description
Prefix	Displays the destination address of the aggregate route in dotted decimal notation.
Summary	Specifies whether the aggregate or more specific components are advertised.
AS Set	Displays an aggregate where the path advertised for the route consists of all elements contained in all paths that are being summarized.
Aggr AS	Displays the aggregator path attribute to the aggregate route.
Aggr IP-Address	The IP address of the aggregated route.
State	The operational state of the aggregated route.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
No. of Aggregates	The total number of aggregated routes.

4.34 alarm-contact-input

alarm-contact-input

Syntax

alarm-contact-input {*alarm-contact-input-id* | **all**} [**detail**]

Context

[Tree] (show>system alarm-contact-input)

Full Context

show system alarm-contact-input

Description

This command displays the alarm contact input information.

Parameters

alarm-contact-input-id

Specifies the alarm contact input pin number. Alarm contact input information is displayed only for the specified pin.

Values 1 to 4

all

Displays alarm contact input information for all pins.

detail

Displays detailed alarm contact input information for the specifies pin or all pins.

Platforms

7750 SR-a

Output

The following output is an example of alarm contact input information, and Table 18: Output fields: alarm contact input describes the output fields.

Output example

```
=============================================================
Alarm Contact Input
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
=========================================================
Alarm Input Pin Number                 : 1
    Description                        : (Not Specified)
    Alarm Input Pin Current State      : Disabled
    Alarm Severity                     : major
    Alarm Raised                       : No
    Last State Change                  : 03/18/2021 14:45:31
Alarm Input Pin Number                 : 2
    Description                        : (Not Specified)
    Alarm Input Pin Current State      : Disabled
    Alarm Severity                     : major
    Alarm Raised                       : No
    Last State Change                  : 02/21/2021 11:46:45
Alarm Input Pin Number                 : 3
    Description                        : (Not Specified)
    Alarm Input Pin Current State      : Disabled
    Alarm Severity                     : major
    Alarm Raised                       : No
    Last State Change                  : 02/22/2021 16:20:00
Alarm Input Pin Number                 : 4
    Description                        : (Not Specified)
    Alarm Input Pin Current State      : Disabled
    Alarm Severity                     : major
    Alarm Raised                       : No
    Last State Change                  : 03/18/2021 14:45:31
```

Table 18: Output fields: alarm contact input

Label	Description
Alarm Input Pin Number	Indicates the alarm contact input pin number.
Description	Displays the configured description string for the alarm contact input
Alarm Input Pin Current State	Indicates the configured administrative state of the alarm contact input. Disabled — The alarm contact input is disabled (**shutdown**) and log events will not be generated for changes to the input pin status. Enabled — The alarm contact input is enabled (**no shutdown**) and log events are generated for changes to the input pin status as long as the log events are not suppressed in **event-control** configuration.
Alarm Severity	Indicates the configured severity of the associated CHASSIS log event.
Alarm Raised	Indicates if the input pin is triggered or not.
Last State Change	Indicates when the input pin last changed state.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.35 alarms

alarms

Syntax

alarms [**cleared**] [**count** *count*] [**newer-than** *days*] [**severity** *severity-level*]

Context

[Tree] (show>system alarms)

Full Context

show system alarms

Description

This command displays facility alarms on the system. Alarm support covers a focused subset of router states that are likely to indicate service impacts (or imminent service impacts) related to the overall state of hardware assemblies (cards, fans, links, and so on).

Platforms

All

Output

The following outputs are examples of system alarms information, and Table 19: Output fields: system alarms describes the output fields:

- Output example: system alarms
- Output example: ESA system alarms
- Output example: cleared system alarms
- Output Example: ESA cleared system alarms

Note: Use the following command to display facility alarms on the system.

```
show system alarms
```

Output example: system alarms

```
===============================================================================
Alarms [Critical:1 Major:2 Minor:0 Warning:0 Total:3]
===============================================================================
Index      Date/Time              Severity     Alarm         Resource
   Details
-------------------------------------------------------------------------------
8          2011/04/01 18:36:43.80  MAJOR        7-2011-1      Power Supply 1
   Power supply 1, power lost
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
7          2011/04/01 18:35:57.00  MAJOR        7-2005-1      Chassis 1
   Chassis 1: temperature too high

6          2011/04/01 18:35:24.80  CRITICAL     7-2006-1      Fan 1
   Fan 1 failed
===============================================================================
```

Output example: ESA system alarms

```
===============================================================================
Alarms [Critical:3 Major:1 Minor:0 Warning:0 Total:4]
===============================================================================
Index      Date/Time               Severity  Alarm      Resource
   Details
-------------------------------------------------------------------------------
8          2022/08/23 17:06:54.70  MAJOR     7-2426-1   Chassis esa-1
   ESA Chassis temperature status degraded

7          2022/08/23 17:06:54.70  CRITICAL  7-2416-1   Chassis esa-1
   ESA Chassis fan status degraded

6          2022/08/23 17:06:14.70  CRITICAL  7-2410-1   Chassis esa-1
   ESA Chassis power supply 2 status failed

5          2022/08/23 17:06:14.70  CRITICAL  7-2404-1   Chassis esa-1
   ESA Chassis power supply 1 status degraded
===============================================================================
```

Note: Use the following command to display cleared facility alarms on the system.

```
show system alarms cleared
```

Output example: cleared system alarms

```
===============================================================================
Cleared Alarms [Size:500 Total:5 (not wrapped)]
===============================================================================
Index      Date/Time               Severity     Alarm         Resource
   Details
-------------------------------------------------------------------------------
5          2011/04/01 18:11:55.00  MAJOR        7-2005-1      Chassis 1
   Clear Chassis temperature too high alarm

3          2011/04/01 18:11:54.50  CRITICAL     7-2051-1      Power Supply 1
   Clear Power Supply failure

2          2011/04/01 18:11:54.40  CRITICAL     7-2050-1      Power Supply 1
   Clear Power Supply failure

4          2011/04/01 18:11:54.10  MINOR        7-2004-1      Fan 1
   Clear Fan wrong type failure

1          2011/04/01 18:11:54.00  CRITICAL     7-2007-1      Power Supply 1
   Clear Power Supply failure
===============================================================================
```

Output Example: ESA cleared system alarms

```
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Cleared Alarms [Size:500 Total:14 (not wrapped)]
================================================================================
Index      Date/Time              Severity  Alarm      Resource
   Details
--------------------------------------------------------------------------------
15         2022/09/22 14:49:36.00  MAJOR     7-2422-1   Chassis esa-1
   ESA Chassis power supply redundancy degraded - cleared, now redundant

14         2022/09/22 14:49:36.00  MAJOR     7-2400-1   Chassis esa-1
   ESA Chassis aggregate hardware degraded status cleared, now ok

13         2022/09/22 14:49:31.00  CRITICAL  7-2410-1   Chassis esa-1
   ESA Chassis power supply 2 failed status cleared, now ok

12         2022/09/22 11:27:04.80  MAJOR     7-2400-1   Chassis esa-1
   ESA Chassis aggregate hardware degraded status cleared, now ok
```

Table 19: Output fields: system alarms

Label	Description
Index	Alarm index number
Date/Time	Date and time string for the alarm
Severity	Severity level of the alarm
Alarm	Alarm identifier
Resource	Facility associated with the alarm
Details	Description of the alarm

4.36 ale-adjust

ale-adjust

Syntax

ale-adjust

ale-adjust subscriber *sub-ident-string*

Context

[Tree] (show>service>active-subscribers ale-adjust)

Full Context

show service active-subscribers ale-adjust

Description

This command displays subscriber Access Loop Encapsulation adjust information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sub-ident-string

Displays subscriber Access Loop Encapsulation adjust for the specified subscriber, up to 32 characters.

Platforms

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

4.37 alias

alias

Syntax

alias

Context

[Tree] (show alias)

Full Context

show alias

Description

This command shows command aliases.

Note:
This command is not available in the MD-CLI. Use the MD-CLI **info detail environment command-alias** command.

Platforms

All

Output

The following output is an example of alias information, and Table 20: Output fields: alias describes the output fields.

Output example

```
A:ALA-103>config>system# show alias
===============================================================================
Alias-Name                    Alias-command-name
===============================================================================
sri                           show router interface
sse                           show service service-using epipe
ssvpls                        show service service-using vpls
ssvprn                        show service service-using vprn
ssi                           show service service-using ies
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Number of aliases : 5
===============================================================================
A:ALA-103>config>system#
```

Table 20: Output fields: alias

Label	Description
Alias-Name	Displays the name of the alias.
Alias-command-name	The command and parameter syntax that define the alias.
Number of aliases	The total number of aliases configured on the router.

4.38 all

all

Syntax

all

Context

[Tree] (show>service>id all)

Full Context

show service id all

Description

This command displays detailed information for all aspects of the service.

Platforms

All

Output

The following outputs are examples of detailed service information:

- Output example: VPLS service details, Table 21: Output fields: service ID all (VPLS)
- Output example: Epipe service details, Table 22: Output fields: service ID all (Epipe)
- Output example: IES service details, Table 23: Output fields: service ID all (IES)
- Output example: VPRN service details and Output example: PW SAP service details, Table 24: Output fields: service ID all (VPRN; PW SAPs)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: VPLS service details

```
*A:PE-6# show service id 1 all
===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 1                   Vpn Id            : 0
Service Type      : VPLS
Name              : 1
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 05/08/2018 09:40:32
Last Mgmt Change  : 05/08/2018 09:40:24
Etree Mode        : Disabled
Admin State       : Up                  Oper State        : Up
MTU               : 1514
SAP Count         : 1                   SDP Bind Count    : 1
Snd Flush on Fail : Disabled            Host Conn Verify  : Disabled
SHCV pol IPv4     : None
Propagate MacFlush: Disabled            Per Svc Hashing   : Disabled
Allow IP Intf Bind: Disabled
Fwd-IPv4-Mcast-To*: Disabled            Fwd-IPv6-Mcast-To*: Disabled
Mcast IPv6 scope  : mac-based
Def. Gateway IP   : None
Def. Gateway MAC  : None
Evpn Mcast GW     : Enabled             Mcast-GW Type     : MEG
Temp Flood Time   : Disabled            Temp Flood        : Inactive
Temp Flood Chg Cnt: 0
SPI load-balance  : Disabled
TEID load-balance : Disabled
Src Tep IP        : N/A
Vxlan ECMP        : Disabled
-------------------------------------------------------------------------------
BGP Information
-------------------------------------------------------------------------------
Split Horizon Group specifics
-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore
-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Sdp Id 65:1  -(192.0.2.5)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id            : 65:1                    Type              : Spoke
Spoke Descr     : (Not Specified)
Split Horiz Grp   : (Not Specified)
Etree Root Leaf Tag: Disabled               Etree Leaf AC     : Disabled
VC Type           : Ether                   VC Tag            : n/a
Admin Path MTU    : 0                       Oper Path MTU     : 8974
Delivery          : MPLS
Far End           : 192.0.2.5               Tunnel Far End    :
Oper Tunnel Far End: 192.0.2.5
LSP Types         : LDP
Hash Label        : Disabled                Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled
Entropy Label     : Disabled

Admin State       : Up                      Oper State        : Down
MinReqd SdpOperMTU : 1514
Acct. Pol         : None                    Collect Stats     : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ingress Label      : 524279                  Egress Label      : None
Ingr Mac Fltr-Id   : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id    : n/a                     Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id  : n/a                     Egr IPv6 Fltr-Id  : n/a
Admin ControlWord  : Not Preferred           Oper ControlWord  : False
BFD Template       : None
BFD-Enabled        : no                      BFD-Encap         : ipv4
Last Status Change : 05/07/2018 16:50:10     Signaling         : TLDP
Last Mgmt Change   : 05/08/2018 09:40:24
Endpoint           : N/A                     Precedence        : 4
PW Status Sig      : Enabled
Force Vlan-Vc      : Disabled                Force Qinq-Vc     : none
Class Fwding State : Down
Flags              : NoEgrVCLabel
Time to RetryReset : never                   Retries Left      : 3
Mac Move           : Blockable               Blockable Level   : Tertiary
Local Pw Bits      : None
Peer Pw Bits       : None
Peer Fault Ip      : None
Peer Vccv CV Bits  : None
Peer Vccv CC Bits  : None

Application Profile: None
Max Nbr of MAC Addr: No Limit                Total MAC Addr    : 0
Learned MAC Addr   : 0                       Static MAC Addr   : 0
OAM MAC Addr       : 0                       DHCP MAC Addr     : 0
Host MAC Addr      : 0                       Intf MAC Addr     : 0
SPB MAC Addr       : 0                       Cond MAC Addr     : 0
BGP EVPN Addr      : 0                       EVPN Static Addr  : 0

MAC Learning       : Enabled                 Discard Unkwn Srce: Disabled
MAC Aging          : Enabled
BPDU Translation   : Disabled
L2PT Termination   : Disabled
MAC Pinning        : Disabled
Ignore Standby Sig : False                   Block On Mesh Fail: False
Oper Group         : (none)                  Monitor Oper Grp  : (none)
Auto Learn Mac Prot: Disabled
RestMacProtSrc Act : none

Ingress Qos Policy : (none)                  Egress Qos Policy : (none)
Ingress FP QGrp    : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                  Egr Port QGrp Inst: (none)

KeepAlive Information :
Admin State        : Disabled                Oper State        : Disabled
Hello Time         : 10                      Hello Msg Len     : 0
Max Drop Count     : 3                       Hold Down Time    : 10

Statistics           :
I. Fwd. Pkts.      : 0                       I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                       I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 0                       E. Fwd. Octets    : 0
-------------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------------
PW Status          : disabled                Refresh Timer     : <none>
Peer Status Expire : false
Request Timer      : <none>
Acknowledgement    : false

MCAC Policy Name   :
MCAC Max Unconst BW: no limit                MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0                       MCAC Avail Mand BW: unlimited
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MCAC In use Opnl BW: 0                        MCAC Avail Opnl BW: unlimited
MCAC If-Policy Name:
-------------------------------------------------------------------------------
ETH-CFM SDP-Bind specifics
-------------------------------------------------------------------------------
V-MEP Filtering          : Disabled
Squelch ch Levels        : None
Squelch ch Ctag Levels   : None
Collect Lmm Stats        : Disabled
LMM FC Stats             : None
LMM FC In Prof           : None
-------------------------------------------------------------------------------
LDP Information :
-------------------------------------------------------------------------------
LDP LSP Id         : 65541
-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated
-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                 EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn
Multicast LSP      : None
===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings
-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
ISIS               : disabled
OSPF               : disabled
TE-LSP             : disabled
-------------------------------------------------------------------------------
Stp Service Destination Point specifics
-------------------------------------------------------------------------------
Stp Admin State    : Up                       Stp Oper State    : Down
Core Connectivity  : Down
Port Role          : N/A                      Port State        : Discarding
Port Number        : 0                        Port Priority     : 128
Port Path Cost     : 10                       Auto Edge         : Enabled
Admin Edge         : Disabled                 Oper Edge         : N/A
Link Type          : Pt-pt                    BPDU Encap        : Dot1d
Root Guard         : Disabled                 Active Protocol   : N/A
Last BPDU from     : N/A
Designated Bridge  : N/A                      Designated Port Id: 0

Fwd Transitions    : 0                        Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                        Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                        TCN BPDUs tx      : 0
TC bit BPDUs rcvd  : 0                        TC bit BPDUs tx   : 0
RST BPDUs rcvd     : 0                        RST BPDUs tx      : 0
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------
SAP 1/1/c1/1:1
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service Id         : 1
SAP                : 1/1/c1/1:1              Encap            : q-tag
Description        : (Not Specified)
Admin State        : Up                      Oper State       : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 05/07/2018 16:50:10
Last Mgmt Change   : 05/08/2018 09:40:32
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                  QinQ Ethertype   : 0x8100
Split Horizon Group: (Not Specified)

Etree Root Leaf Tag: Disabled                Etree Leaf Tag   : 0
Etree Leaf AC      : Disabled
Max Nbr of MAC Addr: No Limit                Total MAC Addr   : 0
Learned MAC Addr   : 0                       Static MAC Addr  : 0
OAM MAC Addr       : 0                       DHCP MAC Addr    : 0
Host MAC Addr      : 0                       Intf MAC Addr    : 0
SPB MAC Addr       : 0                       Cond MAC Addr    : 0
BGP EVPN Addr      : 0                       EVPN Static Addr : 0
Admin MTU          : 9000                    Oper MTU         : 9000
Ingr IP Fltr-Id    : n/a                     Egr IP Fltr-Id   : n/a
Ingr Mac Fltr-Id   : n/a                     Egr Mac Fltr-Id  : n/a
Ingr IPv6 Fltr-Id  : n/a                     Egr IPv6 Fltr-Id : n/a
qinq-pbit-marking  : both
Egr Agg Rate Limit : max
Q Frame-Based Acct : Disabled                Limit Unused BW  : Disabled
ARP Reply Agent    : Disabled                Host Conn Verify : Disabled
SHCV pol IPv4      : None
Mac Learning       : Enabled                 Discard Unkwn Srce: Disabled
Mac Aging          : Enabled                 Mac Pinning      : Disabled
BPDU Translation   : Disabled
L2PT Termination   : Disabled
Vlan-translation   : None
Qinq-vlan-                                   Qinq-vlan-
translation        : None                    translation Ids  : None

Acct. Pol          : None                    Collect Stats    : Disabled

Anti Spoofing      : None                    Dynamic Hosts    : Enabled
Avl Static Hosts   : 0                       Tot Static Hosts : 0
Calling-Station-Id : n/a

Oper Group         : (none)                  Monitor Oper Grp : (none)
Host Lockout Plcy  : n/a
Lag Link Map Prof  : (none)
Cflowd             : Disabled
Bandwidth          : Not-Applicable
Oper DCpu Prot Pol*: _default-access-policy
MCAC Policy Name   :                         MCAC Const Adm St : Enable
MCAC Max Unconst BW: no limit                MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0                       MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                       MCAC Avail Opnl BW: unlimited
Use LAG port weight: no
MCAC If-Policy Name:
Restr MacUnpr Dst  : Disabled
Auto Learn Mac Prot: Disabled
RestMacProtSrc Act : none
Time to RetryReset : never                   Retries Left     : 3
Mac Move           : Blockable               Blockable Level  : Tertiary
Auth Policy        : None
DestMac Rewrite    : Disabled
SendBvplsEvpnFlush : Enabled
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults           : n/a                       AIS              : Disabled
MC Prop-Hold-Timer      : n/a                       V-MEP Filtering  : Disabled
Squelch ch Levels       : None
Squelch ch Ctag Levels  : None
Collect Lmm Stats       : Disabled
LMM FC Stats            : None
LMM FC In Prof          : None
-------------------------------------------------------------------------------
Stp Service Access Point specifics
-------------------------------------------------------------------------------
Stp Admin State    : Up                         Stp Oper State    : Down
Core Connectivity  : Down
Port Role          : N/A                        Port State        : Forwarding
Port Number        : N/A                        Port Priority     : 128
Port Path Cost     : 10                         Auto Edge         : Enabled
Admin Edge         : Disabled                   Oper Edge         : N/A
Link Type          : Pt-pt                      BPDU Encap        : Dot1d
Root Guard         : Disabled                   Active Protocol   : N/A
Last BPDU from     : N/A
CIST Desig Bridge  : N/A                        Designated Port   : N/A

Forward transitions: 0                          Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                          Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                          TCN BPDUs tx      : 0
TC bit BPDUs rcvd  : 0                          TC bit BPDUs tx   : 0
RST BPDUs rcvd     : 0                          RST BPDUs tx      : 0
MST BPDUs rcvd     : 0                          MST BPDUs tx      : 0
-------------------------------------------------------------------------------
ARP host
-------------------------------------------------------------------------------
Admin State        : outOfService
Host Limit         : 1                          Min Auth Interval : 15 minutes

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                          Egress qos-policy : 1
Ingress FP QGrp    : (none)                     Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                     Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                        Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
I. QGrp Redir. List: (Not Specified)
E. QGrp Redir. List: (Not Specified)
-------------------------------------------------------------------------------
DHCP
-------------------------------------------------------------------------------
Description        : (Not Specified)
Admin State        : Down                       Lease Populate    : 0
DHCP Snooping      : Down                       Action            : Keep

Proxy Admin State  : Down
Proxy Lease Time   : N/A
Emul. Server Addr  : Not Configured
-------------------------------------------------------------------------------
DHCP6
-------------------------------------------------------------------------------
Description        : (Not Specified)
Admin State        : Down
DHCP Snooping      : Down
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Interface-Id       : AsciiTuple               Remote-Id         : Disabled
-------------------------------------------------------------------------------
Subscriber Management
-------------------------------------------------------------------------------
Admin State        : Down                     MAC DA Hashing    : False
Def Sub-Id         : None
Def Sub-Profile    : None
Def SLA-Profile    : None
Def Inter-Dest-Id  : None
Sub-Ident-Policy   : None

Subscriber Limit   : 1
Single-Sub-Parameters
Prof Traffic Only : False
Non-Sub-Traffic   : N/A

Static host management
MAC learn options  : N/A

-------------------------------------------------------------------------------
Sap Aggregate Stats
-------------------------------------------------------------------------------
                        Packets                 Octets
Ingress
Aggregate Offered     : 0                       0
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0

Egress
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A

                        Packets                 Octets
CPM Ingress           : 0                       0

Forwarding Engine Stats
Dropped               : 0                       0
Received Valid        : 0                       0
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 0                       0
Off. Managed          : 0                       0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Queueing Stats(Egress QoS Policy 1)
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Ingress Queue 11 (Multipoint) (Priority)
Off. Combined         : 0                       0
Off. Managed          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Egress Queue 1
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
* indicates that the corresponding row element may have been truncated.

-------------------------------------------------------------------------------
VPLS Spanning Tree Information
-------------------------------------------------------------------------------
VPLS oper state    : Up                      Core Connectivity : Down
Stp Admin State    : Down                    Stp Oper State    : Down
Mode               : Rstp                    Vcp Active Prot.  : N/A

Bridge Id          : 80:00.d8:4a:ff:00:00:00  Bridge Instance Id: 0
Bridge Priority    : 32768                   Tx Hold Count     : 6
Topology Change    : Inactive                Bridge Hello Time : 2
Last Top. Change   : 0d 00:00:00             Bridge Max Age    : 20
Top. Change Count  : 0                       Bridge Fwd Delay  : 15
MST region revision: 0                       Bridge max hops   : 20
MST region name    :

Root Bridge        : N/A
Primary Bridge     : N/A

Root Path Cost     : 0                       Root Forward Delay: 0
Rcvd Hello Time    : 0                       Root Max Age      : 0
Root Priority      : 0                       Root Port         : N/A
-------------------------------------------------------------------------------
Forwarding Database specifics
-------------------------------------------------------------------------------
Service Id        : 1                  Mac Move          : Disabled
Primary Factor    : 3                  Secondary Factor  : 2
Mac Move Rate     : 2                  Mac Move Timeout  : 10
Mac Move Retries  : 3
Table Size        : 250                Allocated Count   : 0
Total In Use      : 0
Learned Count     : 0                  Static Count      : 0
OAM MAC Count     : 0                  DHCP MAC Count    : 0
Host MAC Count    : 0                  Intf MAC Count    : 0
Spb Count         : 0                  Cond MAC Count    : 0
BGP EVPN Count    : 0                  EVPN Static Cnt   : 0
EVPN Dup Det Cnt  : 0
Remote Age        : 900                Local Age         : 300
High Watermark    : 95%                Low Watermark     : 90%
Mac Learning      : Enabled            Discard Unknown   : Disabled
Mac Aging         : Enabled            Relearn Only      : False
Mac Subnet Len    : 48
Sel Learned FDB   : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
IGMP Snooping Base info
-------------------------------------------------------------------------------
Admin State : Down
Querier     : No querier found
-------------------------------------------------------------------------------
Port                      Oper MRtr Pim  Send Max   Max  Max   MVR       Num
Id                        Stat Port Port Qrys Grps  Srcs Grp   From-VPLS Grps
                                                      Srcs
-------------------------------------------------------------------------------
sap:1/1/c1/1:1            Up   No   No   No   None  None None  Local     0
sdp:65:1                  Down No   No   No   None  None None  N/A       0
-------------------------------------------------------------------------------
MLD Snooping Base info
-------------------------------------------------------------------------------
Admin State : Down
Querier     : No querier found
-------------------------------------------------------------------------------
Port                      Oper    MRtr  Send      Max Num   MVR        Num
Id                        State   Port  Queries   Groups    From-VPLS  Groups
-------------------------------------------------------------------------------
sap:1/1/c1/1:1            Up      No    Disabled  No Limit  Local      0
sdp:65:1                  Down    No    Disabled  No Limit  N/A        0
-------------------------------------------------------------------------------
DHCP Summary, service 1
-------------------------------------------------------------------------------
Sap/Sdp                Snoop  Used/       Arp Reply   Info     Admin
                              Provided    Agent       Option   State
-------------------------------------------------------------------------------
sap:1/1/c1/1:1         No     0/0         No          Keep     Down
sdp:65:1               No     N/A         N/A         N/A      N/A
-------------------------------------------------------------------------------
Number of Entries : 2
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
ARP host Summary, service 1
-------------------------------------------------------------------------------
Sap                    Used        Provided    Admin State
-------------------------------------------------------------------------------
sap:1/1/c1/1:1         0           1           outOfService
-------------------------------------------------------------------------------
Number of SAPs : 1     0
-------------------------------------------------------------------------------
===============================================================================
Service VPLS Group Information
===============================================================================
===============================================================================
No vxlan information for 1
-------------------------------------------------------------------------------
Service Endpoints
-------------------------------------------------------------------------------
No Endpoints found.
-------------------------------------------------------------------------------
===============================================================================
VPLS Sites
===============================================================================
Site                Site-Id   Dest                Mesh-SDP  Admin   Oper  Fwdr
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
* indicates that the corresponding row element may have been truncated.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 21: Output fields: service ID all (VPLS)

Label	Description
Service Id	The value that identifies a service
VPN Id	The number that identifies the VPN
Service Type	The type of service
SDP Id	The SDP identifier
Description	The text string describing general information about the service
Customer Id	The customer identifier
Last Mgmt Change	The date and time of the most recent management-initiated change to this customer
SAP Count	The number of SAPs specified for this service
SDP Bind Count	The number of SDPs bound to this service
Evpn Mcast GW	The status of the EVPN multicast gateway
Mcast-GW Type	The multicast gateway type: MEG, PEG, or MEG-PEG
Split Horizon Group	The name of the split horizon group for this service
Description	The text string describing the split horizon group
Last Changed	The date and time of the most recent management-initiated change to this split horizon group
SDP Id	The SDP identifier
Type	The service SDP binding type, spoke or mesh
Admin Path MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented
Delivery	The type of delivery used by the SDP: GRE or MPLS
Admin State	The administrative state of this SDP
Oper State	The operational status of the KeepAlive protocol.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Egress Label	The label used by this device to send packets to the far-end device in this service by this SDP
Ingress Filter	The ID of the ingress filter policy
Egress Filter	The ID of the egress filter policy
Far End	The IP address of the remote end of the GRE or MPLS tunnel defined by this SDP
Last Changed	The date and time of the most recent change to this customer
Signaling	The signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP.
Admin State	The operating status of the SDP
Oper State	The operational state of the SDP
Hello Time	The frequency that SDP echo request messages are transmitted on this SDP
Hello Msg Len	The length of the SDP echo request messages transmitted on this SDP
Max Drop Count	The maximum number of consecutive SDP echo request messages that can be unacknowledged before the keepalive protocol reports a fault
Hold Down Time	The amount of time to wait before the keepalive operating status is eligible to enter the alive state.
SDP Delivery Mechanism	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the Far End field. If the SDP type is GRE, then the following message displays: SDP Delivery Mechanism is not MPLS
Number of SDPs	The total number SDPs applied to this service ID
Service Access Points	
Service Id	The value that identifies a service
Port Id	The ID of the access port where this SAP is defined
Description	The generic information about the SAP
Encap Value	The value of the label used to identify this SAP on the access port.
Admin State	The desired state of the SAP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper State	The operating state of the SAP
Last Changed	The date and time of the last change
Admin MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented
Oper MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented
Ingress qos-policy	The SAP ingress QoS policy ID
Egress qos-policy	The SAP egress QoS policy ID
Ingress Filter-Id	The SAP ingress filter policy ID
Egress Filter-Id	The SAP egress filter policy ID
Multi Svc Site	The multi-service site in which the SAP is a member
Ingress sched-policy	The ingress QoS scheduler for the SAP
Egress sched-policy	The egress QoS scheduler for the SAP
Acct. Pol	The accounting policy applied to the SAP
Collect Stats	Accounting statistics collected on the SAP
Dropped	The number of packets or octets dropped
Offered Hi Priority	The number of high priority packets, as determined by the SAP ingress QoS policy
Offered Low Priority	The number of low priority packets, as determined by the SAP ingress QoS policy
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded
Dropped In Profile	The number of in-profile packets or octets discarded
Dropped Out Profile	The number of out-of-profile packets or octets discarded
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ingress Queue 1	The index of the ingress QoS queue of this SAP
High priority offered	The packets or octets count of the high priority traffic for the SAP
High priority dropped	The number of high priority traffic packets or octets dropped
Low priority offered	The packets or octets count of the low priority traffic
Low priority dropped	The number of low priority traffic packets or octets dropped
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded
Out profile forwarded	The number of out-of-profile octets (rate above CIR) forwarded
Egress Queue 1	The index of the egress QoS queue of the SAP
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded
In profile dropped	The number of in-profile packets or octets dropped for the SAP
Out profile forwarded	The number of out-of-profile packets or octets (rate above CIR) forwarded
Out profile dropped	The number of out-of-profile packets or octets discarded
State	The DHCP relay state on this SAP
Info Option	Option 82 processing state on this SAP
Action	Option 82 processing state SAP or interface: keep, replace or drop
Circuit ID	If index is inserted in Circuit ID sub-option of Option 82
Remote ID	The far-end MAC address inserted in remote ID sub-option of Option 82
Managed by Service	The service-id of the management VPLS managing this SAP
Managed by SAP	The SAP ID inside the management VPLS managing this SAP
Prune state	The STP state inherited from the management VPLS
Managed by Service	The service ID of the management VPLS managing this spoke SDP
Managed by Spoke	The SAP ID inside the management VPLS managing this spoke SDP
Prune state	The STP state inherited from the management VPLS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: Epipe service details

```
*A:PE# show service id 1 all

===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 1                   Vpn Id            : 0
Service Type      : Epipe
Name              : 1
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 08/31/2018 11:12:04
Last Mgmt Change  : 08/31/2018 11:09:25
Test Service      : No
Admin State       : Up                  Oper State        : Up
MTU               : 1514
Vc Switching      : False
SAP Count         : 2                   SDP Bind Count    : 0
Per Svc Hashing   : Disabled
Vxlan Src Tep Ip  : N/A
Force QTag Fwd    : Disabled
Oper Group        : <none>

-------------------------------------------------------------------------------
BGP Information
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore


-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SAP 1/1/1
-------------------------------------------------------------------------------
Service Id         : 1
SAP                : 1/1/1                    Encap             : null
Description        : (Not Specified)
Admin State        : Up                       Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 08/31/2018 11:12:04
Last Mgmt Change   : 08/31/2018 11:09:24
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                   QinQ Ethertype    : 0x8100
Split Horizon Group: (Not Specified)

LLF Admin State    : Down                     LLF Oper State    : Clear
Admin MTU          : 1514                     Oper MTU          : 1514
Ingr IP Fltr-Id    : n/a                      Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                      Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                      Egr IPv6 Fltr-Id  : n/a
qinq-pbit-marking  : both
Endpoint           : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Egr Agg Rate Limit : max
Q Frame-Based Acct : Disabled                Limit Unused BW   : Disabled
Vlan-translation   : None
Qinq-vlan-                                   Qinq-vlan-
translation        : None                    translation Ids   : None

Acct. Pol          : None                    Collect Stats     : Disabled

Application Profile: None
Transit Policy     : None

Oper Group         : (none)                  Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Ignore Oper Down   : Disabled
Lag Link Map Prof  : (none)
Cflowd             : Disabled
Bandwidth          : Not-Applicable
Oper DCpu Prot Pol*: _default-access-policy

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : n/a                     AIS               : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None
Collect Lmm Stats  : Disabled
LMM FC Stats       : None
LMM FC In Prof     : None

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                       Egress qos-policy : 1
Ingress FP QGrp    : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                  Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                     Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
E. HS Sec. Shaper  : (Not Specified)
I. QGrp Redir. List: (Not Specified)
E. QGrp Redir. List: (Not Specified)
-------------------------------------------------------------------------------
Sap Aggregate Stats
-------------------------------------------------------------------------------
                       Packets                 Octets
Ingress
Aggregate Offered     : 0                      0
Aggregate Forwarded   : 0                      0
Aggregate Dropped     : 0                      0

Egress
Aggregate Forwarded   : 0                      0
Aggregate Dropped     : 0                      0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : 08/31/2018 11:19:51

                       Packets                 Octets
CPM Ingress           : 0                      0

Forwarding Engine Stats
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dropped              : 0                        0
Received Valid       : 0                        0
Off. HiPrio          : 0                        0
Off. LowPrio         : 0                        0
Off. Uncolor         : 0                        0
Off. Managed         : 0                        0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio          : 0                        0
Dro. LowPrio         : 0                        0
For. InProf          : 0                        0
For. OutProf         : 0                        0

Queueing Stats(Egress QoS Policy 1)
Dro. In/InplusProf   : 0                        0
Dro. Out/ExcProf     : 0                        0
For. In/InplusProf   : 0                        0
For. Out/ExcProf     : 0                        0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                       Packets                  Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio          : 0                        0
Off. LowPrio         : 0                        0
Dro. HiPrio          : 0                        0
Dro. LowPrio         : 0                        0
For. InProf          : 0                        0
For. OutProf         : 0                        0

Egress Queue 1
For. In/InplusProf   : 0                        0
For. Out/ExcProf     : 0                        0
Dro. In/InplusProf   : 0                        0
Dro. Out/ExcProf     : 0                        0
* indicates that the corresponding row element may have been truncated.

-------------------------------------------------------------------------------
SAP 1/1/9:1
-------------------------------------------------------------------------------
Service Id         : 1
SAP                : 1/1/9:1                  Encap             : q-tag
Description        : (Not Specified)
Admin State        : Up                       Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 08/31/2018 11:09:25
Last Mgmt Change   : 08/31/2018 11:23:45
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                   QinQ Ethertype    : 0x8100
Split Horizon Group: (Not Specified)

Admin MTU          : 1518                     Oper MTU          : 1518
Ingr IP Fltr-Id    : n/a                      Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                      Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                      Egr IPv6 Fltr-Id  : n/a
qinq-pbit-marking  : both
Endpoint           : N/A
Egr Agg Rate Limit : max
Q Frame-Based Acct : Disabled                 Limit Unused BW   : Disabled
Vlan-translation   : None
Qinq-vlan-                                    Qinq-vlan-
translation        : None                     translation Ids   : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Acct. Pol          : None                    Collect Stats     : Disabled

Application Profile: None
Transit Policy     : None

Oper Group         : (none)                  Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Ignore Oper Down   : Disabled
Lag Link Map Prof  : (none)
Cflowd             : Disabled
Bandwidth          : Not-Applicable
Oper DCpu Prot Pol*: _default-access-policy

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : n/a                     AIS               : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None
Collect Lmm Stats  : Disabled
LMM FC Stats       : None
LMM FC In Prof     : None

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                       Egress qos-policy : 1
Ingress FP QGrp    : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                  Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                     Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
E. HS Sec. Shaper  : (Not Specified)
I. QGrp Redir. List: (Not Specified)
E. QGrp Redir. List: (Not Specified)
-------------------------------------------------------------------------------
Sap Aggregate Stats
-------------------------------------------------------------------------------
                       Packets                 Octets
Ingress
Aggregate Offered     : 0                       0
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0

Egress
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : 08/31/2018 11:19:51

                       Packets                 Octets
CPM Ingress           : 0                       0

Forwarding Engine Stats
Dropped               : 0                       0
Received Valid        : 0                       0
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Off. Managed          : 0                       0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Queueing Stats(Egress QoS Policy 1)
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Egress Queue 1
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
* indicates that the corresponding row element may have been truncated.

-------------------------------------------------------------------------------
Service Endpoints
-------------------------------------------------------------------------------
No Endpoints found.
-------------------------------------------------------------------------------

===============================================================================
VLL Sites
===============================================================================
Site                Site-Id   Dest                Admin       Oper  Fwdr
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
*A:PE#
```

Table 22: Output fields: service ID all (Epipe)

Label	Description
Service Id	The service identifier
VPN Id	The number that identifies the VPN
Service Type	The type of service
VLL Type	The VLL type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
SDP Id	The SDP identifier for the 7450 ESS or 7750 SR
Description	Generic information about the service
Customer Id	The customer identifier
Last Mgmt Change	The date and time of the most recent management-initiated change
Endpoint	The name of the service endpoint for the 7450 ESS or 7750 SR
Flags	The conditions that affect the operating status of this SAP. Display output includes: ServiceAdminDown, SapAdmin Down, InterfaceAdminDown, PortOperDown, PortMTUToo Small, L2OperDown, SapIngressQoSMismatch, SapEgress QoSMismatch,RelearnLimitExceeded, RxProtSrcMac, Parent IfAdminDown, NoSapIpipeCeIpAddr, SapParamMismatch, Cem SapNoEcidOrMacAddr, StandByForMcRing, ServiceMTUToo Small, NoSapEpipeRingNode.
SAP Count	The number of SAPs specified for this service
SDP Bind Count	The number of SDPs bound to this service for the 7450 ESS or 7750 SR
Split Horizon Group Specifics	
Split Horizon Group	The name of the split horizon group for this VPLS for the 7450 ESS or 7750 SR
Description	The description of the split horizon group for the 7450 ESS or 7750 SR
Last Changed	The date and time of the most recent management-initiated change to this split horizon group for the 7450 ESS or 7750 SR
Service Destination Points (SDPs)	
SDP Id	The SDP identifier for the 7450 ESS or 7750 SR
Type	Indicates whether this service SDP binding is a spoke or a mesh for the 7450 ESS or 7750 SR
Admin Path MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented for the 7450 ESS or 7750 SR.
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented for the 7450 ESS or 7750 SR

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Delivery	The type of delivery used by the SDP: GRE or MPLS for the 7450 ESS or 7750 SR
Admin State	The administrative state of this SD for the 7450 ESS or 7750 SR
Oper State	The operational state of this SDP for the 7450 ESS or 7750 SR
Jitter Buffer (packets)	The jitter buffer length in number of packet buffers for the 7450 ESS or 7750 SR
Playout Threshold (packets)	The playout buffer packets threshold in number of packet buffers for the 7450 ESS or 7750 SR
Playout Threshold (packets)	Indicates the current packet depth of the jitter buffer for the 7450 ESS or 7750 SR
Peer Pw Bits	The bits set by the LDP peer when there is a fault on its side of the pseudowire for the 7450 ESS or 7750 SR. LAC failures occur on the SAP that has been configured on the pipe service, PSN bits are set by SDP-binding failures on the pipe service. The pw NotForwarding bit is set when none of the above failures apply, such as an MTU mismatch failure. This value is only applicable if the peer is using the pseudowire status signaling method to indicate faults. pwNotForwarding — Pseudowire not forwarding lacIngressFault Local — Attachment circuit RX fault lacEgressFault Local — Attachment circuit TX fault psnIngressFault Local — PSN-facing PW RX fault psnEgressFault Local — PSN-facing PW TX fault pwFwdingStandby — Pseudowire in standby mode
Signaling Override	The overriding signaled pseudowire type, as configured under the **signaled-vc-type-override** option for Apipes. This field is only displayed if **signaled-vc-type-override** is configured for the 7750 SR.

Output example: IES service details

```
A:PE# show service id 500 all

===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 500                Vpn Id            : 0
Service Type      : IES
Name              : 500
Description       : (Not Specified)
Customer Id       : 1                  Creation Origin   : manual
Last Status Change: 08/31/2018 16:07:55
Last Mgmt Change  : 08/31/2018 16:07:55
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin State       : Up                 Oper State        : Up
SAP Count         : 2                  SDP Bind Count    : 0

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore


-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SAP 1/1/9:1
-------------------------------------------------------------------------------
Service Id         : 500
SAP                : 1/1/9:1                Encap             : q-tag
Description        : (Not Specified)
Admin State        : Up                     Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 08/31/2018 16:07:55
Last Mgmt Change   : 08/31/2018 16:07:55
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                 QinQ Ethertype    : 0x8100
Split Horizon Group: (Not Specified)

Admin MTU          : 1518                   Oper MTU          : 1518
Ingr IP Fltr-Id    : n/a                    Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                    Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                    Egr IPv6 Fltr-Id  : n/a
qinq-pbit-marking  : both
Egr Agg Rate Limit : max
Q Frame-Based Acct : Disabled               Limit Unused BW   : Disabled
Qinq-vlan-                                  Qinq-vlan-
translation        : None                   translation Ids   : None

Acct. Pol          : None                   Collect Stats     : Disabled

Anti Spoofing      : None                   Dynamic Hosts     : Enabled
Avl Static Hosts   : 0                      Tot Static Hosts  : 0
Calling-Station-Id : n/a

Application Profile: None
Transit Policy     : None
AARP Id            : None

Oper Group         : (none)                 Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Lag Link Map Prof  : (none)
Bandwidth          : Not-Applicable
Oper DCpu Prot Pol*: _default-access-policy

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : n/a                    AIS               : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Collect Lmm Stats  : Disabled
LMM FC Stats       : None
LMM FC In Prof     : None

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                      Egress qos-policy : 1
Ingress FP QGrp    : (none)                 Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                 Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                    Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
E. HS Sec. Shaper  : (Not Specified)
I. QGrp Redir. List: (Not Specified)
E. QGrp Redir. List: (Not Specified)
-------------------------------------------------------------------------------
Sap Aggregate Stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress
Aggregate Offered     : 0                       0
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0

Egress
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : 08/31/2018 16:19:29

                        Packets                 Octets
CPM Ingress           : 0                       0

Forwarding Engine Stats
Dropped               : 0                       0
Received Valid        : 0                       0
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 0                       0
Off. Managed          : 0                       0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Queueing Stats(Egress QoS Policy 1)
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Egress Queue 1
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
* indicates that the corresponding row element may have been truncated.

-------------------------------------------------------------------------------
SAP pw-1:500
-------------------------------------------------------------------------------
Service Id         : 500
SAP                : pw-1:500                Encap             : q-tag
Description        : (Not Specified)
Admin State        : Up                      Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 08/31/2018 16:09:16
Last Mgmt Change   : 08/31/2018 16:07:55
Sub Type           : regular
Split Horizon Group: (Not Specified)

Admin MTU          : 1518                    Oper MTU          : 8660
Ingr IP Fltr-Id    : n/a                     Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                     Egr IPv6 Fltr-Id  : n/a
qinq-pbit-marking  : both
Egr Agg Rate Limit : max
                                             Limit Unused BW   : Disabled
Qinq-vlan-                                   Qinq-vlan-
translation        : None                    translation Ids   : None

Acct. Pol          : None                    Collect Stats     : Disabled

Anti Spoofing      : None                    Dynamic Hosts     : Enabled
Avl Static Hosts   : 0                       Tot Static Hosts  : 0
Calling-Station-Id : n/a

Application Profile: None
Transit Policy     : None
AARP Id            : None

Oper Group         : (none)                  Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Lag Link Map Prof  : (none)
Bandwidth          : Not-Applicable
Oper DCpu Prot Pol*: _default-access-policy

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : n/a                     AIS               : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None
Collect Lmm Stats  : Disabled
LMM FC Stats       : None
LMM FC In Prof     : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                      Egress qos-policy : 500
Ingress FP QGrp    : (none)                 Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                 Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                    Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : pw-sap
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
E. HS Sec. Shaper  : (Not Specified)
I. QGrp Redir. List: (Not Specified)
E. QGrp Redir. List: (Not Specified)
-------------------------------------------------------------------------------
Sap Aggregate Stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress
Aggregate Offered     : 0                       0
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0

Egress
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : 08/31/2018 16:19:29

                        Packets                 Octets
CPM Ingress           : 0                       0

Forwarding Engine Stats
Dropped               : 0                       0
Received Valid        : 0                       0
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 0                       0
Off. Managed          : 0                       0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Queueing Stats(Egress QoS Policy 500)
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
For. InProf           : 0                       0
For. OutProf          : 0                       0

Egress Queue 1
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
* indicates that the corresponding row element may have been truncated.

-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : int
Admin State       : Up                  Oper (v4/v6)      : Up/Down
Down Reason V6    : ifProtoOperDown
Protocols         : None
IP Addr/mask      : 192.168.0.1/24      Address Type      : Primary
IGP Inhibit       : Disabled            Broadcast Address : Host-ones
HoldUp-Time       : 0                   Track Srrp Inst   : 0
Description       : N/A
Ignore Port State : None
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description       : (Not Specified)
If Index          : 4                   Virt. If Index    : 4
Last Oper Chg     : 08/31/2018 16:14:20 Global If Index   : 258
Mon Oper Grp      : None
Srrp En Rtng      : Disabled            Hold time         : N/A
SAP Id            : pw-1:500
TOS Marking       : Untrusted           If Type           : IES
SNTP B.Cast       : False               IES ID            : 500
MAC Address       : d8:2c:ff:00:00:00   Mac Accounting    : Disabled
Ingress stats     : Disabled            IPv6 DAD          : Enabled
TCP MSS V4        : 0                   TCP MSS V6        : 0
ARP Timeout       : 14400s              IPv6 Nbr ReachTime: 30s
ARP Retry Timer   : 5000ms              IPv6 stale time   : 14400s
ARP Limit         : Disabled            IPv6 Nbr Limit    : Disabled
ARP Threshold     : Disabled            IPv6 Nbr Threshold: Disabled
ARP Limit Log Only: Disabled            IPv6 Nbr Log Only : Disabled
ARP Learn Unsolic*: Disabled            ND Learn Unsolici*: None
ARP Proactive Ref*: Disabled            ND Proactive Refr*: None
ARP Populate Host : Disabled            ND Populate Host  : Disabled
ARP Route Tag     : 0                   ND Route tag      : 0
IP MTU            : (default)
IP Oper MTU       : 8660
ARP Populate      : Disabled            Host Conn Verify  : Disabled
SHCV pol IPv4     : None
Cflowd (unicast)  : None                Cflowd (multicast): None
LdpSyncTimer      : None
LSR Load Balance  : system
EGR Load Balance  : both
Vas If Type       : none
TEID Load Balance : Disabled
SPI Load Balance  : Disabled
uRPF Chk          : disabled
uRPF Ipv6 Chk     : disabled
uRPF Select VPRN  : False
PTP HW Assist     : Disabled
Rx Pkts           : 0                   Rx Bytes          : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rx V4 Pkts        : N/A                 Rx V4 Bytes       : N/A
Rx V6 Pkts        : N/A                 Rx V6 Bytes       : N/A
Tx DBcast Dis. Pk*: 0                   Tx DBcast Dis. By*: 0
Mpls Rx Pkts      : 0                   Mpls Rx Bytes     : 0
Mpls Tx Pkts      : 0                   Mpls Tx Bytes     : 0
OperDCpuProtPlcy  : N/A

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Gi-Addr           : 192.168.0.1*        Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action            : Keep                Trusted           : Disabled

DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

DHCP Relay Proxy Details
Relay ucast       : none
Siaddr ovr        : N/A

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Description       : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Oper State        : Down                Nbr Resolution    : Disabled
If-Id Option      : None                Remote Id         : Disabled
Src Addr          : Not configured
Python plcy       : (Not Specified)

DHCP6 Server Details
Admin State       : Down                Max. Lease States : 8000

ISA Tunnel redundant next-hop information
Static Next-Hop   :
Dynamic Next-Hop  :

ICMP Details
Redirects        : Number - 100         Time (seconds)   - 10
Unreachables     : Number - 100         Time (seconds)   - 10
TTL Expired      : Number - 100         Time (seconds)   - 10
Parameter Problem: Number - 100         Time (seconds)   - 10
ICMP Mask Reply  : True

ICMPv6 Details
Packet Too Big   : Number - 100         Time (seconds)   - 10
Parameter Problem: Number - 100         Time (seconds)   - 10
Redirects        : Number - 100         Time (seconds)   - 10
Time Exceeded    : Number - 100         Time (seconds)   - 10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Unreachables     : Number - 100         Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

Network Domains Associated
default

-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp   : (none)              Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)              Egr Port QGrp Inst: (none)

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : int1
Admin State       : Up                  Oper (v4/v6)      : Up/Down
Down Reason V6    : ifProtoOperDown
Protocols         : None
IP Addr/mask      : 20.0.0.1/30         Address Type      : Primary
IGP Inhibit       : Disabled            Broadcast Address : Host-ones
HoldUp-Time       : 0                   Track Srrp Inst   : 0
Description       : N/A
Ignore Port State : None
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description       : (Not Specified)
If Index          : 5                   Virt. If Index    : 5
Last Oper Chg     : 08/31/2018 16:07:55 Global If Index   : 259
Mon Oper Grp      : None
Srrp En Rtng      : Disabled            Hold time         : N/A
SAP Id            : 1/1/9:1
TOS Marking       : Untrusted           If Type           : IES
SNTP B.Cast       : False               IES ID            : 500
MAC Address       : d8:2c:01:01:00:09   Mac Accounting    : Disabled
Ingress stats     : Disabled            IPv6 DAD          : Enabled
TCP MSS V4        : 0                   TCP MSS V6        : 0
ARP Timeout       : 14400s              IPv6 Nbr ReachTime: 30s
ARP Retry Timer   : 5000ms              IPv6 stale time   : 14400s
ARP Limit         : Disabled            IPv6 Nbr Limit    : Disabled
ARP Threshold     : Disabled            IPv6 Nbr Threshold: Disabled
ARP Limit Log Only: Disabled            IPv6 Nbr Log Only : Disabled
ARP Learn Unsolic*: Disabled            ND Learn Unsolici*: None
ARP Proactive Ref*: Disabled            ND Proactive Refr*: None
ARP Populate Host : Disabled            ND Populate Host  : Disabled
ARP Route Tag     : 0                   ND Route tag      : 0
IP MTU            : (default)
IP Oper MTU       : 1500
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ARP Populate      : Disabled            Host Conn Verify  : Disabled
SHCV pol IPv4     : None
Cflowd (unicast)  : None                Cflowd (multicast): None
LdpSyncTimer      : None
LSR Load Balance  : system
EGR Load Balance  : both
Vas If Type       : none
TEID Load Balance : Disabled
SPI Load Balance  : Disabled
uRPF Chk          : disabled
uRPF Ipv6 Chk     : disabled
uRPF Select VPRN  : False
PTP HW Assist     : Disabled
Rx Pkts           : 3                   Rx Bytes          : 0
Rx V4 Pkts        : N/A                 Rx V4 Bytes       : N/A
Rx V6 Pkts        : N/A                 Rx V6 Bytes       : N/A
Tx Pkts           : 5                   Tx Bytes          : 530
Tx V4 Pkts        : 5                   Tx V4 Bytes       : 530
Tx V4 Discard Pkts: 0                   Tx V4 Discard Byt*: 0
Tx V6 Pkts        : 0                   Tx V6 Bytes       : 0
Tx V6 Discard Pkts: 0                   Tx V6 Discard Byt*: 0
Tx DBcast Dis. Pk*: 0                   Tx DBcast Dis. By*: 0
Mpls Rx Pkts      : 0                   Mpls Rx Bytes     : 0
Mpls Tx Pkts      : 0                   Mpls Tx Bytes     : 0
OperDCpuProtPlcy  : N/A

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Gi-Addr           : 20.0.0.1*           Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action            : Keep                Trusted           : Disabled

DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
Emul. Server      : Not configured

DHCP Relay Proxy Details
Relay ucast       : none
Siaddr ovr        : N/A

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Description       : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Oper State        : Down                Nbr Resolution    : Disabled
If-Id Option      : None                Remote Id         : Disabled
Src Addr          : Not configured
Python plcy       : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
DHCP6 Server Details
Admin State       : Down               Max. Lease States : 8000

ISA Tunnel redundant next-hop information
Static Next-Hop   :
Dynamic Next-Hop  :

ICMP Details
Redirects         : Number - 100         Time (seconds)   - 10
Unreachables      : Number - 100         Time (seconds)   - 10
TTL Expired       : Number - 100         Time (seconds)   - 10
Parameter Problem: Number - 100          Time (seconds)   - 10
ICMP Mask Reply   : True

ICMPv6 Details
Packet Too Big    : Number - 100         Time (seconds)   - 10
Parameter Problem: Number - 100          Time (seconds)   - 10
Redirects         : Number - 100         Time (seconds)   - 10
Time Exceeded     : Number - 100         Time (seconds)   - 10
Unreachables      : Number - 100         Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

Network Domains Associated
default

-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp   : (none)             Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)             Egr Port QGrp Inst: (none)
===============================================================================
* indicates that the corresponding row element may have been truncated.
A:PE#
```

Table 23: Output fields: service ID all (IES)

Label	Description
Service Detailed Information	
Service Id	The service identifier.
VPN Id	The number which identifies the VPN.
Service Type	Specifies the type of service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
SDP Id	The SDP identifier.
Description	Generic information about the service.
Customer Id	The customer identifier.
Last Mgmt Change	The date and time of the most recent management-initiated change to this customer.
SAP Count	The number of SAPs specified for this service.
SDP Bind Count	The number of SDPs bound to this service.
Service Destination Points (SDPs)	
SDP Id	The SDP identifier.
Type	Indicates whether this Service SDP binding is a spoke or a mesh.
Admin Path MTU	The largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Delivery	Specifies the type of delivery used by the SDP: GRE or MPLS.
Admin State	The administrative state of this SDP.
Oper State	The operational state of this SDP.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.
Egress Label	The label used by this device to send packets to the far-end device in this service by this SDP.
Ingress Filter	The ID of the ingress filter policy.
Egress Filter	The ID of the egress filter policy.
Far End	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Last Changed	The date and time of the most recent change to this customer.
Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP.
Admin State	Specifies the operating status of the service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper State	The current status of the service.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP.
Max Drop Count	Specifies the maximum number of consecutive SDP Echo Request messages that can be unacknowledged before the keepalive protocol reports a fault.
Hold Down Time	Specifies the amount of time to wait before the keepalive operating status is eligible to enter the alive state.
SDP Delivery Mechanism	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the far-end field. If the SDP type is GRE, then the following message displays: "SDP Delivery Mechanism is not MPLS”.
Number of SDPs	The total number SDPs applied to this service ID.
Service Access Points	
Service Id	The service identifier.
Port Id	The ID of the access port where this SAP is defined.
Description	Generic information about the SAP.
Encap	The value of the label used to identify this SAP on the access port.
Admin State	The desired state of the SAP.
Oper State	The operating state of the SAP.
Last Changed	The date and time of the last change.
Admin MTU	The largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Oper MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Ingress qos-policy	The SAP ingress QoS policy ID.
Egress qos-policy	The SAP egress QoS policy ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ingress Filter-Id	The SAP ingress filter policy ID.
Egress Filter-Id	The SAP egress filter policy ID.
Multi Svc Site	Indicates the multi-service site that the SAP is a member.
Ingress sched-policy	Indicates the ingress QoS scheduler for the SAP.
Egress sched-policy	Indicates the egress QoS scheduler for the SAP.
Acct. Pol	Indicates the accounting policy applied to the SAP.
Collect Stats	Specifies whether accounting statistics are collected on the SAP.
SAP Statistics	
Dropped	The number of packets or octets dropped.
Offered Hi Priority	The number of high priority packets, as determined by the SAP ingress QoS policy.
Offered Low Priority	The number of low priority packets, as determined by the SAP ingress QoS policy.
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded.
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded.
Queueing Stats	
Dropped In Profile	The number of in-profile packets or octets discarded.
Dropped Out Profile	The number of out-of-profile packets or octets discarded.
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded.
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded.
SAP per Queue stats	
Ingress Queue 1	The index of the ingress QoS queue of this SAP.
High priority offered	The packets or octets count of the high priority traffic for the SAP.
High priority dropped	The number of high priority traffic packets/octets dropped.
Low priority offered	The packets or octets count of the low priority traffic.
Low priority dropped	The number of low priority traffic packets/octets dropped.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded.
Out profile forwarded	The number of out-of-profile octets (rate above CIR) forwarded.
Egress Queue 1	The index of the egress QoS queue of the SAP.
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded.
IPCP Address Extension Details	
In profile dropped	The number of in-profile packets or octets dropped for the SAP.
Peer IP Addr	Specifies the remote IP address to be assigned to the far-end of the associated PPP/MLPPP link via IPCP extensions.
Peer Pri DNS Addr	Specifies a unicast IPv4 address for the primary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions.
Peer Sec DNS Addr	Specifies a unicast IPv4 address for the secondary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions (optional).

Output example: VPRN service details

Note:
Ing ipv6 Fltr and Egr ipv6 Fltr are for the 7750 SR only.

```
show service id all
```

```
===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 2                   Vpn Id            : 0
Service Type      : VPRN
Name              : (Not Specified)
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 08/21/2013 08:54:14
Last Mgmt Change  : 08/21/2013 08:56:06
Admin State       : Down                Oper State        : Down

Route Dist.       : None                VPRN Type         : regular
AS Number         : None                Router Id         : 18.18.18.18
ECMP              : Enabled             ECMP Max Routes   : 1
Max IPv4 Routes   : No Limit            Auto Bind         : None
Max IPv6 Routes   : No Limit
Ignore NH Metric  : Disabled
Hash Label        : Disabled
Vrf Target        : None
Vrf Import        : None
Vrf Export        : None
MVPN Vrf Target   : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MVPN Vrf Import   : None
MVPN Vrf Export   : None
Car. Sup C-VPN    : Disabled
Label mode        : vrf
BGP VPN Backup    : Disabled

SAP Count         : 0                   SDP Bind Count    : 0

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore

-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------
No Sap Associations

-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------
No Interface Associations found.

-------------------------------------------------------------------------------
PTP Configuration
-------------------------------------------------------------------------------
Admin State       : down              Oper State         : down
Peer Limit        : 25
===============================================================================
```

```
show service id all
```

```
===============================================================================
Service Detailed Information
===============================================================================
Service Id        : 9                   Vpn Id            : 0
Service Type      : VPRN
Name              : 9
Description       : (Not Specified)
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 08/31/2018 16:07:55
Last Mgmt Change  : 08/31/2018 16:07:55
Admin State       : Up                  Oper State        : Up

Router Oper State : Up
Route Dist.       : 65536:9             VPRN Type         : regular
Oper Route Dist   : 65536:9
Oper RD Type      : configured
AS Number         : None                Router Id         : 1.1.1.1
ECMP              : Enabled             ECMP Max Routes   : 1
Max IPv4 Routes   : No Limit

Auto Bind Tunnel
Resolution        : disabled
Weighted ECMP     : Disabled            ECMP Max Routes   : 1

Max IPv6 Routes   : No Limit
Ignore NH Metric  : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Hash Label        : Disabled
Entropy Label     : Disabled
Vrf Target        : None
Vrf Import        : None
Vrf Export        : None
MVPN Vrf Target   : None
MVPN Vrf Import   : None
MVPN Vrf Export   : None
Car. Sup C-VPN    : Disabled
Label mode        : vrf
BGP VPN Backup    : Disabled
BGP Export Inactv : Disabled

SAP Count         : 1                   SDP Bind Count    : 0

-------------------------------------------------------------------------------
ETH-CFM service specifics
-------------------------------------------------------------------------------
Tunnel Faults     : ignore


-------------------------------------------------------------------------------
VPRN service Network Specifics
-------------------------------------------------------------------------------
Ing Net QoS Policy : none
Ingress FP QGrp    : (none)                          Ing FP QGrp Inst : (none)
Ingress uRPF check : enabled
-------------------------------------------------------------------------------

===============================================================================
Vxlan Tunnel Termination
===============================================================================
Tunnel Term IP                               FPE ID    Last Change
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

-------------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
Service Access Points
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SAP 1/1/10:1
-------------------------------------------------------------------------------
Service Id         : 9
SAP                : 1/1/10:1                Encap             : q-tag
Description        : (Not Specified)
Admin State        : Up                      Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 08/31/2018 16:07:55
Last Mgmt Change   : 08/31/2018 16:07:55
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                  QinQ Ethertype    : 0x8100
Split Horizon Group: (Not Specified)

Admin MTU          : 1518                    Oper MTU          : 1518
Ingr IP Fltr-Id    : n/a                     Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                     Egr IPv6 Fltr-Id  : n/a
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
qinq-pbit-marking  : both
Egr Agg Rate Limit : max
Q Frame-Based Acct : Disabled                Limit Unused BW   : Disabled
Qinq-vlan-                                   Qinq-vlan-
translation        : None                    translation Ids   : None

Acct. Pol          : None                    Collect Stats     : Disabled

Anti Spoofing      : None                    Dynamic Hosts     : Enabled
Avl Static Hosts   : 0                       Tot Static Hosts  : 0
Calling-Station-Id : n/a

Application Profile: None
Transit Policy     : None
AARP Id            : None

Oper Group         : (none)                  Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Lag Link Map Prof  : (none)
Bandwidth          : Not-Applicable
Oper DCpu Prot Pol*: _default-access-policy

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : n/a                     AIS               : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None
Collect Lmm Stats  : Disabled
LMM FC Stats       : None
LMM FC In Prof     : None

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                       Egress qos-policy : 1
Ingress FP QGrp    : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                  Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a                     Multipoint shared : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
E. HS Sec. Shaper  : (Not Specified)
I. QGrp Redir. List: (Not Specified)
E. QGrp Redir. List: (Not Specified)
-------------------------------------------------------------------------------
Sap Aggregate Stats
-------------------------------------------------------------------------------
                       Packets                 Octets
Ingress
Aggregate Offered     : 0                       0
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0

Egress
Aggregate Forwarded   : 0                       0
Aggregate Dropped     : 0                       0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : 08/31/2018 16:29:08

                       Packets                 Octets
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
CPM Ingress           : 0                       0

Forwarding Engine Stats
Dropped               : 0                       0
Received Valid        : 0                       0
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 0                       0
Off. Managed          : 0                       0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Queueing Stats(Egress QoS Policy 1)
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Egress Queue 1
For. In/InplusProf    : 0                       0
For. Out/ExcProf      : 0                       0
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
* indicates that the corresponding row element may have been truncated.

-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name           : int
Admin State       : Up                  Oper (v4/v6)      : Up/Down
Down Reason V6    : ifProtoOperDown
Protocols         : None
IP Addr/mask      : 20.0.0.2/30         Address Type      : Primary
IGP Inhibit       : Disabled            Broadcast Address : Host-ones
HoldUp-Time       : 0                   Track Srrp Inst   : 0
Description       : N/A
Ignore Port State : None
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description       : (Not Specified)
If Index          : 3                   Virt. If Index    : 3
Last Oper Chg     : 08/31/2018 16:07:55 Global If Index   : 257
Mon Oper Grp      : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Srrp En Rtng      : Disabled            Hold time         : N/A
SAP Id            : 1/1/10:1
TOS Marking       : Trusted             If Type           : VPRN
SNTP B.Cast       : False
MAC Address       : 00:00:00:00:00:01   Mac Accounting    : Disabled
Ingress stats     : Disabled            IPv6 DAD          : Enabled
TCP MSS V4        : 0                   TCP MSS V6        : 0
ARP Timeout       : 14400s              IPv6 Nbr ReachTime: 30s
ARP Retry Timer   : 5000ms              IPv6 stale time   : 14400s
ARP Limit         : Disabled            IPv6 Nbr Limit    : Disabled
ARP Threshold     : Disabled            IPv6 Nbr Threshold: Disabled
ARP Limit Log Only: Disabled            IPv6 Nbr Log Only : Disabled
ARP Learn Unsolic*: Disabled            ND Learn Unsolici*: None
ARP Proactive Ref*: Disabled            ND Proactive Refr*: None
ARP Populate Host : Disabled            ND Populate Host  : Disabled
ARP Route Tag     : 0                   ND Route tag      : 0
IP MTU            : (default)
IP Oper MTU       : 1500
ARP Populate      : Disabled            Host Conn Verify  : Disabled
SHCV pol IPv4     : None
Cflowd (unicast)  : None                Cflowd (multicast): None
LdpSyncTimer      : None
LSR Load Balance  : system
EGR Load Balance  : both
Vas If Type       : none
TEID Load Balance : Disabled
SPI Load Balance  : Disabled
uRPF Chk          : disabled
uRPF Ipv6 Chk     : disabled
PTP HW Assist     : Disabled
Rx Pkts           : 9                   Rx Bytes          : 0
Rx V4 Pkts        : N/A                 Rx V4 Bytes       : N/A
Rx V6 Pkts        : N/A                 Rx V6 Bytes       : N/A
Tx Pkts           : 10                  Tx Bytes          : 1060
Tx V4 Pkts        : 10                  Tx V4 Bytes       : 1060
Tx V4 Discard Pkts: 0                   Tx V4 Discard Byt*: 0
Tx V6 Pkts        : 0                   Tx V6 Bytes       : 0
Tx V6 Discard Pkts: 0                   Tx V6 Discard Byt*: 0
Tx DBcast Dis. Pk*: 0                   Tx DBcast Dis. By*: 0
Mpls Rx Pkts      : 0                   Mpls Rx Bytes     : 0
Mpls Tx Pkts      : 0                   Mpls Tx Bytes     : 0
OperDCpuProtPlcy  : N/A

Proxy ARP Details
Rem Proxy ARP     : Disabled            Local Proxy ARP   : Disabled
Policies          : none

Proxy Neighbor Discovery Details
Local Pxy ND      : Disabled
Policies          : none

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State       : Down                Lease Populate    : 0
Gi-Addr           : 20.0.0.2*           Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action            : Keep                Trusted           : Disabled

DHCP Proxy Details
Admin State       : Down
Lease Time        : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Emul. Server      : Not configured
DHCP Relay Proxy Details
Relay ucast       : none
Siaddr ovr        : N/A

Subscriber Authentication Details
Auth Policy       : None

DHCP6 Relay Details
Description       : (Not Specified)
Admin State       : Down               Lease Populate    : 0
Oper State        : Down               Nbr Resolution    : Disabled
If-Id Option      : None               Remote Id         : Disabled
Src Addr          : Not configured
Python plcy       : (Not Specified)

DHCP6 Server Details
Admin State       : Down               Max. Lease States : 8000

ISA Tunnel redundant next-hop information
Static Next-Hop   :
Dynamic Next-Hop  :

ICMP Details
Redirects        : Number - 100        Time (seconds)   - 10
Unreachables     : Number - 100        Time (seconds)   - 10
TTL Expired      : Number - 100        Time (seconds)   - 10
Parameter Problem: Number - 100        Time (seconds)   - 10
ICMP Mask Reply  : True

ICMPv6 Details
Packet Too Big   : Number - 100        Time (seconds)   - 10
Parameter Problem: Number - 100        Time (seconds)   - 10
Redirects        : Number - 100        Time (seconds)   - 10
Time Exceeded    : Number - 100        Time (seconds)   - 10
Unreachables     : Number - 100        Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr      : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured

-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp   : (none)             Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)             Egr Port QGrp Inst: (none)
===============================================================================
* indicates that the corresponding row element may have been truncated.
A:PE#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: PW SAP service details

```
show service id all
```

```
...
-------------------------------------------------------------------------------
SAP pw-3:3
-------------------------------------------------------------------------------
Service Id         : 3
SAP                : pw-3:3                  Encap             : q-tag
Description        : (Not Specified)
Admin State        : Up                      Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 02/03/2015 18:04:39
Last Mgmt Change   : 02/03/2015 18:04:13
Sub Type           : regular
Split Horizon Group: (Not Specified)
Admin MTU          : 1518                    Oper MTU          : 1518
Ingr IP Fltr-Id    : n/a                     Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                     Egr IPv6 Fltr-Id  : n/a
                                             qinq-pbit-marking : both
                                             Egr Agg Rate Limit: max
Endpoint           : N/A
                                             Limit Unused BW   : Disabled
Vlan-translation   : None
Acct. Pol          : None                    Collect Stats     : Disabled
Application Profile: None
Transit Policy     : None
Oper Group         : (none)                  Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Ignore Oper Down   : Disabled
Lag Link Map Prof  : (none)
Cflowd             : Disabled

-------------------------------------------------------------------------------
...
```

Table 24: Output fields: service ID all (VPRN; PW SAPs)

Label	Description
Service Detailed Information	
Service Id	The service identifier.
VPN Id	The number which identifies the VPN.
Customer Id	The customer identifier.
Last Status Change	The date and time of the most recent change in the administrative or operating status of the service.
Last Mgmt Change	The date and time of the most recent management-initiated change to this customer.
Admin State	The current administrative state.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper State	The current operational state.
Route Dist.	Displays the route distribution number.
AS Number	Displays the autonomous system number.
Router Id	Displays the router ID for this service.
ECMP	Displays equal cost multipath information.
ECMP Max Routes	Displays the maximum number of routes that can be received from the neighbors in the group or for the specific neighbor.
Max Routes	Displays the maximum number of routes that can be used for path sharing.
Auto Bind	Specifies the automatic binding type for the SDP assigned to this service.
Vrf Target	Specifies the VRF target applied to this service.
Vrf Import	Specifies the VRF import policy applied to this service.
Vrf Export	Specifies the VRF export policy applied to this service.
SDP Id	The SDP identifier.
Description	Generic information about the service.
SAP Count	The number of SAPs specified for this service.
SDP Bind Count	The number of SDPs bound to this service.
Split Horizon Group	Name of the split horizon group for this service.
Description	Description of the split horizon group.
Last Changed	The date and time of the most recent management-initiated change to this split horizon group.
ETH-CFM Service Specifics	
Tunnel Faults	Whether tunnel faults are ignored or accepted.
Service Destination Points (SDPs)	
SDP Id	The SDP identifier.
Type	Indicates whether this Service SDP binding is a spoke or a mesh.
Admin Path MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Delivery	Specifies the type of delivery used by the SDP: GRE or MPLS.
Admin State	The administrative state of this SDP.
Oper State	The operational state of this SDP.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.
Egress Label	The label used by this device to send packets to the far-end device in this service by this SDP.
Ingress Filter	The ID of the ingress filter policy.
Egress Filter	The ID of the egress filter policy.
Far End	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Last Changed	The date and time of the most recent change to this customer.
Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP.
Admin State	Specifies the operating status of the keepalive protocol.
Oper State	The current status of the keepalive protocol.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP.
Max Drop Count	Specifies the maximum number of consecutive SDP Echo Request messages that can be unacknowledged before the keepalive protocol reports a fault.
Hold Down Time	Specifies the amount of time to wait before the keepalive operating status is eligible to enter the alive state.
SDP Delivery Mechanism	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the far end field. If the SDP type is GRE, then the following message displays: SDP delivery mechanism is not MPLS.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Max Drop Count	Specifies the maximum number of consecutive SDP Echo Request messages that can be unacknowledged before the keepalive protocol reports a fault.
Number of SDPs	The total number SDPs applied to this service ID.
Service Access Points	
Service Id	The service identifier.
Port Id	The ID of the access port where this SAP is defined.
Description	Generic information about the SAP.
Encap Value	The value of the label used to identify this SAP on the access port.
Admin State	The desired state of the SAP.
Oper State	The operating state of the SAP.
Last Changed	The date and time of the last change.
Admin MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Oper MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Ingress qos-policy	The SAP ingress QoS policy ID.
Egress qos-policy	The SAP egress QoS policy ID.
Ingress Filter-Id	The SAP ingress filter policy ID.
Egress Filter-Id	The SAP egress filter policy ID.
Multi Svc Site	Indicates the multi-service site that the SAP is a member.
Ingress sched-policy	Indicates the ingress QoS scheduler for the SAP.
Egress sched-policy	Indicates the egress QoS scheduler for the SAP.
Acct. Pol	Indicates the accounting policy applied to the SAP.
Collect Stats	Specifies whether accounting statistics are collected on the SAP.
SAP Statistics	
Dropped	The number of packets or octets dropped.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Offered Hi Priority	The number of high priority packets, as determined by the SAP ingress QoS policy.
Offered Low Priority	The number of low priority packets, as determined by the SAP ingress QoS policy.
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded.
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded.
Queueing Stats	
Dropped In Profile	The number of in-profile packets or octets discarded.
Dropped Out Profile	The number of out-of-profile packets or octets discarded.
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded.
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded.
SAP per Queue stats	
Ingress Queue 1	The index of the ingress QoS queue of this SAP.
High priority offered	The packets or octets count of the high priority traffic for the SAP.
High priority dropped	The number of high priority traffic packets/octets dropped.
Low priority offered	The packets or octets count of the low priority traffic.
Low priority dropped	The number of low priority traffic packets/octets dropped.
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded.
Out profile forwarded	The number of out-of-profile octets (rate above CIR) forwarded.
Egress Queue 1	The index of the egress QoS queue of the SAP.
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded.
In profile dropped	The number of in-profile packets or octets dropped for the SAP.
Out profile forwarded	The number of out-of-profile packets or octets (rate above CIR) forwarded.
Out profile dropped	The number of out-of-profile packets or octets discarded.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
State	Specifies whether DHCP relay is enabled on this SAP.
Info Option	Specifies whether Option 82 processing is enabled on this SAP.
Action	Specifies the Option 82 processing on this SAP or interface: keep, replace or drop.
Circuit ID	Specifies whether the If index is inserted in circuit ID sub-option of Option 82.
Remote ID	Specifies whether the far-end MAC address is inserted in Remote ID sub-option of Option 82.
Service Access Points	
Managed by Service	Specifies the service-id of the management VPLS managing this SAP.
Managed by SAP	Specifies the sap-id inside the management VPLS managing this SAP.
Prune state	Specifies the STP state inherited from the management VPLS.
Spoke SDPs	
Managed by Service	Specifies the service-id of the management VPLS managing this spoke SDP.
Managed by Spoke	Specifies the sap-id inside the management VPLS managing this spoke SDP.
Prune state	Specifies the STP state inherited from the management VPLS.
Peer Pw Bits	Indicates the bits set by the LDP peer when there is a fault on its side of the pseudowire. LAC failures occur on the SAP that has been configured on the pipe service, PSN bits are set by SDP-binding failures on the pipe service. The pwNotForwarding bit is set when none of the above failures apply, such as an MTU mismatch failure. This value is only applicable if the peer is using the pseudowire status signaling method to indicate faults. pwNotForwarding — Pseudowire not forwarding. lacIngressFault Local — Attachment circuit RX fault. lacEgressFault Local — Attachment circuit TX fault. psnIngressFault Local — PSN-facing PW RX fault. psnEgressFault Local — PSN-facing PW TX fault. pwFwdingStandby — Pseudowire in standby mode.
IPCP Address Extension Details	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Peer IP Addr	Specifies the remote IP address to be assigned to the far-end of the associated PPP/MLPPP link via IPCP extensions.
Peer Pri DNS Addr	Specifies a unicast IPv4 address for the primary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions.
Peer Sec DNS Addr	Specifies a unicast IPv4 address for the secondary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions.

all

Syntax

all

Context

[Tree] (show>service>id>mld-snooping all)

Full Context

show service id mld-snooping all

Description

This command displays detailed information about MLD snooping.

Platforms

All

Output

The following output is an example of service MLD snooping information.

Output example

```
*A:rbae_C# show service id 1 mld-snooping all
===============================================================================
MLD Snooping info for service 1
-------------------------------------------------------------------------------
MLD Snooping Base info
-------------------------------------------------------------------------------
Admin State : Up
Querier     : FE80:db8:12 on SAP 2/1/5
-------------------------------------------------------------------------------
Sap/Sdp                 Oper    MRtr  Send      Max Num   MVR        Num
Id                      State   Port  Queries   Groups    From-VPLS  Groups
-------------------------------------------------------------------------------
sap:1/1/4               Up      No    Disabled  No Limit  Local      0
sap:2/1/5               Up      Yes   Disabled  No Limit  Local      0
sdp:31:1                Up      No    Disabled  No Limit  N/A        0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
sdp:36:1                Up      No    Disabled  No Limit  N/A        0
-------------------------------------------------------------------------------
MLD Snooping Querier info
-------------------------------------------------------------------------------
Sap Id                  : 2/1/5
IP Address              : FE80:db8:12
Expires                 : 11s
Up Time                 : 0d 00:05:05
Version                 : 2

General Query Interval  : 10s
Query Response Interval : 1.0s
Robust Count            : 2
-------------------------------------------------------------------------------
MLD Snooping Multicast Routers
-------------------------------------------------------------------------------
MRouter
                Sap/Sdp Id             Up Time        Expires   Version
-------------------------------------------------------------------------------
FE80::12
                2/1/5                  0d 00:05:05    11s       2
-------------------------------------------------------------------------------
Number of mrouters: 1
-------------------------------------------------------------------------------
MLD Snooping Proxy-reporting DB
-------------------------------------------------------------------------------
Group Address
                Mode     Up Time        Num Sources
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
MLD Snooping SAP 1/1/4 Port-DB
-------------------------------------------------------------------------------
Group Address
               Mode    Type    From-VPLS  Up Time        Expires  Num   MC
                                                                   Src   Stdby
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
MLD Snooping SAP 2/1/5 Port-DB
-------------------------------------------------------------------------------
Group Address
               Mode    Type    From-VPLS  Up Time        Expires  Num   MC
                                                                   Src   Stdby
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
MLD Snooping SDP 31:1 Port-DB
-------------------------------------------------------------------------------
Group Address
               Mode    Type    From-VPLS  Up Time        Expires  Num Src
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
MLD Snooping SDP 36:1 Port-DB
-------------------------------------------------------------------------------
Group Address
               Mode    Type    From-VPLS  Up Time        Expires  Num Src
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
MLD Snooping Static Source Groups
-------------------------------------------------------------------------------
MLD Snooping Statistics
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Message Type            Received      Transmitted   Forwarded
-------------------------------------------------------------------------------
General Queries         43            0             129
Group Queries           0             0             0
Group-Source Queries    0             0             0
V1 Reports              0             0             0
V2 Reports              4             35            0
V1 Done                 0             0             0
Unknown Type            0             N/A           0
-------------------------------------------------------------------------------
Drop Statistics
-------------------------------------------------------------------------------
Bad Length              : 0
Bad MLD Checksum        : 0
Bad Encoding            : 0
No Router Alert         : 0
Zero Source IP          : 0
Wrong Version           : 0
Lcl-Scope Packets       : 0
Rsvd-Scope Packets      : 0

Send Query Cfg Drops    : 0
Import Policy Drops     : 0
Exceeded Max Num Groups : 0
MCAC Policy Drops       : 0
MCS Failures            : 0

MVR From VPLS Cfg Drops : 0
MVR To SAP Cfg Drops    : 0
-------------------------------------------------------------------------------
MLD Snooping Multicast VPLS Registration info
-------------------------------------------------------------------------------
MLD Snooping Admin State  : Up

MVR Admin State           : Down
MVR Policy                : None
-------------------------------------------------------------------------------
Local SAPs/SDPs
-------------------------------------------------------------------------------
Svc Id     Sap/Sdp               Oper      From       Num Local
           Id                    State     VPLS       Groups
-------------------------------------------------------------------------------
1          sap:1/1/4             Up        Local      0
1          sap:2/1/5             Up        Local      0
1          sdp:31:1              Up        N/A        0
1          sdp:36:1              Up        N/A        0
-------------------------------------------------------------------------------
MVR SAPs (from-vpls=1)
-------------------------------------------------------------------------------
Svc Id     Sap/Sdp               Oper      From       Num MVR
           Id                    State     VPLS       Groups
-------------------------------------------------------------------------------
No MVR SAPs found.
===============================================================================
*A:rbae_C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

all

Syntax

all

Context

[Tree] (show>service>id>igmp-snooping all)

Full Context

show service id igmp-snooping all

Description

Displays detailed information for all aspects of IGMP snooping on the VPLS service.

Platforms

All

Output

The following outputs are examples of IGMP snooping information, and Table 25: Output fields: IGMP snooping all describes the output fields:

- Output example: IGMP snooping details on the 7750 SR
- Output example: IGMP snooping details on the 7450 ESS

Output example: IGMP snooping details on the 7750 SR

```
*A:ALA-48>show>service>id>igmp-snooping>snooping# all
===============================================================================
IGMP Snooping info for service 750
===============================================================================
IGMP Snooping Base info
-------------------------------------------------------------------------------
Admin State : Up
Querier     : No querier found
-------------------------------------------------------------------------------
Sap/Sdp               Oper      MRtr  Send      Max Num   Num
Id                    State     Port  Queries   Groups    Groups
-------------------------------------------------------------------------------
sap:1/1/7:0           Down      No    Disabled  No Limit  0
sdp:1:22              Down      No    Disabled  No Limit  0
sdp:8:750             Down      No    Disabled  No Limit  0
-------------------------------------------------------------------------------
IGMP Snooping Querier info
-------------------------------------------------------------------------------
No querier found for this service.
-------------------------------------------------------------------------------
IGMP Snooping Multicast Routers
-------------------------------------------------------------------------------
MRouter          Sap/Sdp Id             Up Time        Expires   Version
-------------------------------------------------------------------------------
Number of mrouters: 0
-------------------------------------------------------------------------------
IGMP Snooping Proxy-reporting DB
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Group Address    Mode     Type     Up Time        Expires  Num Src
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
IGMP Snooping SAP 1/1/7:0 Port-DB
-------------------------------------------------------------------------------
Group Address    Mode     Type     Up Time        Expires  Num Src
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
IGMP Snooping SDP 1:22 Port-DB
-------------------------------------------------------------------------------
Group Address    Mode     Type     Up Time        Expires  Num Src
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
IGMP Snooping SDP 8:750 Port-DB
-------------------------------------------------------------------------------
Group Address    Mode     Type     Up Time        Expires  Num Src
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
IGMP Snooping Static Source Groups
-------------------------------------------------------------------------------
IGMP Snooping Statistics
-------------------------------------------------------------------------------
Message Type            Received      Transmitted      Forwarded
-------------------------------------------------------------------------------
General Queries         0             0                0
Group Queries           0             0                0
Group-Source Queries    0             0                0
V1 Reports              0             0                0
V2 Reports              0             0                0
V3 Reports              0             0                0
V2 Leaves               0             0                0
Unknown Type            0             N/A              0
-------------------------------------------------------------------------------
Drop Statistics
-------------------------------------------------------------------------------
Bad Length              : 0
Bad IP Checksum         : 0
Bad IGMP Checksum       : 0
Bad Encoding            : 0
No Router Alert         : 0
Zero Source IP          : 0

Send Query Cfg Drops    : 0
Import Policy Drops     : 0
Exceeded Max Num Groups : 0
===============================================================================
*A:ALA-48>show>service>id>snooping#
```

Output example: IGMP snooping details on the 7450 ESS

```
*A:ALA-42>show>service>id>igmp-snooping>snooping# all
===============================================================================
IGMP Snooping info for service 100
===============================================================================
IGMP Snooping Base info
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin State : Up
Querier     : 10.20.1.6 on SAP 2/2/1:100
-------------------------------------------------------------------------------
Sap/Sdp                  Oper    MRtr  Send      Max Num   MVR        Num
Id                       State   Port  Queries   Groups    From-VPLS  Groups
-------------------------------------------------------------------------------
sap:1/1/4                Up      No    Disabled  No Limit  Local      1
sap:2/2/1:100            Up      No    Disabled  No Limit  Local      0
-------------------------------------------------------------------------------
IGMP Snooping Querier info
-------------------------------------------------------------------------------
Sap Id                  : 2/2/1:100
IP Address              : 10.20.1.6
Expires                 : 3s
Up Time                 : 0d 00:15:23
Version                 : 3

General Query Interval  : 2s
Query Response Interval : 1.0s
Robust Count            : 2
-------------------------------------------------------------------------------
IGMP Snooping Multicast Routers
-------------------------------------------------------------------------------
MRouter          Sap/Sdp Id             Up Time        Expires   Version
-------------------------------------------------------------------------------
10.20.1.6        2/2/1:100              0d 00:15:24    2s        3
-------------------------------------------------------------------------------
Number of mrouters: 1
-------------------------------------------------------------------------------
IGMP Snooping Proxy-reporting DB
-------------------------------------------------------------------------------
Group Address    Mode     Up Time        Num Sources
-------------------------------------------------------------------------------
239.0.0.0        exclude  0d 00:00:04    0
-------------------------------------------------------------------------------
Number of groups: 1
-------------------------------------------------------------------------------
IGMP Snooping SAP 1/1/4 Port-DB
-------------------------------------------------------------------------------
Group Address    Mode     Type     From-VPLS  Up Time        Expires  Num Src
-------------------------------------------------------------------------------
239.0.0.0        exclude  dynamic  local      0d 00:00:05    4s       0
-------------------------------------------------------------------------------
Number of groups: 1
-------------------------------------------------------------------------------
IGMP Snooping SAP 2/2/1:100 Port-DB
-------------------------------------------------------------------------------
Group Address    Mode     Type     From-VPLS  Up Time        Expires  Num Src
-------------------------------------------------------------------------------
Number of groups: 0
-------------------------------------------------------------------------------
IGMP Snooping Static Source Groups
-------------------------------------------------------------------------------
IGMP Snooping Statistics
-------------------------------------------------------------------------------
Message Type            Received      Transmitted   Forwarded
-------------------------------------------------------------------------------
General Queries         463           0             463
Group Queries           0             0             0
Group-Source Queries    0             0             0
V1 Reports              0             0             0
V2 Reports              0             0             0
V3 Reports              4             4             0
V2 Leaves               0             0             0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Unknown Type            0            N/A          0
-------------------------------------------------------------------------------
Drop Statistics
-------------------------------------------------------------------------------
Bad Length              : 0
Bad IP Checksum         : 0
Bad IGMP Checksum       : 0
Bad Encoding            : 0
No Router Alert         : 0
Zero Source IP          : 0

Send Query Cfg Drops    : 0
Import Policy Drops     : 0
Exceeded Max Num Groups : 0

MVR From VPLS Cfg Drops : 0
MVR To SAP Cfg Drops    : 0
-------------------------------------------------------------------------------
IGMP Snooping Multicast VPLS Registration info
-------------------------------------------------------------------------------
IGMP Snooping Admin State : Up

MVR Admin State           : Down
MVR Policy                : None
-------------------------------------------------------------------------------
Local SAPs/SDPs
-------------------------------------------------------------------------------
Svc Id     Sap/Sdp               Oper      From       Num Local
           Id                    State     VPLS       Groups
-------------------------------------------------------------------------------
100        sap:1/1/4             Up        Local      1
100        sap:2/2/1:100         Up        Local      0
-------------------------------------------------------------------------------
MVR SAPs (from-vpls=100)
-------------------------------------------------------------------------------
Svc Id     Sap/Sdp               Oper      From       Num MVR
           Id                    State     VPLS       Groups
-------------------------------------------------------------------------------
No MVR SAPs found.
-------------------------------------------------------------------------------
*A:ALA-42>show>service>id>snooping#
```

Table 25: Output fields: IGMP snooping all

Label	Description
Admin State	The administrative state of the IGMP instance
Querier	The address of the IGMP querier on the IP subnet to which the interface is attached
Sap/Sdp Id	The SAP and SDP IDs of the service ID
Oper State	The operational state of the SAP and SDP IDs of the service ID
Mrtr Port	The multicast router port
Send Queries	Send-queries command is enabled or disabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Max Num Groups	The maximum number of multicast groups that can be joined on this SAP or SDP
MVR From VPLS	MVR from VPLS enabled
Num Groups	The actual number of multicast groups that can be joined on this SAP or SDP

all

Syntax

all

Context

[Tree] (show>redundancy>multi-chassis all)

Full Context

show redundancy multi-chassis all

Description

This command displays brief multi-chassis redundancy information.

Platforms

All

Output

The following output is an example of multi-chassis all information, and Table 26: Output fields: redundancy multi-chassis all describes the output fields.

Output example

```
B:Dut-B# show redundancy multi-chassis all
===============================================================================
Multi-chassis Peer Table
===============================================================================
Peer
-------------------------------------------------------------------------------
Peer IP Address         : 10.10.10.2
Description             : Mc-Lag peer 10.10.10.2
Authentication          : Disabled
Source IP Address       : 0.0.0.0
Admin State             : Enabled
===============================================================================
B:Dut-B#


B:Dut-B# show lag detail
===============================================================================
LAG Details
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
LAG 1
-------------------------------------------------------------------------------
Description: Description For LAG Number 1
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Lag-id              : 1                     Mode                 : access
Adm                 : up                    Opr                  : up
Thres. Exceeded Cnt : 9                     Port Threshold       : 0
Thres. Last Cleared : 05/20/2006 00:12:35   Threshold Action     : down
Dynamic Cost        : false                 Encap Type           : null
Configured Address  : 1c:71:ff:00:01:41     Lag-IfIndex          : 1342177281
Hardware Address    : 1c:71:ff:00:01:41     Adapt Qos            : distribute
Hold-time Down      : 0.0 sec
LACP                : enabled               Mode                 : active
LACP Transmit Intvl : fast                  LACP xmit stdby      : enabled
Selection Criteria  : highest-count         Slave-to-partner     : disabled
Number of sub-groups: 1                     Forced               : -
System Id           : 1c:71:ff:00:00:00     System Priority      : 32768
Admin Key           : 32768                 Oper Key             : 32666
Prtr System Id      : 20:f4:ff:00:00:00     Prtr System Priority : 32768
Prtr Oper Key       : 32768

MC Peer Address     : 10.10.10.2            MC Peer Lag-id       : 1
MC System Id        : 00:00:00:33:33:33     MC System Priority   : 32888
MC Admin Key        : 32666                 MC Active/Standby    : active
MC Lacp ID in use   : true                  MC extended timeout  : false
MC Selection Logic  : peer decided
MC Config Mismatch  : no mismatch
-------------------------------------------------------------------------------
Port-id        Adm    Act/Stdby Opr    Primary   Sub-group     Forced   Prio
-------------------------------------------------------------------------------
331/2/1          up     active    up     yes       1             -        32768
331/2/2          up     active    up               1             -        32768
331/2/3          up     active    up               1             -        32768
331/2/4          up     active    up               1             -        32768
-------------------------------------------------------------------------------
Port-id        Role      Exp   Def   Dist  Col   Syn   Aggr  Timeout  Activity
-------------------------------------------------------------------------------
331/2/1          actor     No    No    Yes   Yes   Yes   Yes   Yes      Yes
331/2/1          partner   No    No    Yes   Yes   Yes   Yes   Yes      Yes
331/2/2          actor     No    No    Yes   Yes   Yes   Yes   Yes      Yes
331/2/2          partner   No    No    Yes   Yes   Yes   Yes   Yes      Yes
331/2/3          actor     No    No    Yes   Yes   Yes   Yes   Yes      Yes
331/2/3          partner   No    No    Yes   Yes   Yes   Yes   Yes      Yes
331/2/4          actor     No    No    Yes   Yes   Yes   Yes   Yes      Yes
331/2/4          partner   No    No    Yes   Yes   Yes   Yes   Yes      Yes
===============================================================================
B:Dut-B#
```

Table 26: Output fields: redundancy multi-chassis all

Label	Description
Peer IP Address	The multi-chassis redundancy peer.
Description	The text string describing the peer.
Authentication	If configured, displays the authentication key used between this node and the MC peer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Source IP Address	The source address used to communicate with the MC peer.
Admin State	The administrative state of the peer.

all

Syntax

all [**color** *color*] [**end-point** {*ipv4-address* | *ipv6-address*}] [**preference** *preference-id*] [**distinguisher** *distinguisher-id*] [**tunnel-id** *tunnel-id*]

all summary

Context

[Tree] (show>router>seg-rt>sr-policies all)

Full Context

show router segment-routing sr-policies all

Description

This command displays the traffic statistics of all or a filtered set of the BGP and static policies, or displays summary parameters.

Parameters

color

Specifies the color to filter on.

Values 0 to 4294967295

ipv4-address* | *ipv6-address

Specifies the end-point IPv4 or IPv6 address to filter on.

Values ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces) or x:x:x:x:x:x:d:d:d:d

x — [0..FFFF]H

d — [0..255]D

preference-id

Specifies the preference ID to filter on.

Values 0 to 4294967295

distinguisher-id

Specifies the distinguisher ID to filter on.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0 to 4294967295

summary

Displays the summary information for the BGP and static policies.

tunnel-id

Specifies the tunnel ID to filter on.

Values 0 to 4294967295

Platforms

All

Output

The following output is an example of traffic statistics for all BGP and static policies.

Output example

```
A:node-2# show router segment-routing sr-policies all
===============================================================================
SR-Policies Path
===============================================================================
-------------------------------------------------------------------------------
Type            : srMpls
Active          : No                    Owner           : static
Color           : 10
Head            : 0.0.0.0               Endpoint Addr   : 3ffe::a14:103
RD              : 6                     Preference      : 10
BSID            : 50001
TunnelId        : 917508                Age             : 12
Origin ASN      : 0                     Origin          : 0.0.0.0
NumReEval       : 0                     LastReEvalReason: route-add
NumActPathChange: 0                     Last Change     : 08/18/2023 05:42:53
Act S-BFD Sess. : 1                     S-BFD Threshold : 1
Maintenance Plcy: policy1
Ret Path BFD Lbl: 50008

Path Segment Lists:
Segment-List    : 1                     Weight          : 1
Num Segments    : 2                     Last Change     : 08/17/2023 17:11:08
  1 MPLS Label  : 524282                State           : resolved-up
  2 MPLS Label  : 524280                State           : N/A

-------------------------------------------------------------------------------
Type            : srMpls
Active          : Yes                   Owner           : static
Color           : 10
Head            : 0.0.0.0               Endpoint Addr   : 3ffe::a14:103
RD              : 5                     Preference      : 20
BSID            : 50001
TunnelId        : 917508                Age             : 12
Origin ASN      : 0                     Origin          : 0.0.0.0
NumReEval       : 0                     LastReEvalReason: route-add
NumActPathChange: 0                     Last Change     : 08/18/2023 05:42:52
Act S-BFD Sess. : 1                     S-BFD Threshold : 1
Maintenance Plcy: policy1
Ret Path BFD Lbl: 50008

Path Segment Lists:
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Segment-List    : 1                     Weight          : 1
Num Segments    : 2                     Last Change     : 08/17/2023 17:11:08
  1 MPLS Label  : 524281                State           : resolved-up
  2 MPLS Label  : 524282                State           : N/A

===============================================================================
```

all

Syntax

all

Context

[Tree] (show>redundancy>multi-chassis>omcr all)

Full Context

show redundancy multi-chassis omcr all

Description

This command displays detailed information about OMCR.

Platforms

7750 SR

4.39 all-client

all-client

Syntax

all-client

Context

[Tree] (clear>system>management-interface>netconf>call-home all-client)

Full Context

clear system management-interface netconf call-home all-client

Description

Commands in this context reset statistics for all NETCONF call-home clients.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.40 all-sources

all-sources

Syntax

all-sources

Context

[Tree] (tools>dump>app-assure>group>ipassist all-sources)

Full Context

tools dump application-assurance group ip-identification-assist all-sources

Description

This command displays the statistics related to IP identification assist for top applications.

Platforms

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

Output

The following output is an example of statistics related to IP identification assist for top applications.

Output example

```
===============================================================================
Application-Assurance ip-identification-assist all-sources:
===============================================================================
  group                         1
  ip-identification-assist      no shutdown
  passive-dns                   enabled
  positive-app-id               enabled
-------------------------------------------------------------------------------

isa 1/1
-------------------------------------------------------------------------------
Application Name                    IPs in cache IPs added              IPs updated
 IP lookups found       Parent Application Name
---------------------------------- ------------ ---------------------- ---------------------- -
-------------------- ---------------------------------
"Application1"                                  6                      6                      0
                   0 "ParentApplication1"
   Dns Snoop                                    6                      6                      0
                   0
   Positive App Id                              0                      0                      0
                   0

"Application2              "                    4                      4                      0
                   0 "ParentApplication1"
   Dns Snoop                                    4                      4                      0
                   0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   Positive App Id                          0                    0                    0
                    0

"Application3"                              8                    8                    0
                    0 "ParentApplication1"
   Dns Snoop                                8                    8                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application4"                             12                   12                    0
                    0 "ParentApplication1"
   Dns Snoop                               12                   12                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application5"                             12                   12                    0
                    0 "ParentApplication2"
   Dns Snoop                               12                   12                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application6"                             53                   53                    0
                    0 "ParentApplication3"
   Dns Snoop                               53                   53                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application7"                              3                    3                    0
                    0 "ParentApplication3"
   Dns Snoop                                3                    3                    0
                    0
  Positive App Id                           0                    0                    0
                    0

"Application8"                              6                    6                    0
                    0 "ParentApplication2"
   Dns Snoop                                6                    6                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application9"                              6                    6                    0
                    0 "ParentApplication4"
   Dns Snoop                                6                    6                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application10"                            16                   16                    0
                    0 "ParentApplication5"
   Dns Snoop                               16                   16                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application11"                             8                    8                    0
                    0 "ParentApplication6"
   Dns Snoop                                8                    8                    0
                    0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   Positive App Id                          0                    0                    0
                    0

"Application12"                             6                    6                    0
                    0 "ParentApplication7"
   Dns Snoop                                6                    6                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application13"                             2                    2                    0
                    0 "ParentApplication2"
   Dns Snoop                                2                    2                    0
                    0
   Positive App Id                          0                    0                    0
                    0

"Application14"                             8                    8                    0
                    0 "ParentApplication3"
   Dns Snoop                                8                    8                    0
                    0
   Positive App Id                          0                    0                    0
                    0

--------------------------------- ------------ -------------------- -------------------- -
--------------------------------
TOTAL (14 applications)                   150                  150                    0
                    0
   Dns Snoop                              150                  150                    0
                    0
   Positive App Id                          0                    0                    0
                    0
===============================================================================
```

4.41 all-subscriptions

all-subscriptions

Syntax

all-subscriptions

Context

[Tree] (show>log>cli all-subscriptions)

Full Context

show log cli all-subscriptions

Description

This command displays all subscriptions to all event logs that have a destination of 'cli'.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

4.42 ancp

ancp

Syntax

ancp ancp-sub-string *string*

Context

[Tree] (clear>subscr-mgmt ancp)

Full Context

clear subscriber-mgmt ancp

Description

This command clears subscriber ANCP data.

Parameters

string

Specifies the ANCP string to clear, up to 63 characters, corresponding to this subscriber ID.

Platforms

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

4.43 ancp-policy

ancp-policy

Syntax

ancp-policy [*policy-name*]

ancp-policy *policy-name* **association**

Context

[Tree] (show>subscr-mgmt ancp-policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show subscriber-mgmt ancp-policy

Description

This command displays subscriber Access Node Control Protocol (ANCP) policy information.

Parameters

policy-name

Displays information for the specified ANCP policy.

association

Displays the information configured with the ANCP policy.

Platforms

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

Output

The following output is an example of subscriber management ANCP policy information, and Table 27: Output fields: ANCP policy describes the output fields.

Output example

```
A:active# show subscriber-mgmt ancp-policy
===============================================================================
ANCP Policies
===============================================================================
adsl-operator1
vdsl-operator1
-------------------------------------------------------------------------------
Number of ANCP policies : 2
===============================================================================
A:active#

A:active# show subscriber-mgmt ancp-policy adsl-operator1
===============================================================================
ANCP Policy "adsl-operator1"
===============================================================================
I. Rate Reduction      : 0 kbps
I. Rate Adjustment     : 100 percent
I. Rate Monitor        : 0 kbps
I. Rate Monitor Alarm  : no
I. Rate Modify         : scheduler "root"

E. Rate Reduction      : 10 kbps
E. Rate Adjustment     : 100 percent
E. Rate Monitor        : 0 kbps
E. Rate Monitor Alarm  : no
E. Rate Modify         : scheduler "root"
Port Down : N/A
Last Mgmt Change: 01/26/2007 17:10:51
===============================================================================
A:active#

A:active# show subscriber-mgmt ancp-policy adsl-operator1 association
===============================================================================
ANCP Policy "adsl-operator1" associations
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
SAP Static Map Associations
-------------------------------------------------------------------------------
- SAP     : 1/1/3                             Svc-id  : 333 (VPLS)
     String : "ANCP-String-1"
     String : "ANCP-String-2"
-------------------------------------------------------------------------------
MSS Static Map Associations
-------------------------------------------------------------------------------
- Cust-id : 1                                MSS-name: mss1
     String : "ANCP-String-3"
-------------------------------------------------------------------------------
Subscriber Associations
-------------------------------------------------------------------------------
No associations found.
Number of associations : 3
===============================================================================
A:active#
```

Table 27: Output fields: ANCP policy

Field	Description
I. Rate Reduction	The ingress rate reduction applied for this policy
I. Rate Adjustment	The ingress rate adjustment percentage
I. Rate Monitor	The ingress rate monitor rate
I. Rate Monitor Alarm	The ingress rate monitor enabled; yes or no
I. Rate Modify	The ingress rate modify scheduler policy
E. Rate Reduction	The egress rate reduction applied for this policy percentage
E. Rate Adjustment	The egress rate adjustment
E. Rate Monitor	The egress rate monitor rate
E. Rate Monitor Alarm	The egress rate monitor enabled; yes or no
E. Rate Modify	The egress rate monitor rate
Port Down	The actions taken on port-down
Last Mgmt Change	The time of the last modification of this entry
SAP	The ANCP static map entry SAP ID
Svc-id	The service ID associated with this static map
String	The ANCP string
Cust-id	The ID of the customer in which the multi-service-site specifies
MSS-name	The name of the multi-service-site used by this subscriber

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Number of associations	The total number associations matching the search criteria

4.44 ancp-string

ancp-string

Syntax

ancp-string

ancp-string *ancp-string*

ancp-string customer *customer-id* **site** *customer-site-name*

ancp-string sap *sap-id*

Context

[Tree] (show>subscriber-management ancp-string)

Full Context

show subscriber-mgmt ancp-string

Description

This command displays subscriber ANCP string information.

Parameters

ancp-string

Specify the ASCII representation of the DSLAM circuit-id name.

customer-id

Specify the associated existing customer name.

customer-site-name

Specify the associated customer's configured MSS name.

sap-id

Specifies the physical port identifier portion of the SAP definition.

Platforms

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

Output

The following output is an example of subscriber management ANCP string information, and Table 28: Output fields: ANCP string describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:active# show subscriber-mgmt ancp-string
===============================================================================
ANCP-Strings
===============================================================================
ANCP-String                                                 Assoc State
-------------------------------------------------------------------------------
"ANCP-String-1"                                             SAP   Up
"ANCP-String-2"                                             SAP   Down
"ANCP-String-3"                                             MSS   Up
"ANCP-String-4"                                             MSS   Unknown
"ANCP-String-5"                                             ANCP  Up
"ANCP-String-6"                                             MSS   Unknown
-------------------------------------------------------------------------------
Number of ANCP-Strings : 6
===============================================================================
A:active#


*A:Dut-C# show subscriber-mgmt ancp-string hpolSub43
===============================================================================
ANCP-String "hpolSub43"
===============================================================================
Type       : SUB - "hpolSub43"
State      : Up                 Ancp Policy: ancpPol
I. Rate    : 100 kbps           E. Rate    : 200 kbps
Adj I. Rate: N/A                Adj E. Rate: 200 kbps
Act I. Rate: N/A                Act E. Rate: 182 kbps
Service Id : 1 (VPRN)
Group      : Alu
Neighbor   : 10.100.100.1:49063
===============================================================================
*A:Dut-C#
```

```
A:active# show service id 333 sap 1/1/3 detail
===============================================================================
Service Access Points(SAP)
===============================================================================
Service Id         : 333
SAP                : 1/1/3                    Encap             : null
...
-------------------------------------------------------------------------------
ANCP Override
-------------------------------------------------------------------------------
Ing Sched Name: root
- PIR    : 100 kbps
- String : "ANCP-String-1"
Egr Sched Name: root
- PIR    : 100 kbps
- String : "ANCP-String-1"
-------------------------------------------------------------------------------
...
Dro. InProf           : 0                        0
Dro. OutProf          : 0                        0
===============================================================================
A:active#


A:active# show service customer 1 site mss1
===============================================================================
Customer  1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Customer-ID        : 1
Description        : Default customer
...
-------------------------------------------------------------------------------
ANCP Override
-------------------------------------------------------------------------------
Egr Sched Name: root
- PIR    : 90 kbps
- String : "ANCP-String-3"
-------------------------------------------------------------------------------
Service Association
-------------------------------------------------------------------------------
No Service Association Found.
===============================================================================
A:active#
```

Table 28: Output fields: ANCP string

Field	Description
ANCP-String	The ANCP string name
Assoc	The entity associated with the ANCP string
State	The state of the entity associated with the ANCP string
Number of ANCP-Strings	The number of ANCP strings matching the search criteria
Type	The location the ANCP string is configured
Ancp Policy	The ANCP policy name
I. Rate	The ingress rate
E. Rate	The egress rate
Adj I. Rate	The adjusted ingress rate
Adj E. Rate	The adjusted egress rate
Act I. Rate	The actual ingress rate
Act E. Rate	The actual egress rate
Service Id	The service ID
Group	The group name
Neighbor	The neighbor address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.45 anycast

anycast

Syntax

anycast [**family**] [**detail**]

Context

[Tree] (show>router>pim anycast)

Full Context

show router pim anycast

Description

This command displays PIM anycast rp-set information.

Parameters

family

Specifies the address family.

Values ipv4, ipv6

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of a PIM anycast information, and Table 29: Output fields: PIM anycast describes the output fields.

Output example

```
A:dut-d# show router pim anycast
===============================================
PIM Anycast RP Entries
===============================================
Anycast RP              Anycast RP Peer
-----------------------------------------------
100.100.100.1           10.102.1.1
                        10.103.1.1
                        10.104.1.1
-----------------------------------------------
PIM Anycast RP Entries : 3
===============================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 29: Output fields: PIM anycast

Label	Description
Anycast Address	Displays the candidate anycast address.
Anycast RP Peer	Displays the candidate anycast RP peer address.

4.46 anysec

anysec

Syntax

anysec port *port-id*

Context

[Tree] (tools>dump anysec)

Full Context

tools dump anysec

Description

This command dumps ANYsec information.

Parameters

port-id

Specifies the port ID.

Values slot, mda, connector, port

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

anysec

Syntax

anysec encryption-group *group-name* **peer** *ip-address* **statistics**

Context

[Tree] (clear anysec)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear anysec

Description

This command clears ANYsec statistics.

Parameters

group-name

Specifies the encryption group name, up to 32 characters.

ip-address

Specifies a peer IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

statistics

Keyword used to clear ANYsec statistics

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

anysec

Syntax

anysec

Context

[Tree] (show anysec)

Full Context

show anysec

Description

This command displays ANYsec information.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.47 app-filter

app-filter

Syntax

app-filter [*entry-id*]

Context

[Tree] (show>app-assure>group>policy app-filter)

Full Context

show application-assurance group policy app-filter

Description

This command displays application-assurance policy filter information.

Parameters

entry-id

Specifies an existing application filter entry.

Values 1 to 65535

Platforms

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

4.48 app-group

app-group

Syntax

app-group [*app-group-name*] **count** [**detail**]

app-group count top *granularity* [**max-count** *max-count*]

Context

[Tree] (show>app-assure>group app-group)

[Tree] (show>app-assure>group>aa-sub app-group)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance group app-group

show application-assurance group aa-sub app-group

Description

This command displays per-application-group statistics. System-wide statistics displayed account for all flows completed and the last internal snapshot of the active flows.

Parameters

app-group-name

Displays information about the specified application group name.

count

Displays the counters for the application group.

detail

Displays detailed information.

Platforms

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

Output

The following output is an example of application group information.

Output example

```
A:ALU>show>app-assure>group# app-group count
===============================================================================
App-group Statistics
===============================================================================
Application Group                Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
File Transfer                     0% 0               0             0
Games                             0% 3865532         4952          144
Infrastructure                    0% 174524          1217          1177
Instant Messaging                 0% 2979117         9930          97
Local Content                     0% 10581539        10942         74
Mail                              0% 57940           346           24
MultiMedia                        0% 76911464        79417         198
NNTP                              0% 0               0             0
Peer to Peer                      0% 10903442        13901         485
Premium Partner                   0% 0               0             0
Remote Connectivity               0% 0               0             0
Server                            0% 1097            8             2
Suspect                          72% 1012            11            11
Tunneling                         0% 19872617        33989         204
Unknown                           0% 5243395         27510         2648
Web                               0% 82135303        91828         2152
-------------------------------------------------------------------------------
A:ALU>show>app-assure>group#


A:ALU>show>app-assure>group# app-group "MultiMedia" count detail
===============================================================================
App-group "MultiMedia" Statistics
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Application Group:
Type                      Octets            Packets         Flows
-------------------------------------------------------------------------------
MultiMedia:
Admitted from subscriber: 193605            1797            23
Denied from subscriber:   0                 0               0
Active flows from subscriber:                               0
Admitted to subscriber:   4835822           3366            23
Denied to subscriber:     0                 0               0
Active flows to subscriber:                                 0
Total flow duration:      433 seconds
Terminated flows:                                           46
Short Duration flows:                                       36
Medium Duration flows:                                      10
Long Duration flows:                                        0
Active subscribers:       0
===============================================================================
A:ALU>show>app-assure>group#
```

app-group

Syntax

app-group [*app-group-name*]

Context

[Tree] (show>app-assure>group>policy app-group)

Full Context

show application-assurance group policy app-group

Description

This command displays application-assurance policy application group information.

Parameters

app-group-name

Specifies the application group name, up to 32 characters.

Platforms

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

app-group

Syntax

app-group [*app-group-name*] **count**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>app-assure>group>aa-sub>um app-group)

Full Context

show application-assurance group aa-sub usage-monitor app-group

Description

This command displays usage monitor statistics for the application group.

Parameters

app-group-name

Specifies the application group name, up to 32 characters.

count

Displays counters for the application group.

Platforms

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

app-group

Syntax

app-group [*app-group-name*] **count** [**detail**]

Context

[Tree] (tools>dump>app-assure>group>aa-sub app-group)

Full Context

tools dump application-assurance group aa-sub app-group

Description

This command displays per-subscriber per-app-group statistics.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.49 app-profile

app-profile

Syntax

app-profile [*app-prof-name*]

app-profile *app-prof-name* **associations**

Context

[Tree] (show>app-assure>group>policy app-profile)

Full Context

show application-assurance group policy app-profile

Description

This command displays application-assurance policy application profile information.

Parameters

app-prof-name

Specifies an existing application profile name.

associations

Displays subscriber management associations.

Platforms

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

4.50 app-qos-policy

app-qos-policy

Syntax

app-qos-policy [*entry-id*]

app-qos-policy non-zero

Context

[Tree] (show>app-assure>group>policy app-qos-policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance group policy app-qos-policy

Description

This command displays application-assurance policy application QoS policy information.

Parameters

entry-id

Specifies an existing application QoS policy entry id.

Values 1 to 65535

non-zero

Selects only non-zero count entries.

Platforms

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

4.51 app-service-option

app-service-option

Syntax

app-service-option [*characteristic-name*]

Context

[Tree] (show>app-assure>group>policy app-service-option)

Full Context

show application-assurance group policy app-service-option

Description

This command displays application-assurance policy application service option information.

Parameters

characteristic-name

Specifies the characteristic name, up to 32 characters.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.52 application

application

Syntax

application [*application-name*] **count** [**detail**]

application count top *granularity* [**max-count** *max-count*]

Context

[Tree] (show>app-assure>group application)

[Tree] (show>app-assure>group>aa-sub application)

[Tree] (show>app-assure>group>aa-sub-study application)

Full Context

show application-assurance group application

show application-assurance group aa-sub application

show application-assurance group aa-sub-study application

Description

This command displays per-application statistics. The system-wide statistics displayed account for all flows completed and the last internal snapshot of the active flows.

Subscriber statistics are available for special-study subscribers and account for all completed and active flows at the moment of this statistics request.

Parameters

application-name

Displays information about the specified application name.

count

Displays counter information.

detail

Displays detailed information.

top

Displays counters sorted by granularity.

granularity

Displays counters sorted by octets, packets, or floe. This is indicated by granularity.

Values octets, packets, flows

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

max-count

If the value is greater than 0, displays up to the indicated value of statistic rows. If 0, displays all.

Values 1 to 4294967295

Platforms

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

Output

The following output is an example of application information.

Output example

```
A:ALU-ABC>show>app-assure>group# application count
===============================================================================
Application Statistics
===============================================================================
Application                      Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
...
DHT                                0% 0               0             0
DNS_53                             0% 96781           627           627
DNS_Local                          0% 0               0             0
DNS_Server                         0% 276             3             3
DNS_Suspect                      100% 736             8             8
FTP                                0% 0               0             0
...
-------------------------------------------------------------------------------
A:ALU-ABC>show>app-assure>group#


A:ALU-ABC>show>app-assure>group# application "POP3" count detail
===============================================================================
Application "POP3" Statistics
===============================================================================
    Application:
Type                      Octets            Packets         Flows
-------------------------------------------------------------------------------
    POP3:
Admitted from subscriber: 14095             149             10
Denied from subscriber:   0                 0               0
Active flows from subscriber:                               0
Admitted to subscriber:   30707             128             10
Denied to subscriber:     0                 0               0
Active flows to subscriber:                                 0
Total flow duration:      7 seconds
Terminated flows:                                           20
Active subscribers:       0
A:ALU-ABC>show>app-assure>group#


A:ALU>show>app-assure>group# application "HTTP_Video" count detail
===============================================================================
Application "HTTP_Video" Statistics
===============================================================================
    Application:
Type                      Octets            Packets         Flows
-------------------------------------------------------------------------------
    HTTP_Video:
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admitted from subscriber: 369528           5404           36
Denied from subscriber:   0                0              0
Active flows from subscriber:                             1
Admitted to subscriber:   15387734         10629          36
Denied to subscriber:     0                0              0
Active flows to subscriber:                               1
Total flow duration:      463 seconds
Terminated flows:                                         72
Short Duration flows:                                     66
Medium Duration flows:                                    6
Long Duration flows:                                      0
Active subscribers:       1
===============================================================================
A:ALU>show>app-assure>group#
```

application

Syntax

application [*app-name*]

Context

[Tree] (show>app-assure>group>policy application)

Full Context

show application-assurance group policy application

Description

This command displays application-assurance policy application information.

Parameters

app-name

Specifies the application name, up to 32 characters.

Platforms

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

application

Syntax

application [*application-name***] count**

Context

[Tree] (show>app-assure>group>aa-sub>um application)

Full Context

show application-assurance group aa-sub usage-monitor application

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays usage monitor statistics for the application.

Parameters

application-name

Specifies the application name, up to 32 characters.

count

Displays counters for the application.

Platforms

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

application

Syntax

application [*application-name*] **count** [**detail**]

Context

[Tree] (tools>dump>app-assure>group>aa-sub application)

Full Context

tools dump application-assurance group aa-sub application

Description

This command displays per-subscriber per-application statistics.

Platforms

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

application

Syntax

application [*app-name*] [{**dscp** | **dot1p**}]

Context

[Tree] (show>router>sgt-qos application)

Full Context

show router sgt-qos application

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays application QoS settings.

Parameters

app-name

Specifies the application.

Values Some of the following values may only apply to specific products. Refer to the *SR OS R26.x.Rx Software Release Notes* for details about application support for different SR OS products:

arp, bgp, bmp, call-trace, cflowd, dhcp, diameter, dns, ftp, grpc, gtp, http, icmp, igmp, igmp-reporter, isis, l2tp, ldp, mld, mpls-udp-return, msdp, mtrace2, ndis, ntp, ospf, pcep, pim, pppoe, ptp, radius, rip, rsvp, sflow, snmp, snmp-notification, srrp, ssh, syslog, tacplus, telnet, tftp, traceroute, vrrp

dscp

Specifies to show DSCP values only.

dot1p

Specifies to show dot1p values only.

Platforms

All

Output

The following output is an example of SGT QoS application information.

Output example

Note:
Some applications have multiple DSCP default values depending on the context or service.

```
A:ALA-A# show router sgt-qos application
===============================================================================
DSCP Application Values
===============================================================================
Application         Configured DSCP Value         Default DSCP Value(s)
-------------------------------------------------------------------------------
bgp                 none                          nc1
bmp                 none                          af41
call-trace          none                          af41
cflowd              none                          nc1
dhcp                none                          nc1, af41, nc2
diameter            none                          af41
dns                 none                          af41
ftp                 none                          af41
grpc                none                          af41
gtp                 none                          nc2, nc1
http                none                          af41
icmp                none                          be, nc1
igmp                none                          nc1
igmp-reporter       none                          nc1
l2tp                none                          nc1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ldp                 none                          nc1
mld                 none                          nc1
mpls-udp-return     none                          nc1
msdp                none                          nc1
mtrace2             none                          nc1
ndis                none                          nc1, nc2
ntp                 none                          nc1
ospf                none                          nc1
pcep                none                          nc1
pim                 none                          nc1
ptp                 none                          nc1
radius              none                          nc1
rip                 none                          nc1
rsvp                none                          nc1
sflow               none                          nc1
snmp                none                          af41
snmp-notification   none                          af41
srrp                none                          nc1
ssh                 none                          af41
syslog              none                          af41
tacplus             none                          af41
telnet              none                          af41
tftp                none                          af41
traceroute          none                          be
vrrp                none                          nc1
===============================================================================
===============================================================================
Dot1p Application Values
===============================================================================
Application         Configured Dot1p Value        Default Dot1p Value
-------------------------------------------------------------------------------
arp                 none                          7
isis                none                          7
pppoe               none                          7
===============================================================================
A:ALA-A#
```

4.53 application-assurance

application-assurance

Syntax

application-assurance

Context

[Tree] (clear application-assurance)

Full Context

clear application-assurance

Description

This command clears application assurance commands.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

application-assurance

Syntax

application-assurance

Context

[Tree] (show application-assurance)

Full Context

show application-assurance

Description

Commands in this context display application assurance commands.

Platforms

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

application-assurance

Syntax

application-assurance

Context

[Tree] (tools>dump application-assurance)

Full Context

tools dump application-assurance

Description

Commands in this context dump application assurance information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.54 application-assurance-group

application-assurance-group

Syntax

application-assurance-group [*aa-group-id* [**load-balance** [**unassigned**]]]

Context

[Tree] (show>isa application-assurance-group)

Full Context

show isa application-assurance-group

Description

This command displays ISA group information.

Parameters

aa-group-id

Specifies the AA ISA group ID.

load-balance

Specifies load balancing information.

unassigned

Specifies load balancing unassigned aa-sub information.

Platforms

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

Output

The following are output examples of application assurance group information, and Table 30: Output fields: application assurance group describes the output fields.

- Output example: ISA application assurance group
- Output example: ISA application assurance group load balance
- Output example: ISA application assurance group load balance unassigned

Output example: ISA application assurance group

```
*A:Dut-A# show isa application-assurance-group 1

===============================================================================
ISA Application-assurance-groups
===============================================================================
ISA-AA Group Index              : 1
Description                     : (Not Specified)
Subscriber Scale                : residential-8k
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
WLAN GW Group Index              : N/A
Primary ISA-AA                   : esa-1/1 up/active
                                 : esa-1/2 up/active
Backup ISA-AA                    : none
Minimum ISA Generation           : 1
Last Active change               : 01/24/2024 19:26:50
Admin State                      : Up
Oper State                       : Up
Diverted FCs                     :
Fail to mode                     : fail-to-wire
QoS
  Egress from subscriber
    Pool                         : default
      Reserved Cbs               : default
      Slope Policy               : default
    Queue Policy                 : default
    Scheduler Policy             :
  Egress to subscriber
    Pool                         : default
      Reserved Cbs               : default
      Slope Policy               : default
    Queue Policy                 : default
    Scheduler Policy             :
Capacity Cost
    High Threshold               : 4294967295
    Low Threshold                : 0
Overload Sub-quarantine          : Down
Overload Cut Through             : disabled
Transit Prefix
    Max IPv4 entries             : 0
    Max IPv6 entries             : 0
HTTP Enrichment
    Max Packet Size              : 1500 octets
Shared Resources
    TCP Advanced Functions       : 0%
    Web Service Cache            : 0%
    GTP Tunnel Database          : 0%
    Bandwidth Shaper Buffer      : 0%
    Multi Device Detect          : 0%
VM Traffic Distribution by IP    : disabled
VM Traffic Distribution by TEID  : disabled
Sub Traffic Distribution by IP   : enabled
Oper Group                       : aa-test
===============================================================================
```

Output example: ISA application assurance group load balance

```
*A:Dut-C>show isa application-assurance-group 1 load-balance
===============================================================================
ISA Application-assurance-group 1
===============================================================================
load-balance status         : Complete
isa-capacity-cost-threshold : low  0
                            : high 4294967295
-------------------------------------------------------------------------------
                capacity   aa-sub  aa-sub  ip         transit-prefix-entries
                cost               stats   addresses  ipv4  ipv6
-------------------------------------------------------------------------------
 1/2            4          4       8       3          0     0
 3/1            3          3       6       1          0     0
 Mda Limit      n/a        1024    32768   16384      0     0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
aa-sub type count for group 1
===============================================================================
                all       esm       esm-mac   sap       spoke-sdp transit
-------------------------------------------------------------------------------
  1/2           4         1         3         0         0         0
  3/1           3         2         1         0         0         0
 Unassigned(*)  0         0         0         0         0         n/a**
-------------------------------------------------------------------------------
 (*)  Subscribers are not initially load balanced until configuration and
      persistence files have been processed.
 (**) For unassigned transits, refer to unassigned subscriber load-balance
      screen for details.
-------------------------------------------------------------------------------
 Last tools load-balance complete reason:
   Tool never performed or last performed on another AA group
   Subs moved : 0
   Next sub   : n/a
   Service Id : n/a
===============================================================================
```

Output example: ISA application assurance group load balance unassigned

```
*A:Dut-C# show isa application-assurance-group 84 load-balance unassigned
===============================================================================
ISA Application-assurance-group 84 unassigned
===============================================================================
type      SvcId      aa-sub                        App-Profile
-------------------------------------------------------------------------------
esm       2          Sub1                          Cost30
esm       50         Sub2                          Cost31
sap       29         2/1/10:527                    Cost29
sap       30         2/1/10:528                    Cost29
sap       31         2/1/10:529                    Cost29
sap       31         2/1/10:530                    Cost29
sap       31         2/1/10:531                    Cost29
sap       32         2/1/10:546                    Cost29
sap       32         2/1/10:547                    Cost29
sap       33         2/1/10:548                    Cost29
spoke     201        199:10                        Cost27
spoke     202        199:17                        Cost10
spoke     202        199:18                        Cost10
spoke     202        199:19                        Cost10
esm-mac   100        Sub3-000102030405             Cost30
===============================================================================
```

Table 30: Output fields: application assurance group

Label	Description
ISA-AA Group Index	Indicates the group number of this group of MDAs.
Description	
Primary ISA-AA	Displays the primary slot and card number and whether the status is up or down and is either active or standby.
Backup ISA-AA	Displays the backup slot and card number and whether the status is up or down and is either active or standby. The status should be up and standby.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Last Active change	Indicates the last time a successful change was performed.
Admin State	Displays the administrative state, up or down.
Oper State	Displays the operational state, up or down.
Diverted FCs	Displays the forwarding class to be diverted.
Fail to mode	Displays how traffic is handled when there are no available ISA-AA cards to handle the traffic, either failToWire or failToOpen.
Egress **from** subscriber	
Pool	Displays the buffer pool as defined in TIMETRA-PORT-MIB::tmnxObjectAppPool for subscriber to network traffic egressing towards the ISA-AA MDA.
Reserved Cbs	Displays the percentage of the buffer pool reserved for high priority traffic for subscriber to network traffic egressing towards the ISA-AA MDA.
Slope Policy	Displays the policy as defined in TIMETRA-QOS-MIB::tSlope PolicyTable for subscriber to network traffic egressing towards the ISA-AA MDA.
Queue Policy	Displays the policy as defined in TIMETRA-QOS-MIB::tNetwork QueueTable for subscriber to network traffic egressing towards the ISA-AA MDA.
Scheduler Policy	Displays the policy as defined in TIMETRA-QOS-MIB::tSlope PolicyTable for network to subscriber traffic egressing towards the ISA-AA MDA
Egress **to** subscriber	
Pool	Displays the buffer pool as defined in TIMETRA-PORT-MIB::tmnxObjectAppPool for network to subscriber traffic egressing towards the ISA-AA MDA.
Reserved Cbs	Displays the percentage of the buffer pool reserved for high priority traffic for network to subscriber traffic egressing towards the ISA-AA MDA.
Slope Policy	Displays the policy as defined in TIMETRA-QOS-MIB::tSlope PolicyTable for network to subscriber traffic egressing towards the ISA-AA MDA.
Queue Policy	Displays the policy as defined in TIMETRA-QOS-MIB::tNetwork QueueTable for network to subscriber traffic egressing towards the ISA-AA MDA.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Scheduler Policy	Displays the policy as defined in TIMETRA-QOS-MIB::t SchedulerPolicyTable for network to subscriber traffic egressing towards the ISA-AA MDA.
Overload Sub-quarantine	Displays the overload quarantine state, up or down.
Overload Cut Through	Displays the overload cut through state, enabled or disabled.
VM Traffic Distribution by IP	Displays the state of VM Traffic Distribution by IP
VM Traffic Distribution by TEID	Displays the state of VM Traffic Distribution by TEID
Sub Traffic Distribution by IP	Displays the state of Sub Traffic Distribution by IP
Oper Group	Displays the configured operational group name

4.55 applications

applications

Syntax

applications

Context

[Tree] (show>log applications)

Full Context

show log applications

Description

This command displays a list of all application names that can be used in event-control and filter commands.

Platforms

All

Output

The following output is an example of log application information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
*A:7950 XRS-20# show log applications
===================================
Log Event Application Names
===================================
Application Name
-----------------------------------
BGP
...
CHASSIS
...
IGMP
...
LDP
LI
...
MIRROR
...
MPLS
...
OSPF
PIM
...
PORT
...
SYSTEM
...
USER
...
VRTR
...
===================================
A:ALA-1#
```

applications

Syntax

applications [**isa** *mda-id/esa-vm-id*]

Context

[Tree] (tools>dump>app-assure>group>ipassist applications)

Full Context

tools dump application-assurance group ip-identification-assist applications

Description

This command dumps statistics showing the amount of traffic detected by IP identification assist for supported applications.

Parameters

isa *mda-id*

Specifies the slot and MDA of the ISA in the format *slot*/*mda*.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values	*slot*/*mda*	
	slot	1 to 10, depending on chassis model
	mda	1 to 2, depending on chassis model

isa *esa-vm-id*

Specifies the ESA and ESA VM in the format esa-*esa-id*/*vm-id*.

Values	esa-*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

Output

The following output is an example of application-assurance group application statistics information.

Output example

```
*A:node-2# tools dump application-assurance group 1:0 ip-identification-assist applications isa 1/1
===============================================================================
Application-Assurance group 1:0 ip-identification-assist application statistics
===============================================================================

isa 1/1
-------------------------------------------------------------------------------
Application Name                  Detection                      flows                   packets                    octets
--------------------------------- ---------- ------------------------- ------------------------- -------------------------

"Apple"                           app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                 32 (100.0%)            43768 (100.0%)          39252130 (100.0%)

"Apple App Store and iTunes"      app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                  0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)

"Apple Music"                     app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                  0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)

"Apple iCloud"                    app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                  0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)

"Facebook"                        app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                 84 (100.0%)            90580 (100.0%)          96430386 (100.0%)

"Google"                          app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                382 (100.0%)            25980 (100.0%)          21150315 (100.0%)

"Google Play Store"               app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                  0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)

"Instagram"                       app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                 52 (100.0%)            18714 (100.0%)          18655139 (100.0%)

"Netflix"                         app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                 78 (100.0%)            59059 (100.0%)          52961501 (100.0%)

"Snapchat"                        app-filter                 0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
                                  ip-assist                  0 ( 0.0%)                 0 ( 0.0%)                 0 ( 0.0%)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
"Spotify"                          app-filter                0 ( 0.0%)              0 ( 0.0%)               0 ( 0.0%)
                                   ip-assist                85 (100.0%)          35703 (100.0%)         32556052 (100.0%)

"Twitter"                          app-filter                0 ( 0.0%)              0 ( 0.0%)               0 ( 0.0%)
                                   ip-assist                38 (100.0%)          20555 (100.0%)         16997835 (100.0%)

"Whats App"                        app-filter                0 ( 0.0%)              0 ( 0.0%)               0 ( 0.0%)
                                   ip-assist                 0 ( 0.0%)              0 ( 0.0%)               0 ( 0.0%)

"YouTube"                          app-filter                0 ( 0.0%)              0 ( 0.0%)               0 ( 0.0%)
                                   ip-assist                 6 (100.0%)          27562 (100.0%)         31582683 (100.0%)

---------------------------------- ---------- ------------------------ ------------------------ ------------------------
TOTAL (14 applications)            app-filter                0 ( 0.0%)                0 ( 0.0%)                0 ( 0.0%)
                                   ip-assist               757 (100.0%)           321921 (100.0%)       309586041 (100.0%)
================================================================================
```

applications

Syntax

applications

Context

[Tree] (tools>dump>port>transceiver applications)

Full Context

tools dump port transceiver applications

Description

This command displays the CMIS application-selector table for the installed coherent transceiver, including each appsel's host and media interface IDs, related application details, and any matching operational mode(s).

Platforms

All

Output

The following output is an example of port transceiver applications.

Output example

```
A:node-2# tools dump port 1/1/c9 transceiver applications detail
CMIS Transceiver Applications for 1/1/c9 (1 NAD block(s), 3 app(s), class 400G)
       Host Num                    Media Num
AppSel ID   Ports Host ID Text     ID    Lns Media ID Text                          Oper Mode(s)
====== ==== ====================== ===== === ================================== ==============
======================
==>1   17   1     400GAUI8-C2M     62    1   400G-ZR-Amp                        1083
   2   17   1     400GAUI8-C2M     63    1   400G-ZR-Unamp                      1088
   3   13   4     100GAUI2-C2M     62    1   400G-ZR-Amp                        1021
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.56 aps

aps

Syntax

aps [*aps-id*] [**detail**]

Context

[Tree] (show aps)

Full Context

show aps

Description

This command displays Automated Protection Switching (APS) information.

Parameters

aps-id

Displays information for the specified APS group ID.

Values aps-*group-id*aps: keyword*group-id*: 1 to 128

detail

Displays detailed APS information.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

Output

The following outputs are examples of APS information, and Table 31: Output fields: APS describes the output fields:

- Output example: show aps (Working Multi-chassis APS Node)
- Output example: show aps (Protect MC-APS Node)

Output example: show aps (Working Multi-chassis APS Node)

```
*A:Dut-A# show aps aps-1
===============================================================================
APS Group Info
===============================================================================
Interface Admin  Oper   MC-Ctl  Work      Prot      Active    Tx/Rx
          State  State  State   Circuit   Circuit   Circuit   K1 Byte
-------------------------------------------------------------------------------
aps-1     Up     Up     N/A     1/5/1     1/9/5     1/5/1     PC-Tx: No-Req
===============================================================================
*A:Dut-A#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-A# show aps aps-1 detail
===============================================================================
APS Group: aps-1
===============================================================================
Description        : APS Group
Group Id           : 1                     Active Circuit       : 1/5/1
Admin Status       : Up                    Oper Status          : Up
Working Circuit    : 1/5/1                 Protection Circuit   : 1/9/5
Switching-mode     : Uni-1plus1            Switching-arch       : 1+1(sig,data)
Revertive-mode     : Non-revertive         Revert-time (min)    :
Rx K1/K2 byte      : 0x00/0x00 (No-Req on Protect)
Tx K1/K2 byte      : 0x00/0x00 (No-Req on Protect)
Current APS Status : OK
Multi-Chassis APS  : No
Neighbor           : 0.0.0.0
Control link state : N/A
Advertise Interval : 1000 msec             Hold Time            : 3000 msec
APS SF Hold Time   : 6000 msec             APS SD Hold Time     : 9000 msec
Mode mismatch Cnt  : 0                     Channel mismatch Cnt : 0
PSB failure Cnt    : 0                     FEPL failure Cnt     : 0
-------------------------------------------------------------------------------
 APS Working Circuit - 1/5/1
-------------------------------------------------------------------------------
Admin Status       : Up                    Oper Status          : Up
Current APS Status : OK                    No. of Switchovers   : 0
Last Switchover    : None                  Switchover seconds   : 0
Signal Degrade Cnt : 1                     Signal Failure Cnt   : 1
Last Switch Cmd    : No Cmd                Last Exercise Result : Unknown
Tx L-AIS           : None
-------------------------------------------------------------------------------
 APS Protection Circuit - 1/9/5
-------------------------------------------------------------------------------
Admin Status       : Up                    Oper Status          : Up
Current APS Status : OK                    No. of Switchovers   : 0
Last Switchover    : None                  Switchover seconds   : 0
Signal Degrade Cnt : 1                     Signal Failure Cnt   : 1
Last Switch Cmd    : No Cmd                Last Exercise Result : Unknown
Tx L-AIS           : None
===============================================================================
*A:Dut-A#
```

Output example: show aps (Protect MC-APS Node)

```
B:Dut-E# show aps
===============================================================================
APS Group Info
===============================================================================
Interface Admin  Oper    MC-Ctl   Work      Prot       Active     Tx/Rx
                 State   State    State     Circuit    Circuit    Circuit K1 Byte

-------------------------------------------------------------------------------
aps-20    Up     Up      N/A      3/1/1     3/1/2      3/1/1      PC-Tx:  No-Req
===============================================================================
B:Dut-E#


B:Dut-E# show aps aps-30 detail
===============================================================================
APS Group: aps-30
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description        : APS Group
Group Id           : 30                    Active Circuit       : N/A
Admin Status       : Up                    Oper Status          : Up
Working Circuit    : N/A                   Protection Circuit   : 2/2/2
Switching-mode     : Bi-directional        Switching-arch       : 1+1
Revertive-mode     : Non-revertive         Revert-time (min) :
Rx K1/K2 byte      : 0x00/0x05 (No-Req on Protect)
Tx K1/K2 byte      : 0x00/0x05 (No-Req on Protect)
Current APS Status : OK
Multi-Chassis APS  : Yes
Neighbor           : 10.1.1.1
Control link state : Up
Advertise Interval : 1000 msec             Hold time            : 3000 msec
Mode mismatch Cnt  : 0                     Channel mismatch Cnt : 0
PSB failure Cnt    : 0                     FEPL failure Cnt     : 1
-------------------------------------------------------------------------------
 APS Working Circuit - Neighbor
-------------------------------------------------------------------------------
Admin Status       : N/A                   Oper Status          : N/A
Current APS Status : OK                    No. of Switchovers   : 0
Last Switchover    : None                  Switchover seconds   : 0
Signal Degrade Cnt : 0                     Signal Failure Cnt   : 0
Last Switch Cmd    : No Cmd                Last Exercise Result : Unknown
Tx L-AIS           : None
-------------------------------------------------------------------------------
 APS Protection Circuit - 2/2/2
-------------------------------------------------------------------------------
Admin Status       : Up                    Oper Status          : Up
Current APS Status : OK                    No. of Switchovers   : 0
Last Switchover    : None                  Switchover seconds   : 0
Signal Degrade Cnt : 0                     Signal Failure Cnt   : 0
Last Switch Cmd    : No Cmd                Last Exercise Result : Unknown
Tx L-AIS           : None
===============================================================================
B:Dut-E#
```

Table 31: Output fields: APS

Label	Description
Interface	Specifies the APS interface name (the APS group port).
Admin State	Up — APS is administratively up. Down — APS port is administratively down.
Oper State	Up — APS port is operationally up. Down — APS is operationally down.
MC-CTL State	Specifies the multi-chassis state.
Work Circuit	Specifies the working circuit ID.
Prot Circuit	Specifies the physical port that acts as the protection circuit for this APS group.
Active Circuit	Specifies the active circuit.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Tx/Rx K1 Byte	Displays the value of the SONET/SDH K1 byte received or transmitted on the protection circuit.
Group Id	Displays the APS group name.
Protection Circuit	Displays the physical port that will act as the protection circuit for this APS group.
Switching-mode	Displays the switching mode of the APS group.
Switching-arch	The architecture of the APS group.
Revertive-mode	Displays the revertive mode of the APS group. non-revertive — Traffic remains on the protection line until another switch request is received. revertive — When the condition that caused a switch to the protection line has been cleared the signal is switched back to the working line.
Revert-time	Displays the configured time, in minutes, to wait after the working circuit has become functional again, before making the working circuit active again. If the revertive mode is non-revertive, then this field will be empty.
Rx K1/K2 byte	Displays the value of the SONET/SDH K1/K2 byte received on the interface.
Tx K1/K2 byte	Displays the value of the SONET/SDH K1/K2 byte transmitted on the interface.
Current APS Status	Displays the current APS status.
Mode Mismatch Cnt	Indicates the number of times a conflict occurs between the current local mode and the received K2 mode information.
Channel mismatch Cnt	Indicates the number of mismatches between the transmitted K1 channel and the received K2 channel has been detected.
PSB failure Cnt	Displays a count of Protection Switch Byte (PSB) failure conditions. This condition occurs when either an inconsistent APS byte or an invalid code is detected.
FEPL failure Cnt	Displays a count of far-end protection-line (FEPL) failure conditions. This condition is declared based on receiving SF on the protection line in the K1 byte.
No. of Switchovers	Displays the number of times a switchover has occurred.
Last Switchover	Displays the time stamp of the last switchover.
Switchover seconds	Displays the cumulative Protection Switching Duration (PSD) time in seconds.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	For a working channel, this is the cumulative number of seconds that service was carried on the protection line. For the protection line, this is the cumulative number of seconds that the protection line has been used to carry any working channel traffic. This information is only valid if revertive switching is enabled.
Signal Degrade Cnt	Displays the number of times the signal was degraded.
Signal Failure Cnt	Displays the number of times the signal failed.
Last Switch Cmd	Reports the last switch command that was performed on a circuit.
Last Exercise Result	The result of the last exercise request on a circuit.
Neighbor address	Displays the neighbor IP address.
Advertise Interval	Displays the advertise interval.
Hold time	Displays the hold time.

aps

Syntax

aps *aps-id* [**clear**]

aps mc-aps-signaling [**clear**]

aps mc-aps-ppp [**clear**]

Context

[Tree] (tools>dump aps)

Full Context

tools dump aps

Description

This command displays Automated Protection Switching (APS) information.

Parameters

aps-id

Specifies the APS ID.

Values aps-*group-id*
aps: keyword
group-id: 1 to 64

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

clear

Removes all Automated Protection Switching (APS) operational commands.

mc-aps-signaling

Displays multi-chassis APS signaling information.

mc-aps-ppp

Displays multi-chassis APS PPP information.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

Output

The following outputs are examples of APS information:

- Output example: APS group operational status
- Output example: multichassis APS PPP debug counters
- Output example: multichassis APS signaling debug counters

Output example: APS group operational status

```
*A:AS_SR7_2# tools dump aps aps-33

GrpId = 33, state = Running, mode:cfg/oper = Bi-directional/Bi-directional
   revert = 0, workPort: N/A, protPort: 2/1/1, activePort: working
   rxK1 = 0x0 (No-Req on Protect), physRxK1 = 0x0, rxK2 = 0x5
   txK1 = 0x0 (No-Req on Protect), physTxK1 = 0x0, txK2 = 0x5
   K1ReqToBeTxed = 0x0, K1ChanToBeTxed = 0x0, lastRxReq = 0xc
   MC-APS Nbr = 10.100.100.1 (Up), advIntvl = 10, hold = 30
   workPort: status = OK, Tx-Lais = None, sdCnt = 1, sfCnt = 1
     numSwitched = 1, switchSecs = 0, lastSwitched = 07/25/2007 08:00:12
     disCntTime = , alarms = , switchCmd = No Cmd
   protPort: status = OK, Tx-Lais = None, sdCnt = 1,  sfCnt = 0
     numSwitched = 1, switchSecs = 0, lastSwitched = 07/25/2007 08:03:39
     disCntTime = , alarms = ,  switchCmd = No Cmd
   GrpStatus: OK, mmCnt = 1, cmCnt = 1, psbfCnt = 1, feplfCnt = 2
   LocalSwitchCmd: priority = No-Req, portNum = 0
   RemoteSwitchCmd: priority = No-Req, portNum = 0
   Running Timers = mcAdvIntvl mcHold
   processFlag =  apsFailures = , sonet = Y
   DebugInfo: dmEv = 0, dmClrEv = 0, amEv = 1, amClrEv = 1
     cmEv = 1, cmClrEv = 1, psbfEv = 1, psbfClrEv = 1
     feplfEv = 2, feplfClrEv = 2, wtrEv = 0, psbfDetectEv = 0
     wSdEv = 1, wSfEv = 2, pSdEv = 1, pSfEv = 1
     portStatusEv = 8, rxK1Ev = 9, txLaisEv = 2, lastEvName = FeplClr
     CtlUpEv = 3, CtlDnEv = 2, wAct = 0, wDeAct = 0
Seq      Event  TxK1/K2 RxK1/K2  Dir    Active         Time
===     ======= ======= ======= =====   ======  ================
000     ProtAdd 0xc005  0x0000  Tx-->     Work  497 02:18:10.590
001     RxKByte 0xc005  0x6dea  Rx<--     Work  497 02:20:14.820
002     RxKByte 0xc005  0xc005  Rx<--     Work  497 02:21:30.970
003     RxKByte 0xc005  0x2005  Rx<--     Work  497 02:21:36.530
004      pSFClr 0x0005  0x2005  Tx-->     Work  497 02:21:40.590
005     RxKByte 0x0005  0x0005  Rx<--     Work  497 02:21:40.600
006     RxKByte 0x0005  0xc115  Rx<--     Work  497 02:25:22.840
007     RxKByte 0x2115  0xc115  Tx-->     Prot  497 02:25:22.840
008     RxKByte 0x2115  0xa115  Rx<--     Prot  000 00:00:47.070
009     RxKByte 0x2115  0x1115  Rx<--     Prot  000 00:00:47.560
010     RxKByte 0x2115  0xc005  Rx<--     Prot  000 00:00:57.010
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
011     RxKByte 0x2005  0xc005  Tx-->     Work  000 00:00:57.010
012     RxKByte 0x2005  0x0005  Rx<--     Work  000 00:01:06.170
013     RxKByte 0x0005  0x0005  Tx-->     Work  000 00:01:06.170
```

Output example: multichassis APS PPP debug counters

```
:AS_SR7_1# tools dump aps mc-aps-ppp

 pppmMcsModStarted = Yes
 pppmMcsDbgDoSync = Yes
 pppmMcsApsGrpHaAuditDone = Yes
 pppmMcsPostHaSyncedApsGrpId = 47
 pppmMcsMcApsChanCnt = 1280

 pppmMcsDbgRxPktCnt = 2560
 pppmMcsDbgRxPktNotProcessedCnt = 0
 pppmMcsDbgRxPktInvalidCnt = 0
 pppmMcsDbgInconsistentRxPktDropCnt = 0
 pppmMcsDbgInconsistentTxPktDropCnt = 1176
 pppmMcsDbgTxPktNotSentCnt = 0
 pppmMcsDbgTxPktSentCnt = 25
 pppmMcsDbgEvtDropCnt = 0
 pppmMcsDbgMemAllocErrCnt = 0
 pppmMcsDbgReTxCnt = 0
 pppmMcsDbgReTxExpCnt = 0
 pppmMcsDbgReReqCnt = 0

 pppmMcsStateAckQueueCnt (curr/peek) = 0/130
 pppmMcsStateReqQueueCnt (curr/peek) = 0/1280
 pppmMcsStateReReqQueueCnt (curr/peek) = 0/256
 pppmMcsStateTxQueueCnt (curr/peek) = 0/512
 pppmMcsStateReTxQueueCnt (curr/peek) = 0/130

 MC-APS Peer Info :
 --------------------

   Grp 13 Addr 10.100.100.2 - Up
   Grp 20 Addr 10.100.100.2 - Up
   Grp 35 Addr 10.100.100.2 - Up
   Grp 43 Addr 10.100.100.2 - Up
   Grp 47 Addr 10.100.100.2 - Up

 Number of pppmMcs Evt Msgs dispatched:
   ctl_link_state : 0
   ctl_link_up_tmr : 0
   ctl_link_down_tmr : 0
   ha_audit_done : 0
```

Output example: multichassis APS signaling debug counters

```
*A:eth_aps_sr7# tools dump aps mc-aps-signaling

 MC-APS Control Debug Counters :
 ------------------------------
 Ctl Pkt Rx = 0
 Invalid Rx Ctl Pkt = 0
 Incompatible Rx Ctl Pkt = 0
 Nbr not Rx Ctl Pkt = 0
 Invalid Rx Ctl Pkt Tlv = 0
 Ctl Pkt Rx-ed before HaReady = 0
 Not sent Tx Ctl Pkt = 0

 MC-APS-LAG Debug Counters :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
--------------------------
Ctl Pkt Rx from IOM        = 0

Not processed Rx Ctl Pkt   = 0
Invalid Rx Ctl Pkt         = 0
Incompatible Rx Ctl Pkt    = 0
Rx Ctl Pkt queueing failed = 0

Ctl Pkt Tx (direct)        = 0
Ctl Pkt Tx (UDP socket)    = 0
Not sent Tx Ctl Pkt        = 0

Route Update               = 0
Matched Route Update       = 0

Msg Buf Alloc Failed       = 0

MC-APS-LAG NbrRoute Entries :
------------------------------
NbrAddr 10.1.1.1 NextHopAddr ::
  EgressIfIndex =  0
  EgressPortId =  Unknown
  app refCnt  =  1
  refCntTotal =  1
```

aps

Syntax

aps

Context

[Tree] (tools>perform aps)

Full Context

tools perform aps

Description

Commands in this context perform Automated Protection Switching (APS) operations.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.57 arbiter-stats

arbiter-stats

Syntax

arbiter-stats

Context

[Tree] (clear>qos arbiter-stats)

Full Context

clear qos arbiter-stats

Description

Commands in this context clear arbiter statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

arbiter-stats

Syntax

arbiter-stats

Context

[Tree] (monitor>qos arbiter-stats)

Full Context

monitor qos arbiter-stats

Description

Commands in this context configure monitor functionality for arbiter statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

arbiter-stats

Syntax

arbiter-stats

Context

[Tree] (show>qos arbiter-stats)

Full Context

show qos arbiter-stats

Description

Commands in this context display arbiter statistics information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

4.58 area

area

Syntax

area [*area-id*] [**detail**] [**lfa**]

area [*area-id*] [**detail**] **lfa flex-algo** *flex-algo-id*

area [*area-id*] [**detail**] **lfa flex-algo all**

Context

[Tree] (show>router>ospf area)

Full Context

show router ospf area

Description

This command displays configuration information about all areas or the specified area.

Parameters

area-id

Displays the OSPF area ID expressed in dotted decimal notation or as a 32-bit decimal integer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values ip-address — a.b.c.d
area — 0 to 4294967295

flex-algo-id

Displays the flexible algorithm identifier.

Values 128 to 255

detail

Displays detailed operational and statistical information about the specified area.

lfa

Displays Loop-Free Alternate (LFA) next-hop information. This information corresponds to the backup next hops for IP links and nodes written in RTM by the base LFA feature.

flex-algo

Displays OSPFv2 information for the specified algorithm identifier.

flex-algo all

Displays OSPFv2 information for all flexible algorithms.

Platforms

All

Output

The following outputs are examples of OSPF area information, and Table 32: Output fields: OSPF area describes the output fields:

- Output example: router OSFP area detail
- Output example: router ospf area LFA flex-algo

Output example: router OSFP area detail

```
A:SetupCLI# show router ospf 0 area detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Areas (detail)
===============================================================================
-------------------------------------------------------------------------------
Area Id: 0.0.0.0
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Type             : Standard
Key Rollover Int.: 10                   LFA              : Include
Virtual Links    : 0                    Total Nbrs       : 0
Active IFs       : 0                    Total IFs        : 2
Area Bdr Rtrs    : 0                    AS Bdr Rtrs      : 0
SPF Runs         : 0                    Last SPF Run     : Never
Router LSAs      : 0                    Network LSAs     : 0
Summary LSAs     : 0                    Asbr-summ LSAs   : 0
Nssa ext LSAs    : 0                    Area opaque LSAs : 1
Total LSAs       : 1                    LSA Cksum Sum    : 0xd6af
Blackhole Range  : False                Unknown LSAs     : 0
Export Database  : False
Export Policies  : None
Export Fltrd LSAs: 0
Import Policies  : None
Import Fltrd LSAs: 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Area Id: 1.1.1.1
-------------------------------------------------------------------------------
Area Id          : 1.1.1.1             Type             : Stub
Default Cost     : 16777215            Import Summary   : Send Summary
Key Rollover Int.: 10                  LFA              : Exclude
Virtual Links    : 0                   Total Nbrs       : 0
Active IFs       : 0                   Total IFs        : 1
Area Bdr Rtrs    : 0                   AS Bdr Rtrs      : 0
SPF Runs         : 0                   Last SPF Run     : Never
Router LSAs      : 0                   Network LSAs     : 0
Summary LSAs     : 0                   Asbr-summ LSAs   : 0
Nssa ext LSAs    : 0                   Area opaque LSAs : 1
Total LSAs       : 1                   LSA Cksum Sum    : 0xf493
Blackhole Range  : False               Unknown LSAs     : 0
Export database  : False
Export Policies  : None
Export Fltrd LSAs: 0
Import Policies  : None
Import Fltrd LSAs: 0
-------------------------------------------------------------------------------
Area Id: 2.2.2.2
-------------------------------------------------------------------------------
Area Id          : 2.2.2.2             Type             : Standard
Key Rollover Int.: 10                  LFA              : Include
Virtual Links    : 1                   Total Nbrs       : 0
Active IFs       : 0                   Total IFs        : 0
Area Bdr Rtrs    : 0                   AS Bdr Rtrs      : 0
SPF Runs         : 0                   Last SPF Run     : Never
Router LSAs      : 0                   Network LSAs     : 0
Summary LSAs     : 0                   Asbr-summ LSAs   : 0
Nssa ext LSAs    : 0                   Area opaque LSAs : 1
Total LSAs       : 1                   LSA Cksum Sum    : 0xd6af
Blackhole Range  : True                Unknown LSAs     : 0
Export database  : False
Export Policies  : None
Export Fltrd LSAs: 0
Import Policies  : None
Import Fltrd LSAs: 0
===============================================================================
A:SetupCLI#

*A:Dut-B# show router ospf area 0.0.0.0 detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Area 0.0.0.0 (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Type             : Standard
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Virtual Links    : 0                   Total Nbrs       : 2
Active IFs       : 3                   Total IFs        : 3
Area Bdr Rtrs    : 0                   AS Bdr Rtrs      : 0
SPF Runs         : 7                   Last SPF Run     : 10/26/2006 10:09:18
Router LSAs      : 3                   Network LSAs     : 3
Summary LSAs     : 0                   Asbr-summ LSAs   : 0
Nssa ext LSAs    : 0                   Area opaque LSAs : 3
Total LSAs       : 9                   LSA Cksum Sum    : 0x28b62
Blackhole Range  : True                Unknown LSAs     : 0
Export database  : False
Export Policies  : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Export Fltrd LSAs: 0
Import Policies  : None
Import Fltrd LSAs: 0
===============================================================================

*A:Dut-B# show router ospf 0 area 0.0.0.0 lfa
===============================================================================
Rtr Base OSPFv2 Instance 0 Path Table
===============================================================================
Node                Interface                     Nexthop
                      LFA Interface                 LFA Nexthop
-------------------------------------------------------------------------------
10.20.1.1           to_Dut-A1                     10.20.1.1
                       to_Dut-C1                     10.20.1.3
10.20.1.3           to_Dut-C1                     10.20.1.3
                       to_Dut-A1                     10.20.1.1
10.20.1.4           to_Dut-D1                     10.20.1.4
10.20.1.6           to_Dut-D1                     10.20.1.4
                       to_Dut-C1                     10.20.1.3
===============================================================================
*A:Dut-B#

*A:Dut-B# show router ospf 0 area 0.0.0.0 lfa detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Path Table (detail)
===============================================================================
OSPF Area  : 0.0.0.0
-------------------------------------------------------------------------------
Node               : 10.20.1.1          Metric             : 10
Interface          : to_Dut-A1          Nexthop            : 10.20.1.1
LFA Interface      : to_Dut-C1          LFA Metric         : 20
LFA type           : linkProtection     LFA Nexthop        : 10.20.1.3


Node               : 10.20.1.3          Metric             : 10
Interface          : to_Dut-C1          Nexthop            : 10.20.1.3
LFA Interface      : to_Dut-A1          LFA Metric         : 20
LFA type           : linkProtection     LFA Nexthop        : 10.20.1.1


Node               : 10.20.1.4          Metric             : 10
Interface          : to_Dut-D1          Nexthop            : 10.20.1.4

Node               : 10.20.1.6          Metric             : 20
Interface          : to_Dut-D1          Nexthop            : 10.20.1.4
LFA Interface      : to_Dut-C1          LFA Metric         : 30
LFA type           : nodeProtection     LFA Nexthop        : 10.20.1.3

===============================================================================
*A:Dut-B#
```

Output example: router ospf area LFA flex-algo

```
*A:Dut-C# show router ospf area lfa flex-algo 128
===============================================================================
Rtr Base OSPFv2 Instance 0 Flex-Algo 128 Path Table
===============================================================================
10.20.1.2           C1/1/5-B1/1/8                 10.20.1.2
                       C1/1/7-E1/1/1                 10.20.1.5
10.20.1.5           C1/1/7-E1/1/1                 10.20.1.5
                       C1/1/5-B1/1/8                 10.20.1.2
===============================================================================
*A:Dut-C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 32: Output fields: OSPF area

Label	Description
Area Id	A 32 bit integer uniquely identifying an area.
Type	NSSA — This area is configured as an NSSA area. Standard — This area is configured as a standard area (not NSSA or Stub). Stub — This area is configured as a stub area.
SPF Runs	The number of times that the intra-area route table has been calculated using this area's link state database.
LSA Count	The total number of link-state advertisements in this area's link state database, excluding AS External LSAs.
LSA Cksum Sum	The 32-bit unsigned sum of the link-state database advertisements LS checksums contained in this area's link state database. This checksum excludes AS External LSAs (type-5).
No. of OSPF Areas	The number of areas configured on the router.
Virtual Links	The number of virtual links configured through this transit area.
Active IFs	The active number of interfaces configured in this area.
Area Bdr Rtrs	The total number of ABRs reachable within this area.
AS Bdr Rtrs	The total number of ASBRs reachable within this area.
Last SPF Run	The time when the last intra-area SPF was run on this area.
Router LSAs	The total number of router LSAs in this area.
Network LSAs	The total number of network LSAs in this area.
Summary LSAs	The summary of LSAs in this area.
Asbr-summ LSAs	The summary of ASBR LSAs in this area.
Nssa-ext LSAs	The total number of NSSA-EXT LSAs in this area.
Area opaque LSAs	The total number of opaque LSAs in this area.
Total Nbrs	The total number of neighbors in this area.
Total IFs	The total number of interfaces configured in this area.
Total LSAs	The sum of LSAs in this area excluding autonomous system external LSAs.
Blackhole Range	False — No blackhole route is installed for aggregates configured in this area.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	True — A lowest priority blackhole route is installed for aggregates configured in this area.
Export Database	False — The extended TE Database (TE-DB) is not exported in this area. True — The extended TE Database (TE-DB) is exported in this area.
Export Policies	The export policies configured in this area.
Export Fltrd LSAs	The total number of LSAs filtered by area export policies.
Import Policies	The import policies configured in this area.
Import Fltrd LSAs	The total number of LSAs filtered by area import policies.

area

Syntax

area [*area-id*] [**detail**] [**lfa**]

Context

[Tree] (show>router>ospf3 area)

Full Context

show router ospf3 area

Description

This command displays configuration information about all areas or the specified area. When detail is specified operational and statistical information will be displayed.

Parameters

area-id

Displays the OSPF area ID expressed in dotted decimal notation or as a 32-bit decimal integer.

Values ip-address — a.b.c.d

area — 0 to 4294967295

detail

Displays detailed information about the specified area.

lfa

Displays Loop-Free Alternate (LFA) next-hop information. This information corresponds to the backup next hops for IP links and nodes written in RTM by the base LFA feature.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of OSPF area detailed information, and Table 33: Output fields: OSPv3 area describes the output fields.

Output example

```
A:SetupCLI# show router ospf 0 area detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Areas (detail)
===============================================================================
-------------------------------------------------------------------------------
Area Id: 0.0.0.0
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Type             : Standard
Key Rollover Int.: 10                  LFA              : Include
Virtual Links    : 0                   Total Nbrs       : 0
Active IFs       : 0                   Total IFs        : 2
Area Bdr Rtrs    : 0                   AS Bdr Rtrs      : 0
SPF Runs         : 0                   Last SPF Run     : Never
Router LSAs      : 0                   Network LSAs     : 0
Summary LSAs     : 0                   Asbr-summ LSAs   : 0
Nssa ext LSAs    : 0                   Area opaque LSAs : 1
Total LSAs       : 1                   LSA Cksum Sum    : 0xd6af
Blackhole Range  : False               Unknown LSAs     : 0
Export Database  : False
Export Policies  : None
Export Fltrd LSAs: 0
Import Policies  : None
Import Fltrd LSAs: 0
-------------------------------------------------------------------------------
Area Id: 1.1.1.1
-------------------------------------------------------------------------------
Area Id          : 1.1.1.1             Type             : Stub
Default Cost     : 16777215            Import Summary   : Send Summary
Key Rollover Int.: 10                  LFA              : Exclude
Virtual Links    : 0                   Total Nbrs       : 0
Active IFs       : 0                   Total IFs        : 1
Area Bdr Rtrs    : 0                   AS Bdr Rtrs      : 0
SPF Runs         : 0                   Last SPF Run     : Never
Router LSAs      : 0                   Network LSAs     : 0
Summary LSAs     : 0                   Asbr-summ LSAs   : 0
Nssa ext LSAs    : 0                   Area opaque LSAs : 1
Total LSAs       : 1                   LSA Cksum Sum    : 0xf493
Blackhole Range  : False               Unknown LSAs     : 0
Export database  : False
Export Policies  : None
Export Fltrd LSAs: 0
Import Policies  : None
Import Fltrd LSAs: 0
-------------------------------------------------------------------------------
Area Id: 2.2.2.2
-------------------------------------------------------------------------------
Area Id          : 2.2.2.2             Type             : Standard
Key Rollover Int.: 10                  LFA              : Include
Virtual Links    : 1                   Total Nbrs       : 0
Active IFs       : 0                   Total IFs        : 0
Area Bdr Rtrs    : 0                   AS Bdr Rtrs      : 0
SPF Runs         : 0                   Last SPF Run     : Never
Router LSAs      : 0                   Network LSAs     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Summary LSAs     : 0                    Asbr-summ LSAs   : 0
Nssa ext LSAs    : 0                    Area opaque LSAs : 1
Total LSAs       : 1                    LSA Cksum Sum    : 0xd6af
Blackhole Range  : True                 Unknown LSAs     : 0
Export database  : False
Export Policies  : None
Export Fltrd LSAs: 0
Import Policies  : None
Import Fltrd LSAs: 0
===============================================================================
A:SetupCLI#

*A:Dut-B# show router ospf area 0.0.0.0 detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Area 0.0.0.0 (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Type             : Standard
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Virtual Links    : 0                    Total Nbrs       : 2
Active IFs       : 3                    Total IFs        : 3
Area Bdr Rtrs    : 0                    AS Bdr Rtrs      : 0
SPF Runs         : 7                    Last SPF Run     : 10/26/2006 10:09:18
Router LSAs      : 3                    Network LSAs     : 3
Summary LSAs     : 0                    Asbr-summ LSAs   : 0
Nssa ext LSAs    : 0                    Area opaque LSAs : 3
Total LSAs       : 9                    LSA Cksum Sum    : 0x28b62
Blackhole Range  : True                 Unknown LSAs     : 0
Export database  : False
Export Policies  : None
Export Fltrd LSAs: 0
Import Policies  : None
Import Fltrd LSAs: 0
===============================================================================

*A:Dut-B# show router ospf 0 area 0.0.0.0 lfa
===============================================================================
Rtr Base OSPFv2 Instance 0 Path Table
===============================================================================
Node                Interface                    Nexthop
                      LFA Interface                LFA Nexthop
-------------------------------------------------------------------------------
10.20.1.1           to_Dut-A1                    10.20.1.1
                       to_Dut-C1                    10.20.1.3
10.20.1.3           to_Dut-C1                    10.20.1.3
                       to_Dut-A1                    10.20.1.1
10.20.1.4           to_Dut-D1                    10.20.1.4
10.20.1.6           to_Dut-D1                    10.20.1.4
                       to_Dut-C1                    10.20.1.3
===============================================================================
*A:Dut-B#

*A:Dut-B# show router ospf 0 area 0.0.0.0 lfa detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Path Table (detail)
===============================================================================
OSPF Area  : 0.0.0.0
-------------------------------------------------------------------------------
Node              : 10.20.1.1          Metric            : 10
Interface         : to_Dut-A1          Nexthop           : 10.20.1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LFA Interface      : to_Dut-C1          LFA Metric         : 20
LFA type           : linkProtection     LFA Nexthop        : 10.20.1.3


Node               : 10.20.1.3          Metric             : 10
Interface          : to_Dut-C1          Nexthop            : 10.20.1.3
LFA Interface      : to_Dut-A1          LFA Metric         : 20
LFA type           : linkProtection     LFA Nexthop        : 10.20.1.1


Node               : 10.20.1.4          Metric             : 10
Interface          : to_Dut-D1          Nexthop            : 10.20.1.4

Node               : 10.20.1.6          Metric             : 20
Interface          : to_Dut-D1          Nexthop            : 10.20.1.4
LFA Interface      : to_Dut-C1          LFA Metric         : 30
LFA type           : nodeProtection     LFA Nexthop        : 10.20.1.3

===============================================================================
*A:Dut-B#
```

Table 33: Output fields: OSPv3 area

Label	Description
Area Id	A 32 bit integer uniquely identifying an area.
Type	NSSA — This area is configured as an NSSA area. Standard — This area is configured as a standard area (not NSSA or Stub). Stub — This area is configured as a stub area.
SPF Runs	The number of times that the intra-area route table has been calculated using this area's link state database.
LSA Count	The total number of link-state advertisements in this area's link state database, excluding AS External LSAs.
LSA Cksum Sum	The 32-bit unsigned sum of the link-state database advertisements LS checksums contained in this area's link state database. This checksum excludes AS External LSAs (type-5).
No. of OSPF Areas	The number of areas configured on the router.
Virtual Links	The number of virtual links configured through this transit area.
Active IFs	The active number of interfaces configured in this area.
Area Bdr Rtrs	The total number of ABRs reachable within this area.
AS Bdr Rtrs	The total number of ASBRs reachable within this area.
Last SPF Run	The time when the last intra-area SPF was run on this area.
Router LSAs	The total number of router LSAs in this area.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Network LSAs	The total number of network LSAs in this area.
Summary LSAs	The summary of LSAs in this area.
Asbr-summ LSAs	The summary of ASBR LSAs in this area.
Nssa-ext LSAs	The total number of NSSA-EXT LSAs in this area.
Area opaque LSAs	The total number of opaque LSAs in this area.
Total Nbrs	The total number of neighbors in this area.
Total IFs	The total number of interfaces configured in this area.
Total LSAs	The sum of LSAs in this area excluding autonomous system external LSAs.
Blackhole Range	False — No blackhole route is installed for aggregates configured in this area. True — A lowest priority blackhole route is installed for aggregates configured in this area.
Export Database	False — The extended TE Database (TE-DB) is not exported in this area. True — The extended TE Database (TE-DB) is exported in this area.
Export Policies	The export policies configured in this area.
Export Fltrd LSAs	The total number of LSAs filtered by area export policies.
Import Policies	The import policies configured in this area.
Import Fltrd LSAs	The total number of LSAs filtered by area import policies.

4.59 arp

arp

Syntax

arp {[*ip-address*] | [**mac** *ieee-address*] | [**sap** *sap-id*] | [**interface** *ip-int-name*] | [**sdp** *sdp-id:vc-id*] **|** [**summary**] **}**

Context

[Tree] (show>service>id arp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id arp

Description

This command displays the ARP cache entries for this service.

Parameters

ip-address

Specifies the IP address in IP address dotted decimal notation.

ieee-mac-address

Specifies the 48-bit MAC address in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

sap-id

Specifies a Service Access Point (SAP) within a service.

ip-int-name

Specifies the name of the IP interface. Interface names can be from 1 to 32 alphanumeric characters. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed between double quotes.

sdp-id

Specifies the SDP identifier. Allowed values are integers in the range of 1 and 17407 for existing SDPs.

vc-id

Specifies the virtual circuit identifier.

Values 1 to 4294967295

Platforms

All

Output

The following output is an example of service ID information, and Table 34: Output fields: service ID ARP describes the output fields.

Output example

```
A:ALA-A# show service id 100 base
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Type    Age       Interface         Port
-------------------------------------------------------------------------------
10.1.0.1        00:00:66:66:66:01 Other   00h00m00s ies-10-101.1.0.1 1/1/4
239.1.1.2       00:00:5e:00:01:64 Other   00h00m00s ies-10-239.1.1.2 1/1/3
239.1.1.201     00:00:22:2e:a5:61 Static  00h00m00s ies-10-239.1.1.2 1/1/3
239.1.1.202     00:00:22:2e:a5:62 Static  00h00m00s ies-10-239.1.1.2 1/1/3
===============================================================================
A:ALA-A#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 34: Output fields: service ID ARP

Label	Description
IP Address	Specifies the IP address of the ARP cache entry.
MAC Address	Specifies the MAC address associated with the IP address.
Type	Other — Learned through normal ARP queries. Static — Configured by **static-arp** commands. Managed — Learned from DHCP snooping or configured by **host** commands.
Age	Indicates age of the ARP entry.
Interface	Indicates the name of the IP interface.
Port	Indicates the port upon which the entry was learned.

arp

Syntax

arp {**all** | *ip-address*}

arp interface {*ip-int-name* | *ip-address*}

Context

[Tree] (clear>router arp)

Full Context

clear router arp

Description

This command clears all or specific ARP entries.

The scope of ARP cache entries cleared depends on the command line options specified.

Parameters

all

Clears all ARP cache entries.

ip-address

Clears the ARP cache entry for the specified IP address.

Values ipv4-address: a.b.c.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-int-name

Clears all ARP cache entries for the IP interface with the specified name, up to 32 characters.

ip-address

Clears all ARP cache entries for the specified IP interface with the specified IP address.

Values ipv4-address: a.b.c.d

Platforms

All

arp

Syntax

arp

Context

[Tree] (clear>service>id arp)

Full Context

clear service id arp

Description

This command clears all ARP entries. This command is only valid for Ipipe and VPRN services.

Platforms

All

arp

Syntax

arp [{*ip-int-name* | *ip-address*[*/mask*] | **mac** *ieee-mac-address* | **summary**}] [*arp-type*]

Context

[Tree] (show>router arp)

Full Context

show router arp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the router ARP table sorted by IP address. If no command line options are specified, all ARP entries are displayed.

Parameters

ip-int-name

Only displays ARP entries associated with the specified IP interface name.

ip-address[/mask]

Only displays ARP entries associated with the specified IP address and mask.

ieee-mac-address

Only displays ARP entries associated with the specified MAC address.

summary

Displays an abbreviate list of ARP entries.

arp-type

Only displays ARP information associated with the keyword.

Values local, dynamic, static, managed

Platforms

All

Output

The following output is an example of router ARP table information, and Table 35: Output fields: ARP describes the output fields.

Output example

```
*B:7710-Red-RR# show router arp
===============================================================================
ARP Table (Router: Base)
===============================================================================
IP Address      MAC Address       Expiry    Type   Interface
-------------------------------------------------------------------------------
10.20.1.24      00:16:4d:23:91:b8 00h00m00s Oth    system
10.10.4.11      00:03:fa:00:d0:c9 00h57m03s Dyn[I] to-core-sr1
10.10.4.24      00:03:fa:41:8d:20 00h00m00s Oth[I] to-core-sr1
0.140.1.1       00:00:00:00:00:01 00h00m00s Oth[I] _tmnx_fpe_1.a
0.140.1.2       00:00:00:00:00:02 00h00m00s Oth[I] _tmnx_fpe_1.b
0.140.2.1       00:00:00:00:00:01 00h00m00s Oth[I] _tmnx_fpe_2.a
0.140.2.2       00:00:00:00:00:02 00h00m00s Oth[I] _tmnx_fpe_2.b
-------------------------------------------------------------------------------
No. of ARP Entries: 7

B:7710-Red-RR# show router 30000 arp summary
===========================================================
ARP Table Summary (Service: 30000)
===========================================================
Local ARP Entries    : 2
Static ARP Entries   : 0
Dynamic ARP Entries  : 0
Managed ARP Entries  : 0
Internal ARP Entries : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
BGP-EVPN ARP Entries : 0
BGP-EVPN Local ES AR*: 1
------------------------------------------------------------
No. of ARP Entries   : 3
============================================================
* indicates that the corresponding row element may have been truncated.

A:ALA-A# show router ARP 10.10.0.3
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Expiry      Type Interface
-------------------------------------------------------------------------------
10.10.0.3       04:5d:ff:00:00:00 00:00:00    Oth  system
===============================================================================
A:ALA-A#


A:ALA-A# show router ARP to-ser1
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Expiry      Type Interface
-------------------------------------------------------------------------------
10.10.13.1      04:5b:01:01:00:02 03:53:09    Dyn  to-ser1
===============================================================================
A:ALA-A#
```

Table 35: Output fields: ARP

Label	Description
IP Address	The IP address of the ARP entry
MAC Address	The MAC address of the ARP entry
Expiry	The age of the ARP entry
Type	Dyn — the ARP entry is a dynamic ARP entry Inv — the ARP entry is an inactive static ARP entry (invalid) Oth — the ARP entry is a local or system ARP entry Sta — the ARP entry is an active static ARP entry
*Man	The ARP entry is a managed ARP entry
Int	The ARP entry is an internal ARP entry
[I}	The ARP entry is in use
Interface	The IP interface name associated with the ARP entry
Local ARP Entries	The number of local ARP entries
Static ARP Entries	The number of static ARP entries
Dynamic ARP Entries	The number of dynamic ARP entries

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Managed ARP Entries	The number of managed ARP entries
Internal ARP Entries	The number of internal ARP entries
BGP-EVPN ARP Entries	The number of BGP-EVPN ARP entries
BGP-EVPN Local ES ARP	The number of BGP-EVPN local ES ARP entries
No. of ARP Entries	The number of ARP entries displayed in the list

4.60 arp-host

arp-host

Syntax

arp-host [**wholesaler** *service-id*] {[**sap** *sap-id* | **interface** *interface-name* | **ip-address** *ip-address*[/*mask*] | **mac** *ieee-address* | {[**port** *port-id*] [**no-inter-dest-id** | **inter-dest-id** *inter-dest-id*]}] [**detail**]

arp-host statistics [**sap** *sap-id* | **interface** *interface-name*]

arp-host summary {[**interface** *interface-name* **| saps]**

Context

[Tree] (show>service>id arp-host)

Full Context

show service id arp-host

Description

This command displays ARP host related information.

Parameters

service-id

The VPRN service ID of the wholesaler. When specified in this context, SAP, SDP, interface, IP address and MAC parameters are ignored.

Values 1 to 2148007980, *svc-name: 64 chars max*

sap-id

Specifies the physical port identifier portion of the SAP definition.

interface-name

Displays information for the specified IP interface. 32 characters maximum.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address[/mask]

Displays information associated with the specified IP address.

Values ip-address: a.b.c.d.

mask: 1 to 32

ieee-address

Specifies the MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

port-id

Specifies the port ID.

Values slot, mda, port

no-inter-dest-id

Displays the information about no intermediate destination ID.

inter-dest-id

Indicates the intermediate destination identifier received from either the DHCP or the RADIUS server or the local user database. 32 characters maximum

detail

Displays detailed information.

statistics

Displays ARP host statistics.

summary

Displays summary information.

saps

Displays SAP ARP host related information.

Platforms

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

Output

The following output is an example ARP host information for specified service IDs, and Table 36: Output fields: service ID ARP host describes the output fields.

Output example

```
*A:Dut-C# show service id 2 arp-host
===============================================================================
ARP host table, service 2
===============================================================================
IP Address      Mac Address       Sap Id              Remaining           MC
                                                      Time                Stdby
-------------------------------------------------------------------------------
128.128.1.2     00:80:00:00:00:01 2/1/5:2             00h04m41s
128.128.1.3     00:80:00:00:00:02 2/1/5:2             00h04m42s
128.128.1.4     00:80:00:00:00:03 2/1/5:2             00h04m43s
128.128.1.5     00:80:00:00:00:04 2/1/5:2             00h04m44s
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
128.128.1.6     00:80:00:00:00:05 2/1/5:2             00h04m45s
128.128.1.7     00:80:00:00:00:06 2/1/5:2             00h04m46s
128.128.1.8     00:80:00:00:00:07 2/1/5:2             00h04m47s
128.128.1.9     00:80:00:00:00:08 2/1/5:2             00h04m48s
128.128.1.10    00:80:00:00:00:09 2/1/5:2             00h04m49s
128.128.1.11    00:80:00:00:00:0a 2/1/5:2             00h04m50s
-------------------------------------------------------------------------------
Number of ARP hosts : 10
===============================================================================
*A:Dut-C#


*A:Dut-C# show service id 2 arp-host ip-address 128.128.1.2 detail
===============================================================================
ARP hosts for service 2
===============================================================================
Service ID           : 2
IP Address           : 128.128.1.2
MAC Address          : 00:80:00:00:00:01
SAP                  : 2/1/5:2
Remaining Time       : 00h04m58s

Sub-Ident            : "alu_1_2"
Sub-Profile-String   : ""
SLA-Profile-String   : ""
App-Profile-String   : ""
ARP host ANCP-String : ""
ARP host Int Dest Id : ""

RADIUS-User-Name     : "128.128.1.2"

Session Timeout (s)  : 301
Start Time           : 02/09/2009 16:35:07
Last Auth            : 02/09/2009 16:36:34
Last Refresh         : 02/09/2009 16:36:38
Persistence Key      : N/A

Subscriber Host Limit Overrides
 ipv4-arp            : 1
 ipv4-dhcp           : 1
 ipv4-ppp            : 1
 ipv4-overall        : 1
 ipv6-pd-ipoe-dhcp   : 1
 ipv6-pd-ppp-dhcp    : 1
 ipv6-pd-overall     : 1
 ipv6-wan-ipoe-dhcp  : 1
 ipv6-wan-ipoe-slaac : 1
 ipv6-wan-ppp-dhcp   : 1
 ipv6-wan-ppp-slaac  : 1
 ipv6-wan-overall    : 1
 ipv6-overall        : 1
 lac-overall         : 1
 overall             : 1
SLA Profile Instance Host Limit Overrides
 ipv4-arp            : 1
 ipv4-dhcp           : 1
 ipv4-ppp            : 1
 ipv4-overall        : 1
 ipv6-pd-ipoe-dhcp   : 1
 ipv6-pd-ppp-dhcp    : 1
 ipv6-pd-overall     : 1
 ipv6-wan-ipoe-dhcp  : 1
 ipv6-wan-ipoe-slaac : 1
 ipv6-wan-ppp-dhcp   : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 ipv6-wan-ppp-slaac  : 1
 ipv6-wan-overall    : 1
 ipv6-overall        : 1
 lac-overall         : 1
 overall             : 1
Subscriber Session Limit Overrides
 ipoe                : 1
 pppoe-local         : 1
 pppoe-lac           : 1
 pppoe-overall       : 1
 l2tp-lns            : 1
 l2tp-lts            : 1
 l2tp-overall        : 1
 overall             : 1
SLA Profile Instance Session Limit Overrides
 ipoe                : 1
 pppoe-local         : 1
 pppoe-lac           : 1
 pppoe-overall       : 1
 l2tp-lns            : 1
 l2tp-lts            : 1
 l2tp-overall        : 1
 overall             : 1
-------------------------------------------------------------------------------
Number of ARP hosts : 1
===============================================================================
*A:Dut-C#


*A:Dut-C# show service id 2 arp-host statistics
===============================================================================
ARP host statistics
===============================================================================
Num Active Hosts             : 20
Received Triggers            : 70
Ignored Triggers             : 10
Ignored Triggers (overload)  : 0
SHCV Checks Forced           : 0
Hosts Created                : 20
Hosts Updated                : 40
Hosts Deleted                : 0
Authentication Requests Sent : 40
===============================================================================
*A:Dut-C#


*A:Dut-C# show service id 2 arp-host summary
===============================================================
ARP host Summary, service 2
===============================================================
Sap                    Used        Provided    Admin State
---------------------------------------------------------------
sap:2/1/5:2            20          8000        inService
---------------------------------------------------------------
Number of SAPs : 1
---------------------------------------------------------------
===============================================================
*A:Dut-C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 36: Output fields: service ID ARP host

Field	Description
IP Address	The IP address
Mac Address	The MAC address of the this ARP host
Sap Id	The service SAP ID
Remaining Time	The remaining time
MC Stdby	The MC standby
Number of ARP hosts	The total number of ARP hosts
Service ID	The service identifier
Sub-Ident	The name of the subscriber identification policy
Sub-Profile-String	The name of the subscriber profile
SLA-Profile-String	The name of the SLA profile
App-Profile-String	The application profile string
ARP host ANCP-String	The name of the ARP host
ARP host Int Dest Id	The ARP host internal destination ID
RADIUS-User-Name	The RADIUS user name
Session Timeout (s)	The session timeout value
Start Time	The start time
Last Auth	The date and time of the last authentication
Last Refresh	The date and time of the last refresh
Persistence Key	The key value that can be used to track this ARP host in the persistence file.
Subscriber Host Limit Overrides and SLA Profile Instance Host Limit Overrides: (only shown when overrides are active)	
ipv4-arp	The total number of IPv4 ARP hosts limit
ipv4-dhcp	The total number of IPv4 DHCP hosts limit
ipv4-ppp	The total number of IPv4 PPP hosts limit
ipv4-overall	The total number of IPv4 hosts limit

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
ipv6-pd-ipoe-dhcp	The total number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-ppp-dhcp	The total number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-overall	The total number of IPv6 DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-wan-ipoe-dhcp	The total number of IPv6 IPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ipoe-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-ppp-dhcp	The total number of IPv6 PPPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ppp-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-overall	The total number of IPv6 WAN hosts limit
ipv6-overall	The total number of IPv6 hosts limit
lac-overall	The total number of L2TP LAC hosts limit
overall	The total number of subscriber hosts limit
Subscriber Session Limit Overrides and SLA Profile Instance Session Limit Overrides: (only shown when overrides are active)	
ipoe	The total number of IPoE sessions limit
ppoe-local	The total number of PPPoE local terminated sessions (PTA) limit
ppoe-lac	The total number of PPPoE L2TP LAC sessions limit
ppoe-overall	The total number of PPPoE sessions limit
l2tp-lns	The total number of L2TP LNS sessions limit
l2tp-lts	The total number of L2TP LTS sessions limit
l2tp-overall	The total number of L2TP sessions limit
overall	The total number of subscriber sessions limit
Number of hosts	The total number of hosts matching the search criteria
MC-Stdby	The number of SAPs defined on this service on a port which is in multi-chassis standby mode

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

arp-host

Syntax

arp-host {**all** | **mac** *ieee-address* | **sap** *sap-id* | **ip-address** *ip-address*[*/mask*]}

arp-host {**port** *port-id* | {**inter-dest-id** *intermediate-destination-id* | **no-inter-dest-id**} [**port** *port-id*]}

arp-host statistics [**sap** *sap-id* | **interface** *interface-name*]

Context

[Tree] (clear>service>id arp-host)

Full Context

clear service id arp-host

Description

This command clears ARP host data.

Parameters

all

Clears all ARP host statistics.

ieee-address

Clears the ARP host MAC address information. The 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

sap-id

Clears the specified SAP information.

ip-address[/mask]

Clears the specified IP address and mask.

Values a.b.c.d

mask: 1 to 32

port-id

Clear the specified port ID information.

Values

port-id	*slot*/*mda*/*port* [.*channel*]		
	aps-id	aps-*group-id*[.*channel*]	
		aps	keyword
		group-id	1 to 64

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ccag-id	ccag-id.path-id [cc-type]	
	ccag	keyword
	id	1 to 8
	path-id	a, b
	cc-type	.sap-net, net-sap
eth-tunnel-id	eth-tunnel-id	
	eth-tunnel	keyword
	id	1 to 1024
lag-id	lag-*id*	
	lag	keyword
	id	1 to 800

intermediate-destination-id

Displays information about the specified intermediate destination ID. 32 characters maximum.

no-inter-dest-id

Displays the information about no intermediate destination ID.

interface-name

Clears the interface name. 32 characters maximum.

Platforms

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

4.61 arp-table

arp-table

Syntax

arp-table [**ip** *ipv4-address*] [**class** *class*] [**next-index** *index*]

Context

[Tree] (tools>dump>wlan-gw>lanext>bd arp-table)

Full Context

tools dump wlan-gw lanext bd arp-table

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command dumps the specified ARP table entries for the specified HLE BD.

Parameters

ipv4-address

Specifies the IP address of the ARP entry to be displayed.

class

Specifies the source on which to filter the ARP table entries.

Values access, network, remote

index

Specifies the next set of results if there are more results than the current output. The additional results are shown at the bottom of the current output.

Values 0 to 4294967295

Platforms

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

Output

The following output is an example of ARP table information.

Output example

```
tools>dump>wlan-gw>lanext>bd# arp-table
===============================================================================
MATCHED 1 ARP ENTRY ON SLOT #2 MDA #1
===============================================================================
IP ADDRESS       MAC ADDRESS        CLASS    TIMESTAMP
-------------------------------------------------------------------------------
192.168.0.1      AA:BB:CC:00:00:01  ACCESS   05/30/2017 23:49:11
===============================================================================
```

4.62 aspath-regex

aspath-regex

Syntax

aspath-regex *reg-exp* {**detail** | **longer**}

aspath-regex *reg-exp*

aspath-regex *reg-exp* **hunt**

Context

[Tree] (show>router>bgp>routes aspath-regex)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bgp routes aspath-regex

Description

This command displays BGP routes with an AS path matching the specified regular expression.

aspath-regex is a parameter of the **show router bgp routes** command. Depending on the parameters that are used to issue the command, the output can display a narrower or wider set of routes, including routes belonging to other address families. See the **show router bgp routes** command description for syntax variants, parameter descriptions and values, and output examples.

Platforms

All

4.63 association

association

Syntax

association [*ma-index* | *ma-admin-name*] [**detail**]

Context

[Tree] (show>eth-cfm association)

Full Context

show eth-cfm association

Description

This command displays ETH-CFM association information.

Parameters

ma-index

Specifies the MA index.

Values 1 to 4294967295

ma-admin-name

Specifies the administrative name for the association, up to 64 characters.

detail

Keyword to display detailed information for the ETH-CFM association.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following outputs are examples of ETH-CFM information:

- Output example: ETH-CFM association information, Table 37: Output fields: ETH-CFM association
- Output example: ETH-CFM association detailed information, Table 38: Output fields: ETH-CFM detailed association information

Output example: ETH-CFM association information

```
A:node-2# show eth-cfm association
===============================================================================
CFM Association Table
===============================================================================
Md-index   Ma-index   Name                    Int  Hold  Bridge-id  MEPS TxSid
    md-admin-name
    ma-admin-name
    bridge-name
-------------------------------------------------------------------------------
10         100        vpls-100-0              1    n/a              1    no
    10
    100
    vpls-100

12         1000       vpls-100-1              1    n/a              4    yes
    12
    vpls-100-1
    vpls-100

===============================================================================

*A:node-2# show eth-cfm association 1 detail
-------------------------------------------------------------------------------
Domain 1 Associations:
-------------------------------------------------------------------------------
Md-index          : 1                       Ma-index          : 1
Name Format       : charString              CCM-interval      : 10
Name              : test-ma-1
Bridge-id         : 2                       MHF Creation      : defMHFnone
PrimaryVlan       : 0                       Num Vids          : 0
Remote Mep Id     : 1
Remote Mep Id     : 4
Remote Mep Id     : 5
-------------------------------------------------------------------------------
```

Table 37: Output fields: ETH-CFM association

Label	Description
Md-index	The MD index
Ma-index	The MA index
Name	The part of the maintenance association identifier which is unique within the maintenance domain name
Int	The CCM transmission interval for all MEPs in the association

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Hold	The CCM hold time, in milliseconds, that is added before the defect condition is raised. A value of "n/a" indicates that the MEP is not subsecond and does not support the CCM hold time
Bridge-id	The bridge-identifier value for the domain association
MEPS	The total local and remote maintenance association end point (MEP)
TxSid	Yes — the Sender ID TLV is included in the supported ETH-CFM PDUs No — the Sender ID TLV is not included in the supported ETH-CFM PDUs
md-admin-name	The administrative MD name
ma-admin-name	The administrative MA name
bridge-name	The administrative bridge-identifier name

Output example: ETH-CFM association detailed information

```
A:node-2# show eth-cfm association 1 detail
-------------------------------------------------------------------------------
Domain 1 Associations:
-------------------------------------------------------------------------------
Md-index          : 1                         Ma-index          : 1
Name Format       : charString                CCM-interval      : 10
Name              : test-ma-1
Bridge-id         : 2                         MHF Creation      : defMHFnone
PrimaryVlan       : 0                         Num Vids          : 0
Remote Mep Id     : 1
Remote Mep Id     : 4
Remote Mep Id     : 5
-------------------------------------------------------------------------------
```

Table 38: Output fields: ETH-CFM detailed association information

Label	Description
Md-index	The MD index
Ma-index	The MA index
Name Format	The name format
CCM-interval	The CCM interval
Name	The part of the maintenance association identifier which is unique within the maintenance domain name
Bridge-id	The bridge-identifier value for the domain association

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
MHF Creation	The MHF creation information
PrimaryVlan	The primary VLAN
Num Vids	The number of VIDs
Remote Mep ID	The remote MEP ID

association

Syntax

association

association *name* **[statistics]**

Context

[Tree] (show>subscr-mgmt>pfcp association)

Full Context

show subscriber-mgmt pfcp association

Description

This command displays PFCP association information. If no parameters are entered, it displays an overview of all PFCP associations present on the system.

Parameters

name

Specifies the name of the configured PFCP association, up to 32 characters, for which detailed overview information is displayed.

statistics

Specifies that the packet counters for each PFCP message and upstream IBCP message for the specified PFCP association *name* are displayed.

Platforms

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

Output

The following outputs are examples of PFCP association output information, and the associated tables describe the output fields:

- Output example: subscriber management PFCP association; Table 39: Output fields: PFCP association
- Output example: subscriber management PFCP association name; Table 40: Output fields: PFCP association name
- Output example: subscriber management PFCP association name statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: subscriber management PFCP association

```
#BNG-UPF# show subscriber-mgmt pfcp association
===============================================================================
PFCP Associations
===============================================================================
Name                            Description
-------------------------------------------------------------------------------
bng-cpf                         (Not Specified)
-------------------------------------------------------------------------------
No. of configured PFCP Associations: 1
===============================================================================
```

Table 39: Output fields: PFCP association

Label	Description
Name	Displays the name of each PFCP association configured in the system
Description	Displays the description of each PFCP association, if configured

Output example: subscriber management PFCP association name

```
===============================================================================
A:BNG-UPF# show subscriber-mgmt pfcp association "bng-cpf"
===============================================================================
PFCP Association bng-cpf
===============================================================================
Admin Status                : up
Oper Status                 : up
Router                      : to_cpf
Interface                   : endpoint
Peer Node Id                : 17.17.17.10
Peer Address                : 17.17.17.10
Local Node Id               : 192.0.2.11
Local Address               : 192.0.2.11
UP Features                 : FTUP TREU PDIU FRRT ADPDP MNOP IP6PL
UP BBF Features             : PPPOE IPOE LCPKO
UP NOKIA Features           : BULKAUDIT
CP Features                 :
Setup Retry                 : 1 second
Release Timeout             : 1 hour
Path Restoration Time       : (Not Specified)
Heartbeat Interval          : 1 minute
Heartbeat Timeout           : 5 seconds
Heartbeat Retries           : 4
Tx Timeout                  : 5 seconds
Tx Retries                  : 3
Tx TTL                      : 255
NAT group                   : (Not Specified)
Created                     : 01/08/2021 16:26:07
Last Updated                : 01/08/2021 16:26:07
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 40: Output fields: PFCP association name

Label	Description
Admin Status	Administrative status of this PFCP association down — association is administratively disabledup — association is administratively enabled
Oper Status	Operational status of this PFCP association down — association is operationally disabledup — association is operationally enabled
Router	Router name for this association
Interface	Interface for this association
Peer Node Id	CPF peer node ID
Peer address	CPF peer node IP address
Local Node Id	Local UPF node ID
Local address	Local UPF node IP address
UP Features	UPF features
UP BBF Features	UPF BBF features
UP NOKIA Features	UPF Nokia features
CP Features	CPF features
Setup Retry	Configured time to wait before an association setup retry attempt after failure
Release Timeout	Configured time to wait for a response to a release request
Path Restoration Time	Configured time to wait before the path is declared down
Heartbeat Interval	Configured interval time between two heartbeat request messages
Heartbeat Timeout	Configured time the system waits for a heartbeat response message
Heartbeat Retries	Configured number of retries after the heartbeat timeout expires
Tx Timeout	Configured transmit timeout
Tx Retries	Configured transmit retries
Tx TTL	Configured transmit TTL

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
NAT group	Configured NAT group
Created	PFCP association create time
Last Updated	PFCP association update time

Output example: subscriber management PFCP association name statistics

```
===============================================================================
A:BNG-UPF# show subscriber-mgmt pfcp association "bng-cpf" statistics
===============================================================================
PFCP Statistics for Association 'bng-cpf'
===============================================================================

PFCP Session Related Messages

Session Establish Req      : 1          Session Establish Resp     : 1
Session Establish Resp fail: 0
Session Modify Req         : 0          Session Modify Resp        : 0
Session Modify Resp fail   : 0
Session Deletion Req       : 1          Session Deletion Resp      : 0
Session Deletion Resp fail : 1
Session Report Req         : 0          Session Report Resp        : 0
Session Report Resp fail   : 0
Session Report DDR Req     : 0          Session Report DDR Rsp     : 0
Session Report DDR Rsp fail: 0
Session Report UR Req      : 0          Session Report UR Rsp      : 0
Session Report UR Rsp fail : 0
Session Report EIR Req     : 0          Session Report EIR Rsp     : 0
Session Report EIR Rsp fail: 0
Session Report UPIR Req    : 0          Session Report UPIR Rsp    : 0
Session Report UPIR Rs fail: 0

PFCP Session Audit Related Messages

Session Modify Req         : 0          Session Modify Resp        : 0
Session Modify Resp fail   : 0
Session Report Req         : 0          Session Report Rsp         : 0
Session Report Rsp fail    : 0

PFCP Node Related Messages

Node Report Req            : 0          Node Report Resp           : 0
Node Report Resp fail      : 0
Assoc Setup Req Rx         : 0          Assoc Setup Resp Rx        : 1
Assoc Setup Resp fail Rx   : 0
Assoc Setup Req Tx         : 1          Assoc Setup Resp Tx        : 0
Assoc Setup Resp fail Tx   : 0
Assoc Upd Req Rx           : 0          Assoc Upd Resp Rx          : 0
Assoc Upd Resp fail Rx     : 0
Assoc Upd Req Tx           : 0          Assoc Upd Resp Tx          : 0
Assoc Upd Resp fail Tx     : 0
Assoc Upd Req with ARR     : 0          Assoc Upd Req with GRP     : 0
Assoc Upd Req ARR & GRP    : 0
Assoc Release Req          : 0          Assoc Release Resp         : 0
Assoc Release Resp fail    : 0
Heartbeat Req Rx           : 2          Heartbeat Resp Rx          : 0
Heartbeat Req Tx           : 0          Heartbeat Resp Tx          : 2
Heartbeat Aud Trig Req Tx  : 0          Heartbeat Aud Trig Rsp Rx  : 0
Heartbeat Aud Start Req Rx : 0          Heartbeat Aud Start Rsp Tx : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Heartbeat Aud End Req Rx   : 0          Heartbeat Aud End Rsp Tx   : 0

IBCP upstream packet statistics

Ipoe Rx Pkts               : 0
Pppoe Ctrl Rx Pkts         : 0
Pppoe Data Rx Pkts         : 0
Tx Pkts to Smf             : 0

IBCP upstream packet discard statistics

Missing pkt detection rule : 0
Default tnl trigger missing: 0
Default tunnel missing     : 0
Parsing error              : 0
Tx error                   : 0

IBCP default tunnel
overwrite                  : 0

Last cleared time          : 01/08/2021 16:26:07
===============================================================================
```

4.64 associations

associations

Syntax

associations

Context

[Tree] (show>router>dhcp6>local-dhcp-server associations)

[Tree] (show>router>dhcp>local-dhcp-server associations)

Full Context

show router dhcp6 local-dhcp-server associations

show router dhcp local-dhcp-server associations

Description

This command displays the interfaces associated with this DHCP or DHCP6 server.

Platforms

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

Output

The following output is an example of information associated with the DHCP or DHCP6 server, and Table 41: Output fields: DHCP summary describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
*A:SUB-Dut-A# show router dhcp local-dhcp-server dhcpS1 associations
===============================================================================
DHCP server s1  router 3
===============================================================================
Associations                    Admin
-------------------------------------------------------------------------------
tosim5                          Up
===============================================================================
*A:SUB-Dut-A#
```

```
*A:SUB-Dut-A# show router dhcp6 local-dhcp-server abc associations
===============================================================================
DHCP server abc  router 3
===============================================================================
Associations                    Admin
-------------------------------------------------------------------------------
tosimxyz                          Up
===============================================================================
*A:SUB-Dut-A#
```

Table 41: Output fields: DHCP summary

Label	Description
Associations	The entity associated with the local DHCP server
Admin	The administrative state

associations

Syntax

associations

associations per-link-hash interface

associations per-link-hash class {**1** | **2** | **3**} **interface**

associations link-map-profile [*link-map-profile*] **interface**

associations per-link-hash [**class** {**1** | **2**| **3**}] **sap**

associations link-map-profile [*link-map-profile*] **sap**

Context

[Tree] (show>lag associations)

Full Context

show lag associations

Description

This command displays LAG association information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

link-map-profile

Displays information about a specified LAG link map profile.

Values 1 to 32 (VSR)
1 to 64 (all other platforms)

Platforms

All

4.65 auth-keychain

auth-keychain

Syntax

auth-keychain [*keychain*]

Context

[Tree] (show>router>bgp auth-keychain)

Full Context

show router bgp auth-keychain

Description

This command displays BGP sessions using a particular authentication keychain.

Parameters

keychain

Specifies an existing keychain name.

Platforms

All

Output

The following output is an example of authentication keychain information.

Output example

```
*A:ALA-48# show router 2 bgp auth-keychain
===============================================================================
Sessions using key chains
===============================================================================
Peer address             Group              Keychain name
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.3               1                   eta_keychain1
30.1.0.2                1                   eta_keychain1
===============================================================================
*A:ALA-48#
*A:ALA-48>config>router>bgp# show router bgp group "To_AS_10000"
===============================================================================
BGP Group : To_AS_10000
-------------------------------------------------------------------------------
Group            : To_AS_10000
-------------------------------------------------------------------------------
Group Type       : No Type              State            : Up
Peer AS          : 10000                Local AS         : 200
Local Address    : n/a                  Loop Detect      : Ignore
Import Policy    : None Specified - Default Accept
Export Policy    : ospf3
Hold Time        : 90                   Keep Alive       : 30
Cluster Id       : 0.0.0.100            Client Reflect   : Enabled
NLRI             : Unicast              Preference       : 170
TTL Security     : Disabled             Min TTL Value    : n/a
Graceful Restart : Enabled              Stale Routes Time: 360
Auth key chain   : testname

List of Peers
- 10.0.0.8 :
    To_Router B - EBGP Peer
Total Peers      : 1                    Established      : 0
-------------------------------------------------------------------------------
Peer Groups : 1
===============================================================================
*A:ALA-48>config>router>bgp#


*A:ALA-48>config>router>bgp# show router bgp neighbor 10.0.0.8
===============================================================================
BGP Neighbor
-------------------------------------------------------------------------------
Peer  : 10.0.0.8
Group : To_AS_10000
-------------------------------------------------------------------------------
Peer AS              : 10000            Peer Port            : 0
Peer Address         : 10.0.0.8
Local AS             : 200              Local Port           : 0
Local Address        : 0.0.0.0
Peer Type            : External
State                : Active           Last State           : Idle
Last Event           : stop
Last Error           : Cease
Local Family         : IPv4
Remote Family        : Unused
Hold Time            : 90               Keep Alive           : 30
Active Hold Time     : 0                Active Keep Alive    : 0
Cluster Id           : 0.0.0.100
Preference           : 99               Num of Flaps         : 0
Recd. Paths          : 0
IPv4 Recd. Prefixes  : 0                IPv4 Active Prefixes : 0
IPv4 Suppressed Pfxs : 0                VPN-IPv4 Suppr. Pfxs : 0
VPN-IPv4 Recd. Pfxs  : 0                VPN-IPv4 Active Pfxs : 0
Mc IPv4 Recd. Pfxs.  : 0                Mc IPv4 Active Pfxs. : 0
Mc IPv4 Suppr. Pfxs  : 0                IPv6 Suppressed Pfxs : 0
IPv6 Recd. Prefixes  : 0                IPv6 Active Prefixes : 0
Input Queue          : 0                Output Queue         : 0
i/p Messages         : 0                o/p Messages         : 0
i/p Octets           : 0                o/p Octets           : 0
i/p Updates          : 0                o/p Updates          : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
TTL Security          : Disabled         Min TTL Value        : n/a
Graceful Restart      : Enabled          Stale Routes Time    : 360
Advertise Inactive    : Disabled         Peer Tracking        : Disabled
Advertise Label       : None
Auth key chain        : testname
Local Capability      : RouteRefresh MP-BGP
Remote Capability     :
Import Policy         : None Specified - Default Accept
Export Policy         : ospf3
-------------------------------------------------------------------------------
Neighbors : 1
===============================================================================
*A:ALA-48>config>router>bgp#


*A:ALA-48>config>router>bgp# show router bgp auth-keychain testname
===============================================================================
Sessions using key chain: keychain
===============================================================================
Peer address             Group               Keychain name
-------------------------------------------------------------------------------
10.0.0.8                 To_AS_10000         testname
===============================================================================
*A:ALA-48>config>router>bgp#
```

4.66 authentication

authentication

Syntax

authentication user-name *user-name* **password** *password* [**circuit-id** *circuit-id*] [**circuit-id-hex** *circuit-id-hex*] [**derived-id** *derived-id*] [**mac** *ieee-address*] [**remote-id** *remote-id*] [**remote-id-hex** *remote-id-hex*] [**sap-id** *sap-id*] [**service-name** *service-name*]

Context

[Tree] (tools>perform>subscr-mgmt>loc-user-db>ppp authentication)

Full Context

tools perform subscriber-mgmt local-user-db ppp authentication

Description

This command authenticates the PPPoE user name.

Parameters

user-name

Specifies the PPP user name up to 253 characters.

password

Specifies the password of this host up to 64 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

circuit-id

Specifies the circuit ID up to 127 characters.

circuit-id-hex

Specifies the circuit ID in hexadecimal format.

Values 0x0 to 0xFFFFFFFF (maximum 254 hex nibbles)

derived-id

Specifies an ASCII string that uniquely identifies a host, and is derived by a Python script from packet content available during a DHCP transaction up to 255 characters.

ieee-address

Specifies information about the MAC address of the PPP session.

remote-id

Specifies that information that goes into the remote-id sub-option in the DHCP relay packet, up to 255 characters.

remote-id-hex

Specifies the remote ID in hexadecimal format.

Values 0x0 to 0xFFFFFFFF (maximum 510hex nibbles)

sap-id

Specifies a SAP ID, up to 255 characters.

service-name

Specifies the service name.

Platforms

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

authentication

Syntax

authentication *policy-name* **association**

authentication [*policy-name*]

authentication [*policy-name*] **statistics**

authentication coa-statistics

Context

[Tree] (show>subscr-mgmt authentication)

Full Context

show subscriber-mgmt authentication

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays subscriber management RADIUS authentication policy information and statistics.

Parameters

policy-name

Specifies the subscriber management RADIUS authentication policy name, up to 32 characters, for which information is requested.

association

Displays SAP, interface, local user database host, AA and L2TP associations of this policy.

coa-statistics

Displays the overall statistics for incoming RADIUS Change of Authorization (CoA) messages and Disconnect Messages. For dropped requests, a counter for different drop reasons is available.

statistics

Displays a list of policies with basic statistics (without specifying a policy name) or detailed statistics, including per-server statistics for the specified policy-name. These statistics apply only to the legacy RADIUS server configuration method where the servers are directly configured in the authentication policy.

Platforms

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

Output

The following outputs are examples of subscriber management authentication information, and Table 42: Output fields: subscriber authentication describes the output fields:

- Output example: authentication policy information
- Output example: Change of Authorization (CoA) statistics information

Output example: authentication policy information

```
# show subscriber-mgmt authentication
===============================================================================
Authentication Policies
===============================================================================
Name                            Description
-------------------------------------------------------------------------------
auth-policy-1                   Radius auth policy - servers
auth-policy-2                   Radius auth policy - radius-server-policy
-------------------------------------------------------------------------------
Number of Authentication Policies : 2
===============================================================================


# show subscriber-mgmt authentication "auth-policy-2"
===============================================================================
Authentication Policy auth-policy-2
===============================================================================
Description          : Radius auth policy - radius-server-policy
Re-authentication    : Yes                 Username Format      : MAC Address
PPPoE Access Method  : PAP/CHAP            Username Mac-Format  : "aa:"
PPP-Username Oper    : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PPP-Domain-Name      : N/A
Username Oper        : None
Domain-Name          : N/A
Acct-Stop-On-Fail    :
RADIUS Server Policy : "aaa-server-policy-1"
Fallback Action      : deny
Last Mgmt Change     : 06/24/2013 21:16:50
-------------------------------------------------------------------------------
Include Radius Attributes
-------------------------------------------------------------------------------
Remote Id            : Yes                Circuit Id           : Yes
NAS Port Id          : Yes                NAS Identifier       : Yes
PPPoE Service Name   : Yes                DHCP Vendor Class Id : Yes
Access Loop Options  : Yes                MAC Address          : Yes
NAS Port Prefix      : None               NAS Port Suffix      : None
NAS-Port-Type        : Yes (standard)     Acct Session Id      : Host
Calling Station Id   : Yes (sap-string)   Called Station Id    : Yes
Tunnel Server Attr   : Yes                DHCP Options         : Yes
NAS Port             : Yes
NAS Port Bits Spec   : *3s*1m*4p*12o*12i
-------------------------------------------------------------------------------
Radius Servers
-------------------------------------------------------------------------------
Router               : management + Base  Source Address       : N/A
Access Algorithm     : Direct             Retry                : 3
Timeout (s)          : 5                  Hold down time (s)   : 30
-------------------------------------------------------------------------------
Index IP Address      Port  Pend-Req-Limit Out/Overload time (s) Oper State
-------------------------------------------------------------------------------
No Radius Servers configured.
-------------------------------------------------------------------------------
Accept Radius Attributes
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
Radius Script Policies
-------------------------------------------------------------------------------
Access-Request          : "N/A"
Access-Accept           : "N/A"
Change-of-Authorization : "N/A"
===============================================================================


# show subscriber-mgmt authentication "auth-policy-2" association
===============================================================================
Authentication Policy auth-policy-2
===============================================================================
-------------------------------------------------------------------------------
SAP Associations
-------------------------------------------------------------------------------
No associations found.
-------------------------------------------------------------------------------
Interface Associations
-------------------------------------------------------------------------------
Service-Id : 3000 (VPRN)
 - If Name : group-int-ws-1-1
-------------------------------------------------------------------------------
Local-User-Db PPPoE Host Associations
-------------------------------------------------------------------------------
Local-User-Db : ludb-1
 - Host : host-1
-------------------------------------------------------------------------------
Local-User-Db DHCP Host Associations
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Local-User-Db : ludb-1
 - Host : default
-------------------------------------------------------------------------------
Application Assurance Associations
-------------------------------------------------------------------------------
No associations found.
===============================================================================
No associated L2TP groups found.
No associated L2TP tunnels found.


# show subscriber-mgmt authentication statistics
===============================================================================
Authentication Policy Statistics
===============================================================================
Policy Name                     Subscr. Pkts   Subscr. Pkts   Subscr. Pkts
                                Authenticated  Rejected       Rejected
                                               Send Failed
-------------------------------------------------------------------------------
auth-policy-1                   0              0              0
auth-policy-2                   0              0              0
-------------------------------------------------------------------------------
Number of Authentication Policies : 2
===============================================================================


# show subscriber-mgmt authentication "auth-policy-1" statistics
===============================================================================
Authentication Policy Statistics
===============================================================================
-------------------------------------------------------------------------------
Policy name                           : auth-policy-1
subscriber packets authenticated      : 0
subscriber packets rejected           : 0
subscriber packets rejected send failed   : 0
-------------------------------------------------------------------------------
radius server     requests  requests  requests  requests   requests requests
idx IP-address    accepted  rejected  no reply  md5 failed pending  send failed
-------------------------------------------------------------------------------
1 172.16.1.1      0         0         0         0          0        0
-------------------------------------------------------------------------------
===============================================================================
```

Output example: Change of Authorization (CoA) statistics information

```
# show subscriber-mgmt authentication coa-statistics
===============================================================================
Radius Notify Statistics    Change-Of-Authorization   Disconnect-Messages
===============================================================================
Requests Received             7                        10
Requests Accepted             5                        6
Requests Rejected             2                        4
Requests Dropped              0                        0
    No Auth Policy found      0                        0
    Invalid message           0                        0
    Out of resources          0                        0
    Authentication failure    0                        0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 42: Output fields: subscriber authentication

Label	Description
Re-authentication	Whether re-authentication on IPOE renewal is enabled
Username Format	The user name format in RADIUS message
PPPoE Access Method	The PPPoE access method, none, padi, pap-chap
Username Mac-Format	The username is represented when contacting a RADIUS server.
PPP-Username Oper	The PPP user name operation
PPP-Domain-Name	The PPP domain name
Username Oper	The username
Acct-Stop-On-Fail	The failure condition a RADIUS accounting-stop message indicating the failure has to be sent
RADIUS Server Policy	The RADIUS server policy name
Fallback Action	The authentication action in case no RADIUS server is available
Lack Mgmt Change	The time of the most recent management-initiated change to this policy server
Remote Id	The value of the remote ID sub-option
NAS Port Id	NAS port ID generation enabled or disabled
PPPoE Service Name	The PPPoE service name
Access Loop Options	The generation of the DSL forum access loop characteristics RADIUS attributes enabled or disabled
NAS Port Prefix	The type of prefix added to the NAS-Port attribute if included in RADIUS authentication request messages
NAS-Port-Type	The kind of value to be put in the RADIUS NAS-Port-Type attribute if included in RADIUS authentication request messages
Calling Station Id	The string will be put in the RADIUS Calling-Station-Id attribute if included in RADIUS authentication request messages
Tunnel Server Attr	The tunnel-server-attrs RADIUS attribute enabled or disabled
NAS Port	The NAS-Port attribute included or excluded
NAS Port Bits Spec	The number that will be put in the RADIUS NAS-Port attribute if included in RADIUS authentication request messages

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Circuit Id	Circuit ID generation enabled or disabled
NAS Identifier	NAS-Identifier RADIUS attribute enabled or disabled
DHCP Vendor Class Id	dhcp-vendor-class-id RADIUS attribute enabled or disabled
MAC Address	The generation of the client MAC address RADIUS attribute enabled or disabled
NAS Port Suffix	The type of suffix is added to the NAS-Port-Id attribute if included in RADIUS accounting-request messages
Acct Session Id	The RADIUS accounting session id for this subscriber host
DHCP Options	DHCP options enabled or disabled
Router	The RADIUS router name
Access Algorithm	The algorithm used to access the set of RADIUS servers
Timeout (s)	The timeout for a response from the RADIUS server
Source Address	The source address of the RADIUS message
Retry	The number of retries for contacting the RADIUS server
Hold down time (s)	The hold down time
Index IP Address	The IP address of the index
Port	The port ID
Pend-Req-Limit	The limit of the number of pending RADIUS authentication requests for this RADIUS server
Out/Overload time (s)	The accumulated time that the value of the object RADIUS server has been equal to 'overloaded' since created
Oper State	The operational state
Access-Request	The number of Access-Request packets received by this RADIUS proxy server
Access-Accept	The number of Access-Accept packets received by this RADIUS proxy server
Change-of-Authorization	Change of authorization enabled or disabled
Policy Name	The authentication policy name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Subscr. Pkts Authenticated	The number of subscriber packets authenticated
Subscr. Pkts Rejected	The number of subscriber packets rejected
Subscr. Pkts Rejected Send Failed	The number of subscriber messages (such as DHCP and PPPoE) failed to be sent
subscriber packets authenticated	The number of subscriber packets authenticated
subscriber packets rejected	The number of subscriber packets rejected
subscriber packets send failed	The number of subscriber packets failed to be sent
Requests Received	The number of notify Change-of-Authorization requests received
Requests Accepted	The number of notify Change-of-Authorization requests accepted
Requests Rejected	The number of notify Change-of-Authorization requests rejected
Requests Dropped	The number of notify Change-of-Authorization requests dropped
No Auth Policy found	The number of notify Change-of-Authorization requests found
Invalid message	The number of notify Change-of-Authorization requests rejected because of decode errors
Out of resources	The number of notify Change-of-Authorization requests rejected due to lack of resources
Authentication Failure	The number of notify Change-of-Authorization requests which do not have NAS-Port-ID or Framed-IP-Address set or have mismatched subscriber-id

authentication

Syntax

authentication [*policy-name*]

authentication coa-statistics

Context

[Tree] (clear>subscr-mgmt authentication)

Full Context

clear subscriber-mgmt authentication

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears subscriber authentication data.

Parameters

policy-name

Clears the specifies existing authentication policy name.

coa-statistics

Clears statistics for incoming RADIUS Change of Authorization requests.

Platforms

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

authentication

Syntax

authentication

Context

[Tree] (show>service>id authentication)

Full Context

show service id authentication

Description

Commands in this context show session authentication information.

Platforms

All

authentication

Syntax

authentication

Context

[Tree] (clear>service>id authentication)

Full Context

clear service id authentication

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context clear session authentication information.

Platforms

All

authentication

Syntax

authentication

Context

[Tree] (show>router authentication)

Full Context

show router authentication

Description

This command enables the command to display authentication statistics.

Platforms

All

authentication

Syntax

authentication

Context

[Tree] (clear>router authentication)

Full Context

clear router authentication

Description

This command clears authentication related data.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

authentication

Syntax

authentication [**statistics**] [**detail**]

authentication [**service-name** *service-name*] [**statistics**]

authentication [**router-instance** *router-or-service*] [**statistics**]

Context

[Tree] (show>system>security authentication)

Full Context

show system security authentication

Description

This command displays system login authentication configuration and statistics.

Parameters

statistics

Keyword to append login and accounting statistics to the display.

detail

Keyword to display authentication for all router instances.

service-name

Specifies the service name, up to 64 characters.

router-or-service

Specifies the router instance, expressed as the router name or the service ID.

Values *router-name* — "Base", "management", "vpls-management"
vprn-svc-id — 1 to 2147483647

Default Base

Platforms

All

Output

The following output is an example of authentication information, and Table 43: Output fields: system security authentication describes the output fields.

Output example

```
A:node-2# show system security authentication statistics

===============================================================================
Authentication           sequence : radius tacplus ldap local
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
type                            status      timeout (secs)     retry count
   server address                                              retry timeout
   server name                                                        (secs)
-------------------------------------------------------------------------------
radius                               up                  3               3
   192.168.0.10:1812                                                    n/a
tacplus                              up                  3               n/a
   192.168.1.10:49                                                      300
ldap                                 up                  3               3
   10.1.1.1:389                                                         n/a
   Corporate LDAP Server
-------------------------------------------------------------------------------
radius admin/oper status  : up/up
                 UDP port : 1812
                 TCP port : 2083
tacplus admin/oper status : up/up
ldap admin/oper status    : up/up
health check              : enabled (interval 30 secs)
single connection         : enabled
-------------------------------------------------------------------------------
No. of Servers: 3
===============================================================================
Login Statistics
===============================================================================
server address                                      conn   accepted  rejected
                                                    errors logins    logins
-------------------------------------------------------------------------------
192.168.0.10                                        0      0         0
192.168.1.10                                        0      0         0
10.1.1.1                                            0      0         0
local                                               n/a    0         0
===============================================================================
Authorization Statistics (TACACS+)
===============================================================================
server address                                      conn   sent      rejected
                                                    errors pkts      pkts
-------------------------------------------------------------------------------
192.168.1.10                                        0      0         0
===============================================================================
Accounting Statistics
===============================================================================
server address                                      conn   sent      rejected
                                                    errors pkts      pkts
-------------------------------------------------------------------------------
192.168.0.10                                        0      0         0
192.168.1.10                                        0      0         0
===============================================================================
VSA Statistics (RADIUS)
===============================================================================
server address                          valid    invalid  unknown  malformed
-------------------------------------------------------------------------------
192.168.0.10                            0        0        0        0

===============================================================================
VSA Statistics (TACACS+)
===============================================================================
server address                          valid    invalid  unknown  malformed
-------------------------------------------------------------------------------
192.168.1.10                            0        0        0        0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 43: Output fields: system security authentication

Label	Description
sequence	Sequence in which authentication and authorization is attempted
type	Type of server
status	Status of the server
timeout (secs)	Number of seconds the system waits for a response from a server
retry count	Number of retry attempts to contact the LDAP or RADIUS server
retry timeout (secs)	Number of seconds the system waits before retrying the TACACS+ server
server address	IP address of the server
server name	Optional description of the LDAP server
admin/oper status	Administrative and operational status for each type, and RADIUS server ports in use
health check	Whether the servers are periodically monitored
single connection	Whether TACACS+ single-connection mode is enabled
No. of Servers	Total number of configured servers
conn errors	Number of connection errors
accepted logins	Number of logins accepted by the server
rejected logins	Number of logins rejected by the server
sent pkts	Number of packets sent
rejected pkts	Number of packets rejected
valid	Number of valid VSAs received
invalid	Number of invalid VSAs received
unknown	Number of unknown VSAs received
malformed	Number of malformed VSAs received

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.67 authentication-origin

authentication-origin

Syntax

authentication-origin [**priority** [*priority*]]

Context

[Tree] (show>subscr-mgmt authentication-origin)

Full Context

show subscriber-mgmt authentication-origin

Description

This command displays subscriber authentication origin information.

Parameters

priority

Displays information about the specified authentication origin priority override.

Values 1 to 7

Platforms

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

Output

The following output is an example of authentication origin information, and Table 44: Output fields: authentication origin describes the output fields.

Output example

```
*A:cses-V26>config>subscr-mgmt>auth-orig# show subscriber-mgmt authentication-origin
===============================================================================
Authentication Origins
===============================================================================
Priority                        Source
-------------------------------------------------------------------------------
1                               python
2                               diameterGx
3                               ludb
4                               radius
5                               diameterNasreq
6                               localAddressAssignment
7                               gtp
8                               dhcp
-------------------------------------------------------------------------------
Number of Authentication Origins : 8
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:cses-V26>config>subscr-mgmt>auth-orig#
```

Table 44: Output fields: authentication origin

Field	Description
Priority	The relative order of authentication priorities
Source	The source of authentication priority
Number of Authentication Origins	The number of authentication origins

4.68 authentication-server-check

authentication-server-check

Syntax

authentication-server-check server-address *ip-address* [**port** *port*] {{**user-name** *user-name* **password** *password*} | **attr-from-file** *file-url*} **secret** *key* [**source-address** *ip-address*] [**timeout** *seconds*] [**router** *router-instance* | **service-name** *service-name*] **nas-identifier** *nas-id* [**debug**]

Context

[Tree] (tools>perform>security authentication-server-check)

Full Context

tools perform security authentication-server-check

Description

This command is used to perform an authentication check on the RADIUS server.

Parameters

server-address ip-address

Specifies the IP address of the RADIUS server.

port

Specifies the port of the RADIUS server.

Values 1 to 65535

user-name

Specifies the user name, up to 253 characters.

password

Specifies the user password, up to 64 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

file-url

Specifies to attach additional VSAs from a file.

Values

local-url: [*cflash-id*] [*file-path*]

200 characters maximum, including cflash-id directory length, up to 99 characters each

remote-url: [{ftp://| tftp://}<login>:<pswd>@<remote-locn>/][<file-path>]

255 characters maximum, directory length, up to 99 characters each

remote-locn: [<hostname> | <ipv4-address> | <ipv6-address>]

ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x[-interface]

x:x:x:x:x:x:d.d.d.d[-interface]

x - [0..FFFF]H

d - [0..255]D

interface - up to 32 characters for link local addresses

cflash-id: cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

key

Specifies the secret key shared between the RADIUS client and server, up to 64characters.

source address *ip-address*

Specifies the source address used for the access-request message.

Values

ipv4-address a.b.c.d

ipv6-address x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

seconds

Specifies the time to wait for the RADIUS server response.

Values 1 to 90

router-instance

Specifies the router instance that should be used by the access request message.

Values *router-name* | *vprn-svc-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

router-name	Base, management Default - Base
vprn-svc-id	1 to 2147483647

service-name

Specifies the service name that should be used by the access request message, up to 64 characters.

nas-id

Specifies the NAS identifier, up to 64 characters.

debug

Specifies to display the full debug message, including all VSAs and full hex sting, of the RADIUS reply message.

Platforms

All

4.69 auto-boot

auto-boot

Syntax

auto-boot {**retry** | **terminate**}

auto-boot echo [**debugger**]

no auto-boot echo [**debugger**]

Context

[Tree] (tools>perform auto-boot)

Full Context

tools perform auto-boot

Description

This command starts and stops the auto-boot process. It is also used to enable the display of auto-discovery information in the CLI.

This command can be used only if the **auto-boot** flag is enabled in the BOF.

The **no** form of this command disables the display of auto-discovery information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

retry

Executes the auto-boot process.

terminate

Stops an ongoing auto-boot process.

echo

Enables the display of auto-discovery information in the CLI.

debugger

Includes debugging information in the displayed auto-discovery information.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

auto-boot

Syntax

auto-boot [**detail**]

auto-boot log

Context

[Tree] (tools>dump auto-boot)

Full Context

tools dump auto-boot

Description

This command displays auto-boot process information.

Parameters

detail

Displays detailed information.

log

Saves auto-boot process information to a log file.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

4.70 auto-disc

auto-disc

Syntax

auto-disc [**hunt** | **detail**] [**rd** *rd*] [**community** *comm-id*] [**tag** *tag*] [**next-hop** *next-hop*] [**esi** *esi*] [**aspath-regex** *reg-exp*]

Context

[Tree] (show>router>bgp>routes>evpn auto-disc)

Full Context

show router bgp routes evpn auto-disc

Description

This command displays BGP-EVPN auto discovery routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{ *ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535

  – *comm-val1* — 0 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- **type** — target, origin
- *ip-address* — a.b.c.d
- *comm-val2* — 0 to 4294967295
- *as-number2* — 0 to 4294967295

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

tag

Specifies the auto discovery route tag.

Values 0 to 4294967295 | MAX-ET

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

esi

Specifies a 10-byte ESI by which to filter the displayed information. For example,ESI-0 | ESI-MAX or 00-11-22-33-44-55-66-77-88-99 with any of these separators('-',':',' ')

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

Platforms

All

Output

The following output is an example of BGP-EVPN auto discovery route information, and Table 45: Output fields: BGP route auto discovery describes the output fields.

Output example

```
show router bgp routes evpn auto-disc rd 192.0.2.4:500 hunt
```

```
===============================================================================
 BGP Router ID:192.0.2.2        AS:64500       Local AS:64500
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
BGP EVPN Auto-Disc Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : n/a
Nexthop        : 2001:db8::4
Path Id        : None
From           : 2001:db8::4
Res. Nexthop   : fe80::4446:ffff:fe00:142
Local Pref.    : 100                    Interface Name : int-PE-2-PE-4
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None                   IGP Cost       : 10
Connector      : None
Community      : target:64500:500 l2-attribute:MTU: 1514 V: Double-VID M:
                 Default F: 1 C: 1 P: 0 B: 0 bgp-tunnel-encap:MPLS
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 192.0.2.4
Origin         : IGP
Flags          : Used Valid Best
Route Source   : Internal
AS-Path        : No As-Path
EVPN type      : AUTO-DISC
ESI            : ESI-0
Tag            : 4
Route Dist.    : 192.0.2.4:500
MPLS Label     : LABEL 524273
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                    Final Orig Val : N/A
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
Last Modified  : 02h16m32s

-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Table 45: Output fields: BGP route auto discovery

Label	Description
BGP Router ID	Displays the BGP router ID
AS	Displays the AS
Local AS	Displays the local AS
BGP EVPN Auto-Disc Routes	
RIB In Entries	
Network	Displays the network name
Nexthop	Displays the next-hop IP address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Path Id	Displays the path ID value
From	Displays the from IP address
Res. Nexthop	Displays the reserved next-hop address
Local Pref.	Displays the local preference value
Interface Name	Displays the interface name
Aggregator AS	Displays the aggregatpr AS value
Aggregator	Displays the aggregator
Atomic Aggr.	Displays the atomic aggregator type
MED	Displays the MED value
AIGP Metric	Displays the AIGP metric value
IGP Cost	Displays the IGP cost value
Connector	Displays the connector value
Community	Displays the following values: • target — the target ID • MTU — the MTU value • V — the V flag value • M — the M flag value • F — the F flag value • C — the C flag value • P — the P flag value • B — the B flag value • bgp-tunnel-encap — the BGP tunnel encapsulation type
Cluster	Displays the cluster type
Originator Id	Displays the originator ID
Peer Router Id	Displays the peer router IP address
Origin	Displays the origin type
Flags	Displays the flag type
Route Source	Displays the route source type
AS-Path	Displays the AS path type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
EVPN type	Displays the EVPN type
ESI	Displays the ESI name
Tag	Displays the tag value
Route Dist.	Displays the route distinguisher
MPLS Label	Displays the MPLS label
Route Tag	Displays the route tag
Neighbor-AS	Displays the neighbor AS value
DB Orig Val	Displays the database originating value
Final Orig Val	Displays the final originating value
Source Class	Displays the source class value
Dest Class	Displays the destination class value
Add Paths Send	Displays the add paths send value
Last Modified	Displays the number of hours, minutes, and seconds since the last modification
RIB Out Entries	
Routes	Displays the number of routes

4.71 auto-discovered-meps

auto-discovered-meps

Syntax

auto-discovered-meps [*mep-id*] **domain** *md-index* **association** *ma-index*

Context

[Tree] (clear>eth-cfm auto-discovered-meps)

Full Context

clear eth-cfm auto-discovered-meps

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears remote MEPs that were auto discovered. The function clears a specific auto-discovered MEP learned within an association or all auto-discovered MEPs in the association. When the *mep-id* representing the auto-discovered MEP is omitted and only the **domain** *md-index* and **association** *ma-index* are provided, all auto-discovered MEPs in the association are cleared. At a minimum the **domain** *md-index* and the **association** *ma-index* must be provided.

Only auto-discovered MEPs may be cleared. This command has no effect on manually configured MEPs.

Parameters

mep-id

Specifies the MEP ID of the remote MEP that was auto-discovered.

Values 1 to 8191

md-index

Specifies the domain context in which the remote MEP was auto-discovered.

Values 1 to 4294967295

ma-index

Specifies the association context in which the remote MEP was auto-discovered.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

4.72 auto-gen-psk

auto-gen-psk

Syntax

auto-gen-psk {**force-rollover-now** | **delete-generated-psk**}

Context

[Tree] (tools>perform>macsec>connectivity-association auto-gen-psk)

Full Context

tools perform macsec connectivity-association auto-gen-psk

Description

This command performs PSK autogeneration operations.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

force-rollover-now

Keyword to force the system to generate and distribute a new PSK.

delete-generated-psk

Keyword to delete the current autogenerated PSK and force a recovery using the recovery keychain.

Platforms

All

4.73 auto-lsp

auto-lsp

Syntax

auto-lsp

Context

[Tree] (clear>router>mpls>lsp auto-lsp)

Full Context

clear router mpls lsp auto-lsp

Description

Commands in this context reset and restart all auto LSPs.

Platforms

All

4.74 auto-node-provisioning

auto-node-provisioning

Syntax

auto-node-provisioning

Context

[Tree] (tools>perform>system auto-node-provisioning)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform system auto-node-provisioning

Description

This command initiates auto-provisioning of the node on all ports that are operationally up but do not have an IP address.

Platforms

All

4.75 autoconfigure

autoconfigure

Syntax

autoconfigure

Context

[Tree] (clear>router autoconfigure)

Full Context

clear router autoconfigure

Description

Commands in this context clear IP autoconfiguration information.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

autoconfigure

Syntax

autoconfigure

Context

[Tree] (show router autoconfigure)

Full Context

show router autoconfigure

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display IP autoconfiguration information.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5 b Commands

5.1 bandwidth-policy

bandwidth-policy

Syntax

bandwidth-policy *policy-name* [**detail**]

Context

[Tree] (show>mcast-management bandwidth-policy)

Full Context

show mcast-management bandwidth-policy

Description

This command displays multicast path management bandwidth policy information.

Parameters

policy-name

Specifies the bandwidth policy name, up to 32 characters.

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of multicast management bandwidth policy information.

Output example

```
*A:PE-1# show mcast-management bandwidth-policy "default" detail
===============================================================================
Bandwidth Policy Details
===============================================================================
-------------------------------------------------------------------------------
Policy             : default
-------------------------------------------------------------------------------
Admin BW Thd       : 10 kbps           Falling Percent RST: 50
Mcast Pool Total   : 10                Mcast Pool Resv Cbs: 50
Slope Policy       : default
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Primary
Cbs                : 5.00              Mbs                : 7.00
Low Drop Tail      : 10
Secondary
Cbs                : 30.00             Mbs                : 40.00
Low Drop Tail      : 10                Paths(Single/Dual) : 1/1
===============================================================================
Bandwidth Policies : 1
===============================================================================
*A:PE-1#
```

5.2 base

base

Syntax

base [**msap**]

Context

[Tree] (show>service>id base)

Full Context

show service id base

Description

This command displays basic information about the service ID, including service type, description, SAPs, and SDPs.

Parameters

msap

Displays MSAPs.

Platforms

All

Output

The following outputs are examples of base service ID information, and Table 46: Output fields: service ID base describes the output fields.

- Output example: service ID base
- Output example: service ID 2000 base

Output example: service ID base

```
*A:Dut-C>config>service>vpls#  show service  id 1 base
===============================================================================
Service Basic Information
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Service Id        : 1                   Vpn Id            : 1
Service Type      : VPLS
MACSec enabled    : no
Name              : 1
Description       : Vpls 1 - BgpVpls
Customer Id       : 1                   Creation Origin   : manual
Last Status Change: 01/19/2022 21:36:58
Last Mgmt Change  : 01/19/2022 21:45:55
Etree Mode        : Disabled
Admin State       : Up                  Oper State        : Up
MTU               : 1400
SAP Count         : 1                   SDP Bind Count    : 2
Snd Flush on Fail : Disabled            Host Conn Verify  : Disabled
SHCV pol IPv4     : None
Propagate MacFlush: Disabled            Per Svc Hashing   : Disabled
Allow IP Intf Bind: Enabled (5000/RVPLS1)
Fwd-IPv4-Mcast-To*: Disabled            Fwd-IPv6-Mcast-To*: Disabled
Mcast IPv6 scope  : mac-based
Def. Gateway IP   : None
Def. Gateway MAC  : None
Temp Flood Time   : Disabled            Temp Flood        : Inactive
Temp Flood Chg Cnt: 0
SPI load-balance  : Disabled
TEID load-balance : Disabled
Lbl Eth/IP L4 TEID: Disabled
Src Tep IP        : N/A
Vxlan ECMP        : Disabled
MPLS ECMP         : Disabled
Ignore MTU Mismat*: Enabled

-------------------------------------------------------------------------------
Service Access & Destination Points
-------------------------------------------------------------------------------
Identifier                               Type         AdmMTU  OprMTU  Adm  Opr
-------------------------------------------------------------------------------
sap:1/1/4:1                              q-tag        1518    1518    Up   Up
sdp:32766:4294967292 SB(10.20.1.6)       BgpVpls      0       1492    Up   Up
sdp:32767:4294967295 SB(10.20.1.1)       BgpVpls      0       1492    Up   Up
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example: service ID 2000 base

```
# show service id 2000 base

===============================================================================
Service Basic Information
===============================================================================
<snip>

Router Oper State : Up
Route Dist.       : auto-rd             VPRN Type         : regular
Oper Route Dist   : 192.0.2.3:64000
Oper RD Type      : auto
AS Number         : None                Router Id         : 192.0.2.3
ECMP              : Enabled             ECMP Max Routes   : 1
Max IPv4 Routes   : No Limit
Local Rt Domain-id: 65000:1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 46: Output fields: service ID base

Label	Description
Service Id	Displays the service identifier
Vpn Id	Displays the VPN ID assigned to the service
Service Type	Displays the type of service: Epipe, Apipe, Fpipe, Ipipe, VPLS, IES, VPRN
MACSec enabled	Indicates whether MACsec is enabled
Name	Displays the service name
Description	Displays the generic information about the service
Customer Id	Displays the customer identifier
Creation Origin	Displays how the service was created
Last Status Change	Displays the date and time of the most recent status change to this customer
Last Mgmt Change	Displays the date and time of the most recent management-initiated change to this customer
Etree Mode	Indicates whether Etree mode is enabled
Admin State	Displays the state of the service
Oper State	Displays the operating state of the service
MTU	Displays the largest frame size (in octets) that the service can handle
SAP Count	Displays the number of SAPs defined on the service
SDP Bind Count	Displays the number of SDPs bound to the service
Snd Flush on Fail	Indicates whether sending MAC flush messages is enabled
Host Conn Verify	Indicates whether the host is connected
Propogate MacFlush	Indicates whether MAC flush messages are propagated to remote Target LDP (TLDP) peers
Per Svc Hashing	Indicates whether per-service hashing is enabled for this service
Allow IP Intf Bind	Indicates whether allow IP interface binding is enabled for R-VPLS services
Fwd-IPv4-Mcast-To*	Indicates whether IPv4 multicast traffic to the VPRN interface attached to the R-VPLS is enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Fwd-IPv6-Mcast-To*	Indicates whether IPv6 multicast traffic to the VPRN interface attached to the R-VPLS is enabled
Mcast IPv6 scope	Displays the IPv6 multicast scope
Def. Gateway IP	Displays the default gateway
Def. Gateway MAC	Displays the default gateway MAC address
Temp Flood Time	Displays the temporary flood time
Temp Flood	Displays the temporary flood time state
Temp Flood Chg Cnt	Displays the temporary flood change count
SPI load-balance	Indicates whether SPI load-balance is enabled
TEID load-balance	Indicates whether TEID load balancing is enabled
Lbl Eth/IP L4 TEID	Indicates whether load balancing based on MPLS labels and inner Ethernet, IP addresses, L4 ports, and TEID is enabled
Src Tep IP	Displays the Termination Endpoint address
Vxlan ECMP	Indicates whether VXLAN ECMP is enabled
MPLS ECMP	Indicates whether MPLS ECMP is enabled
Ignore MTU Mismatch	Displays the configuration state of the **ignore-l2-mtu-mismatch** command for the service
SAP Type	Displays the type of SAPs allowed in the service and describes the processing applied by the node packets received on these SAPs
Vxlan Src Tep Ip	Displays the VXLAN source tunnel endpoint (TEP) ID
Force QTag Fwd	Indicates whether force Q-tag forwarding is enabled
Oper Group	Displays the operational group for this service
Identifier	Displays the service access (SAP) and destination (SDP) points
Type	Displays the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on the SDP
AdmMTU	Displays the largest service frame size (in octets) that can be transmitted through this SDP to the far-end ESR, without requiring the packet to be fragmented
OprMTU	Displays the operational MTU of the SAP or SDP bind

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Admin State (Adm)	Displays the administrative state
Oper State (Opr)	Displays the operation state
PBB Tunnel Point	Displays the endpoint in the B-VPLS environment where the Epipe terminates
Admin MTU	Displays the B-VPLS admin MTU
Backbone-Flooding	Indicates whether traffic is flooded in the B-VPLS for the destination instead of unicast. If the backbone destination MAC is in the B-VPLS FDB, it is unicast.
ISID	Displays the 24 bit field carrying the service instance identifier associated with the frame. It is used at the destination PE as a demultiplex or field.
Router Oper State	Displays the operational state of the router
Route Dist.	Displays the route distinguisher (RD) type
VPRN Type	Displays the VPRN type
Oper Route Dist	Displays the IP address of the operational RD
Oper RD Type	Displays the operational RD type
AS Number	Displays the AS number
Router Id	Displays the router ID
ECMP	Displays the status of ECMP
ECMP Max Routes	Displays the maximum ECMP routes
Max IPv4 Routes	Displays the maximum IPv4 routes
Local Rt Domain-id	Displays the local route domain ID

base

Syntax

base

Context

[Tree] (show>service>id>mld-snooping base)

Full Context

show service id mld-snooping base

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays basic MLD snooping information.

Platforms

All

base

Syntax

base

Context

[Tree] (show>service>id>spb base)

Full Context

show service id spb base

Description

This command displays SPB base information.

Platforms

All

Output

The following output is an example of service SPB base information.

Output example

```
*A:Dut-A# show service id 100001 spb base
===============================================================================
Service SPB Information
===============================================================================
Admin State        : Up                 Oper State         : Up
ISIS Instance      : 1024               FID                : 1
Bridge Priority    : 8                  Fwd Tree Top Ucast : spf
Fwd Tree Top Mcast : st
Bridge Id          : 80:00.00:10:00:01:00:01
Mcast Desig Bridge : 80:00.00:10:00:01:00:01

===============================================================================
ISIS Interfaces
===============================================================================
Interface                       Level CircID  Oper State   L1/L2 Metric
-------------------------------------------------------------------------------
sap:1/2/2:1.1                   L1    65536   Up           10/-
sap:1/2/3:1.1                   L1    65537   Up           10/-
-------------------------------------------------------------------------------
Interfaces : 2
===============================================================================
FID ranges using ECT Algorithm
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1-99      low-path-id
100-100   high-path-id
101-4095  low-path-id
===============================================================================
```

5.3 base-routing-instance

base-routing-instance

Syntax

base-routing-instance [**locator** *locator-name*] [**end-x**] [**end-dt4**] [**end-dt6**] [**end-dt46**] [**end**]

base-routing-instance all

base-routing-instance micro [**micro-segment-locator** *locator-name*] [**ua**] [**udt4**] [**udt6**] [**udt46**]

Context

[Tree] (show>router>srv6 base-routing-instance)

Full Context

show router segment-routing-v6 base-routing-instance

Description

This command displays SRv6 Base routing instances.

Parameters

locator-name

Specifies the locator or micro-segment locator name, up to 64 characters.

end-x

Displays the End.X SID function associated with a P2P interface.

end-dt4

Displays the End.DT4 function associated with the Base routing instance.

end-dt6

Displays the End.DT6 function associated with the Base routing instance.

end-dt46

Displays the End.DT46 function associated with the Base routing instance.

end

Displays the End SID function of a locator.

ua

Displays the uA SID function associated with a P2P interface.

udt4

Displays the uDT4 function associated with the Base routing instance.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

udt6

Displays the uDT6 function associated with the Base routing instance.

udt46

Displays the uDT46 function associated with the Base routing instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

5.4 bcg

bcg

Syntax

bcg *Burst-Control-Group-name* **member-queues** [**at-risk-only**] [**exp-util-bw** *megabits-persecond*] [**port** *port-id*] [**sap** *sap-id*] [**subscriber** *sub-ident*] [**access-queue-grp** *queue-group-name*] [**service-id** *service-id*]

bcg *burst-control-group-name* [**member-queues**] [**exp-util-bw** *mega-bits-per-second*]

bcg *card-slot-number* [**ingress** | **egress**]

Context

[Tree] (show>qos bcg)

Full Context

show qos bcg

Description

The **show qos bcg** command outputs the current and historical visitation time associated with the specified BCG name.

A Burst Control Group (BCG) represents a list of queues that share the same non-scheduling PIR and CIR bucket target update interval. When a queue's scheduled rate bursts above its PIR bucket depth, the queue is removed from its scheduling context. The system uses a BCG in order to visit the queues PIR bucket to periodically drain an appropriate amount from the bucket. When the bucket has been drained below the PIR bucket threshold, the queue is allowed back onto its scheduling context. The amount decremented from the bucket is a function of the amount of time that has elapsed since the last bucket update and the queue's shaping rate (PIR). If the queue's shaping rate is configured as 1 Mb/s and 1 ms has elapsed since the last bucket update, the system decrements the PIR bucket by 125 bytes. One caveat is that the bucket cannot be decremented past a depth of 0. This fact drives how the system chooses which BCG is used to manage the queue bucket update interval.

If a queue's shaping rate is 1 Mb/s and the threshold (burst limit) is set to 10 kbytes, the maximum amount of time that can expire before the queue is updated without resulting in a negative bucket depth is 81.92 ms. This can be calculated by taking the number of bits represented by the bucket depth (10 kbytes = 10 * 1,024 * 8 = 81,920 bits) and dividing it by the rate (81,920 bits / 1,000,000 bits per second = 81.92 ms). The queue is not removed from the scheduler until the PIR bucket depth has equaled or exceeded the

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

configured burst threshold, so the bucket is at least 10 kbytes deep. If the system visits the queue PIR bucket within 81.92 ms, the resulting decrement operation leaves the bucket. If the system takes longer than 81.92 ms, the decrement result will be greater than 10 kbytes and part of the decrement result is lost. The net result is that, because of less than timely updates, the queue will not be returned to the scheduler context fast enough and some shaping bandwidth for the queue will be lost (underrun the shaping rate).

Each FP2- and FP3-based Q-chip maintains eight BCGs, each targeting a certain queue bucket visitation time. A 1 s, 40 ms, 20 ms, 10 ms, 5 ms, 1 ms, 500 µs, and 100 µs BCG is supported. An FP4- or FP5-based Q-chip has an additional four BCGs with target visitation times of 50 µs, 10 µs, 5 µs, and 1 µs. By default, queues are placed in a BCG based on shaping rate and the queue's burst limit (PIR threshold depth) is set based on the BCG visitation time and the queue's specified shaping rate.

When explicit burst-limit threshold values are defined for a shaping queue, the system picks an appropriate BCG based on the queue's configured shaping rate and the explicit threshold to find a BCG with the best target visitation time that results in worst-case decrement values that are less than the configured threshold. However, when a queue is placed on a 'faster' BCG, more visitation resources are consumed and it is possible that the system will not meet a queue's decrement constraints.

The **show qos bcg** command allows visibility into a BCG's historic and current visitation time. The system samples the amount of time it takes each list to visit each of its associated queues once each second and stores the last 10 samples. It also keeps the longest visitation time seen since the last time the BCG statistics were cleared, the longest visitation time for the current queue-to-BCG lists associations, calculated longest visitation time based on maximum scheduling bandwidth, and the longest visitation time for an optionally defined scheduling rate.

With each sample, the system indirectly calculates the amount of scheduling bandwidth based on how many Q-chip resources were diverted from BCG visitation processing. This calculated scheduling bandwidth is used to evaluate the worst-case visitation times for each BCG. The calculated scheduling bandwidth value is stored with the longest-seen-visitation time and the longest-seen-visitation time with the current queue-to-BCG mappings. This is not applicable to an FP4- or FP5-based Q-chip, so the **exp-util-bw** parameter is not applicable to an FP4- or FP5-based Q-chip.

Parameters

Burst-Control-Group-name

Specifies which globally unique Burst Control Group to display. If the specified Burst Control Group does not exist, the show command will fail.

Values <*slot*>/<*fp*>-< *target-visitation-time*>[-<*direction*>]

slot - 1 to 20

fp - 1 to 8

target-visitation-time -1 µs, 5 µs, 10 µs, 50 µs, 100 µs, 500 µs, 1ms, 5ms, 10ms, 20ms, 40ms, 1s

direction - i, e

member-queues

Includes a list of all queues attached to the specified burst-control-group-name. The 100% scheduling bandwidth used in the 'at-risk' determination may be overridden with a specified scheduling bandwidth by using the exp-util-bw parameter. When the **member-queues** parameter is specified, the output includes a single-entry summary of the internal queues.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

exp-util-bw *mega-bits-per-second*

Displays a calculated worst-case visitation rate for the specified BCG name based on the specified value of *megabits-persecond* which also modifies the member queue's 'at-risk' state output. This parameter is not applicable to FP4- or FP5-based hardware which has dedicated internal resources for handling BCG visitations and is unaffected by scheduling bandwidth.

Values 0 to 4294967

port *port-id*

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues associated with the specified *port-id*. If the specified *port-id* does not exist, the show command will fail.

Values Up to 17 characters

sap *sap-id*

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues associated with the specified *sap-id*. If the specified *sap-id* does not exist, the show command will fail.

Values Up to 64 characters

subscriber *sub-ident*

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues associated with the specified *sub-ident*. If the specified *sub-ident* does not exist, the show command will fail.

Values Up to 32 characters

access-queue-grp *queue-group-name*

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues within the specified *queue-group-name*. If the specified *queue-group-name* is not found, the show command will fail.

Values Up to 32 characters

service *service-id*

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues associated with the specified *service-id*. If the specified *service-id* does not exist, the show command will fail.

Values 1 to 2147483647

card-slot-number

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for all queues associated with the specified *card-slot-number*. If the specified *card-slot-number* does not exist, the show command will fail.

Values 1 to 40

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

[ingress | egress]

The **ingress** and **egress** keywords specify the direction to display and are mutually exclusive.

Platforms

All

5.5 bd

bd

Syntax

bd [*bridge-id*]

Context

[Tree] (show>subscr-mgmt>vrgw>lanext bd)

Full Context

show subscriber-mgmt vrgw lanext bd

Description

This command displays information for the specified HLE bridge. If no bridge is specified, then all domains are listed.

Parameters

bridge-id

Specifies the BD ID.

Values 1 to 4294967295

Platforms

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

Output

The following output is an example of HLE bridge information.

Output example

```
show subscriber-mgmt vrgw lanext bd 100
===============================================================================
BRIDGE DOMAIN(S)
===============================================================================
BRIDGE-ID                    : 100
VNI                          : 1
ROUTE TARGET                 : TARGET:100:100
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ROUTE DISTINGUISHER          : 100:100
WLANGW GRPID                 : 1
ISA MEMBERID                 : 1
WLANGW BD VLANTAG            : N/A
WLANGW BD SERVICE            : 500
WLANGW BD INTERFACE          : G1
WLANGW BD MAC TRANSLATION    : N/A
WLANGW BD MAC                : AA:BB:CC:00:00:01
WLANGW BD ASSIST.ADDR.RES    : DISABLED
WLANGW BD NETW MAXMAC        : 20
WLANGW BD NETW STATE         : ENABLED
WLANGW BD ACCS MAXMAC        : 20
-------------------------------------------------------------------------------
NO. OF BRIDGE DOMAINS: 1
===============================================================================
```

bd

Syntax

bd *bridge-id*

Context

[Tree] (tools>perform>wlan-gw>lanext bd)

[Tree] (tools>dump>wlan-gw>lanext bd)

Full Context

tools perform wlan-gw lanext bd

tools dump wlan-gw lanext bd

Description

Commands in this context enter the specified HLE BD to perform tools commands.

Parameters

bridge-id

Specifies the HLE BD ID.

Values 1 to 4294967295

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5.6 bfd

bfd

Syntax

bfd

Context

[Tree] (tools>dump>router bfd)

Full Context

tools dump router bfd

Description

Commands in this context dump LSP-BFD information for LDP and RSVP LSPs.

Platforms

All

bfd

Syntax

bfd

Context

[Tree] (show>router bfd)

Full Context

show router bfd

Description

Commands in this context display bidirectional forwarding detection (BFD) information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

bfd

Syntax

bfd

Context

[Tree] (clear>router bfd)

Full Context

clear router bfd

Description

Commands in this context clear bidirectional forwarding (BFD) sessions and statistics.

Platforms

All

bfd

Syntax

bfd

Context

[Tree] (show>lag bfd)

Full Context

show lag bfd

Description

This command displays per-member BFD information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5.7 bfd-template

bfd-template

Syntax

bfd-template *template-name*

bfd-template

Context

[Tree] (show>router>bfd bfd-template)

Full Context

show router bfd bfd-template

Description

This command displays BFD template information.

Parameters

template-name

Displays the BFD template name, up to 32 characters.

Platforms

All

Output

The following output is an example of BFD template information.

Output example

```
A:node-2# show router bfd bfd-template "privatebed-bfd-template"

===============================================================================
BFD Template privatebed-bfd-template
===============================================================================
Template Name           : privatebed-* Template Type             : cpmNp
Transmit Timer          : 10 msec      Receive Timer             : 10 msec
CV Transmit Interval    : 1000 msec
Template Multiplier     : 3            Echo Receive Interval     : 100 msec

Mpls-tp Association
privatebed-oam-template
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:mlstp-dutA# show router bfd session

===============================================================================
BFD Session
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Interface/Lsp Name            State                Tx Intvl  Rx Intvl  Multipl
  Remote Address/Info         Protocols            Tx Pkts   Rx Pkts   Type
-------------------------------------------------------------------------------
wp::lsp-32                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-33                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-34                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-35                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-36                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-37                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-38                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-39                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-40                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
wp::lsp-41                    Down (1)             1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-32                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-33                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-34                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-35                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-36                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-37                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-38                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-39                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-40                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-41                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
-------------------------------------------------------------------------------
No. of BFD sessions: 20
-------------------------------------------------------------------------------
wp = Working path   pp = Protecting path
===============================================================================
```

```
A:node-2# show router bfd bfd-template "privatebed-bfd-template"
===============================================================================
BFD Template privatebed-bfd-template
===============================================================================
Template Name           : privatebed-* Template Type             : cpmNp
Transmit Timer          : 10 msec      Receive Timer             : 10 msec
CV Transmit Interval    : 1000 msec
Template Multiplier     : 3            Echo Receive Interval     : 100 msec

Mpls-tp Association
privatebed-oam-template
===============================================================================
* indicates that the corresponding row element may have been truncated.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5.8 bfd-templates-in-use

bfd-templates-in-use

Syntax

bfd-templates-in-use

Context

[Tree] (tools>dump>router>ldp>lsp-bfd bfd-templates-in-use)

Full Context

tools dump router ldp lsp-bfd bfd-templates-in-use

Description

This command indicates the named BFD templates that are configured for use by LSP BFD for LDP.

Platforms

All

5.9 bgp

bgp

Syntax

bgp [*bgp-instance*]

Context

[Tree] (show>service>id bgp)

Full Context

show service id bgp

Description

This command displays BGP-related information for the service.

Parameters

bgp-instance

Specifies the ID value for the BGP instance.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1, 2

Platforms

All

Output

The following output is an example of BGP information, and Table 47: Output fields: service ID BGP describes the output fields.

Output example

```
*A:PE-2>config>service>vpls$ /show service id 1985 bgp
===============================================================================
BGP Information
===============================================================================
Vsi-Import           : None
Vsi-Export           : vsi-exp1
Route Dist           : None
Oper Route Dist      : 0:0
Oper RD Type         : none
Rte-Target Import    : 64500:1985          Rte-Target Export: None
Oper RT Imp Origin   : configured          Oper RT Import   : 64500:1985
Oper RT Exp Origin   : vsi                 Oper RT Export   : Policy Based
PW-Template Id       : None
ADV Service MTU      : 1450
PW-Template Id       : None

-------------------------------------------------------------------------------
===============================================================================
```

Table 47: Output fields: service ID BGP

Label	Description
Vsi-Import	Displays the names of the VSI import policies used for the service
Vsi-Export	Displays the names of the VSI export policies used for the service
Route Dist	Displays the configured route distinguisher (RD) component
Oper Route Dist	Displays the IP address of the operational RD
Oper RD Type	Displays the operational RD type
Rte-Target Import	Displays the IP address of the configured route target (RT) import *ext-community*
Rte-Target Export	Displays the IP address of the configured RT export *ext-community*
Oper RT Imp Origin	Displays the origin of the operational RT import information
Oper RT Import	Displays the operational RT import information

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper Rt Exp Origin	Displays the origin of the operational RT export information
Oper Rt Export	Displays the operational RT export information
ADV Service MTU	Displays the MTU value that is configured using the **adv-service-mtu** command
PW-Template Id	Displays the configured pseudowire (PW) template ID

bgp

Syntax

bgp

Context

[Tree] (clear>router bgp)

Full Context

clear router bgp

Description

This command clears or resets the route damping information for received routes.

Platforms

All

bgp

Syntax

bgp

Context

[Tree] (show>router bgp)

Full Context

show router bgp

Description

Commands in this context display BGP related information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

bgp

Syntax

bgp [**color** *color*] [**end-point** {*ipv4-address* | *ipv6-address*}] [**preference** *preference-id*] [**distinguisher** *distinguisher-id*]

bgp summary

Context

[Tree] (show>router>seg-rt>sr-policies bgp)

Full Context

show router segment-routing sr-policies bgp

Description

This command displays the traffic statistics of all or a filtered set of the BGP policies, or displays summary parameters.

Parameters

color

Filters on the color.

Values 0 to 4294967295

ipv4-address* | *ipv6-address

Filters on the end-point IPv4 or IPv6 address.

Values ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces) or x:x:x:x:x:x:d:d:d:d

x — [0 to FFFF]H

d — [0 to 255]D

preference-id

Filters on the preference ID.

Values 0 to 4294967295

distinguisher-id

Filters on the distinguisher ID.

Values 0 to 4294967295

summary

Displays the summary information for the BGP policies.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of SR BGP policy information:

- Output example
- Output example: SR policies BGP endpoint

Output example

```
 *A:Dut-C# show router segment-routing sr-policies bgp
===============================================================================
SR-Policies Path
===============================================================================
-------------------------------------------------------------------------------
Type            : srv6
Active          : No                    Owner           : bgp
Color           : 50
Head            : 0.0.0.0               Endpoint Addr   : 3ffe::a14:102
RD              : 5                     Preference      : 14
SRv6 BSID 1     : 1111:1:1:1:0:b::
TunnelId        : 917511                Age             : 0
Origin ASN      : 2                     Origin          : 3ffe::a14:102
NumReEval       : 7                     ReEvalReason    : tunnel-down
NumActPathChange: 0                     Last Change     : 06/13/2022 17:45:57
Maintenance Policy: N/A

Path Segment Lists:
Segment-List    : 1                     Weight          : 1
S-BFD State     : Down                  S-BFD Transitio*: 0
Num Segments    : 2                     Last Change     : 06/10/2022 17:07:01
  Seg 1 SID   : 3333:3:3:3:0:a::                          State : resolved-up
  Seg 2 SID   : 2222:2:2:2:0:a::                          State : N/A

===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example: SR policies BGP endpoint

```
*A:Dut-C# show router segment-routing sr-policies bgp end-point 3ffe::a14:102
===============================================================================
SR-Policies Path
===============================================================================
-------------------------------------------------------------------------------
Type            : srv6
Active          : No                    Owner           : bgp
Color           : 50
Head            : 0.0.0.0               Endpoint Addr   : 3ffe::a14:102
RD              : 5                     Preference      : 14
SRv6 BSID 1     : 1111:1:1:1:0:b::
TunnelId        : 917511                Age             : 0
Origin ASN      : 2                     Origin          : 3ffe::a14:102
NumReEval       : 2                     ReEvalReason    : tunnel-down
NumActPathChange: 0                     Last Change     : 06/13/2022 17:45:57
Maintenance Policy: N/A

Path Segment Lists:
Segment-List    : 1                     Weight          : 1
S-BFD State     : Down                  S-BFD Transitio*: 0
Num Segments    : 2                     Last Change     : 06/10/2022 17:07:01
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Seg 1 SID   : 3333:3:3:3:0:a::                          State : resolved-up
  Seg 2 SID   : 2222:2:2:2:0:a::                          State : N/A

===============================================================================
* indicates that the corresponding row element may have been truncated.
```

bgp

Syntax

bgp

Context

[Tree] (monitor>router bgp)

Full Context

monitor router bgp

Description

This command monitors commands for the BGP instance.

Platforms

All

5.10 bgp-auto-rd

bgp-auto-rd

Syntax

bgp-auto-rd

Context

[Tree] (show>service>system bgp-auto-rd)

Full Context

show service system bgp-auto-rd

Description

This command displays BGP auto route distinguisher (RD) information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following shows an example of BGP auto route distinguisher information

Output example

```
*A:Dut#show service system bgp-auto-rd
===============================================================================
Service BGP Auto Route Distinguisher Information
===============================================================================
IP address         : 192.0.2.69
Comm Val Start     : 1200                        End           : 1300
In Use             : 1
===============================================================================
```

5.11 bgp-evpn

bgp-evpn

Syntax

bgp-evpn [**instance** *instance-id*]

Context

[Tree] (show>service>id bgp-evpn)

Full Context

show service id bgp-evpn

Description

This command displays the BGP-EVPN configured parameters for a specified service, including the administrative status of VXLAN, the configuration for **mac-advertisement** and **unknown-mac-route**, as well as the **mac-duplication** parameters. The command displays the duplicate MAC addresses that **mac-duplication** has detected.

This command also displays whether the **ip-route-advertisement** command (and the **incl-host** parameter) is enabled. If the service is BGP-EVPN MPLS, the command also displays the parameters corresponding to EVPN-MPLS.

Parameters

instance-id

Displays information about the instance ID.

Values 1 to 2

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following are examples of BGP EVPN information, and Table 48: Output fields: BGP-EVPN describes the output fields:

- Output example (BGP-EVPN showing the static service label configured)
- Output example (BGP-EVPN information), Table 48: Output fields: BGP-EVPN
- Output example (BGP-EVPN information), Table 48: Output fields: BGP-EVPN

Output example (BGP-EVPN showing the static service label configured)

```
A:node-2# show service id 31 bgp-evpn

===============================================================================
BGP EVPN MPLS Table
===============================================================================
Admin State        : Down                  Oper State     : Down
VRF Import         : None
VRF Export         : None
Route Dist.        : None
Oper Route Dist.   : 0:0
Oper RD Type       : none
Route Target       : None
Route Target Import: None
Route Target Export: None
Default Route Tag  : None
Domain-Id          : None
Dyn Egr Lbl Limit  : Disabled
EVI                : 0

Advertise          : Disabled
Weighted ECMP      : Disabled
Static Serv Lbl    : 33
Oper Serv Lbl      : None

Auto-Bind Tunnel
Resolution         : disabled              Strict Tnl Tag : Disabled
ECMP               : 1                     Untagged Route : none
Weighted ECMP      : Disabled              Flex Algo FB   : False
Bgp Instance       : 1
Filter Tunnel Types: (Not Specified)

Tunnel Encap
MPLS               : True                  MPLSoUDP       : False
===============================================================================
```

Output example (BGP-EVPN information)

```
A:node-2# show service id 100 bgp-evpn
===============================================================================
BGP EVPN Table
===============================================================================
EVI                : 100               Creation Origin    : manual

-------------------------------------------------------------------------------
Local AC Name              Eth Tag  Endpoint                    Ingress Label
-------------------------------------------------------------------------------
mpls                       1        mpls                        0
srv6                       1        srv6                        0
-------------------------------------------------------------------------------
Number of local ACs : 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Remote AC Name                    Eth Tag  Endpoint
-------------------------------------------------------------------------------
mpls                              1        mpls
srv6                              1        srv6
-------------------------------------------------------------------------------
Number of Remote ACs : 2
===============================================================================

===============================================================================
BGP EVPN MPLS Information
===============================================================================
Admin Status       : Enabled            Bgp Instance       : 1
Force Vlan Fwding  : Disabled
Force Qinq Fwding  : none
Route NextHop Type : system-ipv4
Control Word       : Disabled
Max Ecmp Routes    : 2
Entropy Label      : Disabled
Default Route Tag  : none
Oper Group         :
MH Mode            : network
Domain-Id          : 64500:1
Evi 3-byte Auto-RT : Disabled
Dyn Egr Lbl Limit  : Disabled
Hash Label         : Disabled
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
BGP EVPN MPLS Auto Bind Tunnel Information
===============================================================================
Allow-Flex-Algo-Fallback  : false
Resolution                : any                Strict Tnl Tag   : false
Max Ecmp Routes           : 1
Bgp Instance              : 1                  Untagged Route   : none
Filter Tunnel Types       : (Not Specified)
Weighted Ecmp             : false
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
Segment Routing v6 Instance 2 Service 100
===============================================================================
Admin State             : Enabled
Srv6 Instance           : 1
Default Locator         : LOC-2-16bits

Oper Group              : (Not Specified)
Default Route Tag       : 0x0
Source Address          : 2001:db8::3
ECMP                    : 1
Force Vlan VC Fwd       : disabled
Next Hop Type           : system-ipv4
Evi 3-byte Auto-RT      : disabled
Route Resolution        : route-table
Force QinQ VC Fwd       : none
MH Mode                 : access
Domain-Id               : 64500:2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example (BGP-EVPN information)

```
A:node-2# show service id 110 bgp-evpn
===============================================================================
BGP EVPN Table
===============================================================================
EVI                : 110
Creation Origin    : manual

Adv L2 Attributes  : Enabled
Ignore Mtu Mismatch: Disabled

MAC/IP Routes
MAC Advertisement  : Enabled           Unknown MAC Route  : Disabled
CFM MAC Advertise  : Disabled
ARP/ND Ext Comm Adv: Disabled

Multicast Routes
Sel Mcast Advert   : Disabled
Ing Rep Inc McastAd: Enabled

IP Prefix Routes
IP Route Advert    : Disabled

MAC Duplication Detection
Num. Moves         : 5                 Window             : 3
Retry              : 9                 Number of Dup MACs : 0
Black Hole         : Disabled
Per PE Etree leaf  : Enabled           Blackhole Non-
                                       Local Macs         : Enabled

-------------------------------------------------------------------------------
Detected Duplicate MAC Addresses             Time Detected
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
===============================================================================

-------------------------------------------------------------------------------
Locally Trusted MAC
-------------------------------------------------------------------------------
MAC Address                                  Time Detected
-------------------------------------------------------------------------------
00:de:ad:be:ef:04                            04/11/2023 12:59:01
-------------------------------------------------------------------------------

===============================================================================
BGP EVPN MPLS Information
===============================================================================
Admin Status       : Enabled           Bgp Instance       : 1
Force Vlan Fwding  : Disabled
Force Qinq Fwding  : none
Route NextHop Type : explicit
NextHop Addr       : 2001:db8::3
Control Word       : Enabled
Max Ecmp Routes    : 1
Entropy Label      : Disabled
Default Route Tag  : none
Split Horizon Group: (Not Specified)
Ingress Rep BUM Lbl: Enabled
Ingress Ucast Lbl  : 524254            Ingress Mcast Lbl  : 524250
RestProtSrcMacAct  : none
Evpn Mpls Encap    : Enabled           Evpn MplsoUdp      : Disabled
Oper Group         :
MH Mode            : network
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Evi 3-byte Auto-RT : Disabled
Dyn Egr Lbl Limit  : Disabled
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
BGP EVPN MPLS Auto Bind Tunnel Information
===============================================================================
Allow-Flex-Algo-Fallback  : false
Resolution                : any                Strict Tnl Tag   : false
Max Ecmp Routes           : 1
Bgp Instance              : 1
Filter Tunnel Types       : (Not Specified)
Weighted Ecmp             : false
-------------------------------------------------------------------------------
===============================================================================
```

Table 48: Output fields: BGP-EVPN

Label	Description
Admin State	The administrative state
Oper State	The operational state
VRF Import	The VRF import
VRF Export	The VRF export
Route Dist.	The route distinguisher
Oper Route Dist.	The operational route distinguisher
Oper RD Type	The operational RD type
Route Target	The route target
Route Target Import	The route target import
Route Target Export	The route target export
Default Route Tag	The default route tag, which is the configurable internal tag value associated with routes.
Domain-Id	Attribute used for loop prevention and route traceability. The primary purpose of the Domain ID is to prevent routing loops when EVPN routes are exchanged between different domains or translated between EVPN and IPVPN services, especially in setups with redundant gateways. It helps ensure that a route does not return to its originating domain.
Dyn Egr Lbl Limit	Indicates if the dynamic egress label limit is enabled. The dynamic egress label limit manages the allocation of labels in the MPLS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	egress stack for EVPN services, ensuring that only necessary labels contribute to the stack depth calculation.
EVI	The EVPN Instance (EVI) represents a logical grouping of all the Broadcast Domains or MAC-VRFs that belong to a single EVPN service. It acts as a container for a specific Layer 2 (and sometimes Layer 3) VPN service of a customer across the network.
Advertise	Indicates if advertising is enabled
Weighted ECMP	Indicates if Weighted ECMP is enabled. Weighted ECMP allows for the unequal distribution of traffic across multiple paths that are considered equal in terms of routing cost.
Static Serv Lbl	The static service label, which configures the static per-VRF MPLS service label. This enables the use of the static service label and anycast addresses or SIDs to reach any one of two or more provider edge nodes in the forwarding of Layer 3 service traffic.
Oper Serv Lbl	The operational service label identifies the egress PE router. It is used by the core MPLS network to tunnel the packet from the ingress PE to the correct egress PE.
Auto-Bind Tunnel	
Resolution	Indicates if resolution is enabled, which is a mechanism used by a PE router to automatically select an appropriate transport tunnel to carry VPN service traffic
Strict Tnl Tag	Indicates if strict tunnel tagging is enabled. When enabled, it means the system only considers tunnels that have a matching tunnel tag to the one specified or implied by the service or route.
ECMP	The ECMP value
Untagged Route	The untagged route refers to a BGP route that does not have an administrative tag policy applied to it
Weighted ECMP	Indicates if Weighted ECMP is enabled
Flex Algo FB	The flexible algorithm fallback allows users to define custom routing algorithms beyond the standard shortest path calculation
Bgp Instance	The BGP instance
Filter Tunnel Types	The field tunnel types specify which types of underlying tunnels are allowed or preferred for resolving the BGP next hop of EVPN routes
Tunnel Encap	
MPLS	Indicates if MPLS is configured to one of the following: • True

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• False
MPLSoUDP	Indicates if MPLS over UDP is configured to one of the following: • True • False

bgp-evpn

Syntax

bgp-evpn

bgp-evpn ethernet-segment

bgp-evpn ethernet-segment name *name* [**all**]

bgp-evpn ethernet-segment name *name* **evi** [*evi*]

bgp-evpn ethernet-segment name *name* **isid** [*isid*]

bgp-evpn ethernet-segment name *name* **port-active**

bgp-evpn ethernet-segment name *name* **virtual-ranges**

Context

[Tree] (show>service>system bgp-evpn)

Full Context

show service system bgp-evpn

Description

This command displays all the information related to the base EVPN instance, including the base RD used for Ethernet Segment (ES) routes, the ESs or individual ES information.

Parameters

ethernet-segment

Displays information for ES.

name

Specifies the name of an ES, up to 32 characters.

all

Displays all available information for the specified ES.

evi

Displays information for the specified EVI.

Values 1 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

isid

Displays information for the specified ISID.

Values 1 to 16777215

virtual-ranges

Keyword that displays the VD-ID, Q-tag, S-tag, or C-tag per S-tag virtual ranges configured on the virtual ES.

port-active

Keyword to display the port-active mode for the ES.

Platforms

All

Output

The following outputs are example of BGP EVPN information, and the associated tables describe the output fields:

- Output example, Table 49: Output fields: BGP-EVPN
- Output example: Ethernet segment, Output fields: BGP EVPN ES
- Output example: show service system BGP EVPN ES information , Output fields: BGP EVPN ES
- Output example: show service system BGP EVPN ES information for configured auto-ESI with operational ESI derived, Output fields: BGP EVPN ES
- Output example: show service system BGP EVPN ES information for configured auto-ESI with operational ESI pending derivation, Output fields: BGP EVPN ES
- Output example: show service system BGP EVPN ES information for manually configured ESI, Output fields: BGP EVPN ES
- Output example: show service system BGP EVPN ES information for manually configured ESI with all option , Output fields: BGP EVPN ES
- Output example: show service system BGP EVPN ES information for unconfigured auto-ESI and ESI , Output fields: BGP EVPN ES
- Output example: port-active mode, Output fields: BGP EVPN ES

Output example

```
*A:node-2# show service system bgp-evpn

===============================================================================
System BGP EVPN Information
===============================================================================
Eth Seg Route Dist.               : <none>
Eth Seg Oper Route Dist.          : 192.0.2.2:0
Eth Seg Oper Route Dist Type      : default
Ad Per ES Route Target            : evi-rt
Etree
  Leaf                            : Disabled
Mcast Leave Sync Prop             : 5
Attribute Uniform Prop            : Enabled
BGP Path Selection                : Enabled
D-Path Length Ignore              : Disabled
Vxlan Router Mac                  : 00:00:00:00:00:00
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ad Per EVI Routes
  Attribute Uniform Prop          : Enabled
  BGP Path Selection              : Enabled
  D-Path Length Ignore            : Disabled
EVPN Tunnel Dot1ad Ethertype      : Enabled/Disabled
===============================================================================
```

Output example (Ethernet segment)

```
*A:PE1# show service system bgp-evpn ethernet-segment
===============================================================================
Service Ethernet Segment
===============================================================================
Name                            ESI                             Admin     Oper
-------------------------------------------------------------------------------
ESI-71                          01:00:00:00:00:71:00:00:00:01 Enabled   Up
-------------------------------------------------------------------------------
Entries found: 1
===============================================================================

*A:PE1# show service system bgp-evpn ethernet-segment name "ESI-71" all
===============================================================================
Service Ethernet Segment
===============================================================================
Name                    : ESI-71
Admin State             : Enabled            Oper State         : Up
ESI                     : 01:00:00:00:00:71:00:00:00:01
Multi-homing            : allActive          Oper Multi-homing  : allActive
Source BMAC LSB         : 71-71
ES BMac Tbl Size        : 8                  ES BMac Entries    : 1
Lag Id                  : 1
ES Activation Timer     : 0 secs
Exp/Imp Route-Target    : target:00:00:00:00:71:00

Svc Carving             : auto
ES SHG Label            : 262142
===============================================================================

===============================================================================
EVI Information
===============================================================================
EVI                 SvcId               Actv Timer Rem      DF
-------------------------------------------------------------------------------
1                   1                   0                   no
-------------------------------------------------------------------------------
Number of entries: 1
===============================================================================
-------------------------------------------------------------------------------
DF Candidate list
-------------------------------------------------------------------------------
EVI                                     DF Address
-------------------------------------------------------------------------------
1                                       192.0.2.69
1                                       192.0.2.72
-------------------------------------------------------------------------------
Number of entries: 2
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------

===============================================================================
ISID Information
===============================================================================
ISID                SvcId               Actv Timer Rem      DF
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
20001              20001              0                   no
-------------------------------------------------------------------------------
Number of entries: 1
===============================================================================
-------------------------------------------------------------------------------
DF Candidate list
-------------------------------------------------------------------------------
ISID                                DF Address
-------------------------------------------------------------------------------
20001                               192.0.2.69
20001                               192.0.2.72
-------------------------------------------------------------------------------
Number of entries: 2
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
===============================================================================
BMAC Information
===============================================================================
SvcId                               BMacAddress
-------------------------------------------------------------------------------
20000                               00:00:00:00:71:71
-------------------------------------------------------------------------------
Number of entries: 1
===============================================================================
```

Output example: show service system BGP EVPN ES information

```
A: node-2# show service system bgp-evpn ethernet-segment name "ES-1"
===============================================================================
Service Ethernet Segment
===============================================================================
Name                    : ES-1
Eth Seg Type            : Virtual
Admin State             : Enabled           Oper State         : Up
ESI                     : 01:00:00:00:00:00:01:00:00:00
Oper ESI                : 01:00:00:00:00:00:01:00:00:00
Auto-ESI Type           : None
AC DF Capability        : Include
Multi-homing            : allActive         Oper Multi-homing  : allActive
ES Split Horizon Label  : 524285
ES Split Horizon Arg    : 1
Source BMAC LSB         : None
Lag Id                  : 1
ES Activation Timer     : 0 secs
Oper Group              : (Not Specified)
Svc Carving             : manual            Oper Svc Carving   : manual
Cfg Range Type          : lowest-pref

-------------------------------------------------------------------------------
DF Pref Election Information
-------------------------------------------------------------------------------
Preference     Preference     Last Admin Change        Oper Pref      Do No
Mode           Value                                   Value          Preempt
-------------------------------------------------------------------------------
non-revertive  30             01/12/2026 19:28:56      30             Enabled
-------------------------------------------------------------------------------
EVI Ranges: <none>
ISID Ranges: <none>
Vprn NextHop EVI Ranges : <none>
Adv IFL Host Ad Routes  : Enabled
Route-Tag               : <default>         Bgp-Instance       : 1
EVPN Nbr Sync           : disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Output example: show service system BGP EVPN ES information for configured auto-ESI with operational ESI derived

```
A: node-2# show service system bgp-evpn ethernet-segment name "ES-1"
============================================================
Service Ethernet Segment
============================================================
Name            : ES-1
Eth Seg Type    : None
Admin State     : Enabled     Oper State         : Up
ESI             : auto-esi
Oper ESI        : 01:00:ca:fe:ca:fe:00:01:01:00
Auto-ESI Type   : Type 1
AC DF Capability: Exclude
Multi-homing    : allActive   Oper Multi-homing  : allActive
```

Output example: show service system BGP EVPN ES information for configured auto-ESI with operational ESI pending derivation

```
A: node-2# show service system bgp-evpn ethernet-segment name "ES-1"
============================================================
Service Ethernet Segment
============================================================
Name            : ES-1
Eth Seg Type    : None
Admin State     : Enabled     Oper State         : Up
ESI             : auto-esi
Oper ESI        : None
Auto-ESI Type   : Type 1
AC DF Capability: Exclude
Multi-homing    : allActive   Oper Multi-homing  : allActive
```

Output example: show service system BGP EVPN ES information for manually configured ESI

```
A: node-2# show service system bgp-evpn ethernet-segment name "ES-1"
============================================================
Service Ethernet Segment
============================================================
Name            : ES-1
Eth Seg Type    : None
Admin State     : Enabled     Oper State         : Up
ESI             : 01:00:ca:fe:ca:fe:00:01:01:00
Oper ESI        : 01:00:ca:fe:ca:fe:00:01:01:00
Auto-ESI Type   : None
AC DF Capability: Exclude
Multi-homing    : allActive   Oper Multi-homing  : allActive
```

Output example: show service system BGP EVPN ES information for manually configured ESI with all option

```
A: node-2# show service system bgp-evpn ethernet-segment name "ES23" all
===============================================================================
Service Ethernet Segment
===============================================================================
Name                    : ES23
Eth Seg Type            : None
Admin State             : Enabled            Oper State         : Up
ESI                     : 00:ca:ca:de:ba:ca:00:ee:ca:ca
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Oper ESI                : 00:ca:ca:de:ba:ca:00:ee:ca:ca
Auto-ESI Type           : None
AC DF Capability        : Include
Multi-homing            : singleActive       Oper Multi-homing  : singleActive
ES SHG Label            : 524249
Source BMAC LSB         : None
Vprn Next Hop           : 1.1.1.1
PW Port Id              : 20
PW Port Headend         : enabled
ES Activation Timer     : 0 secs
Oper Group              : (Not Specified)
Svc Carving             : manual             Oper Svc Carving   : manual
Cfg Range Type          : lowest-pref
-------------------------------------------------------------------------------
DF Pref Election Information
-------------------------------------------------------------------------------
Preference     Preference     Last Admin Change        Oper Pref      Do No
Mode           Value                                   Value          Preempt
-------------------------------------------------------------------------------
non-revertive  20             01/17/2022 18:39:59      20             Enabled
-------------------------------------------------------------------------------
EVI Ranges: <none>
ISID Ranges: <none>
Vprn NextHop EVI Ranges : <none>
Adv IFL Host Ad Routes  : Enabled
Route-Tag               : <default>          Bgp-Instance       : 1
EVPN Nbr Sync           : disabled
===============================================================================
-------------------------------------------------------------------------------
Vprn NextHop Evi Ranges
-------------------------------------------------------------------------------
From                To                  Last Update
-------------------------------------------------------------------------------
12345               12345               09/05/2022 19:01:28
-------------------------------------------------------------------------------
===============================================================================
EVI Information
===============================================================================
EVI                 SvcId               Actv Timer Rem      DF
-------------------------------------------------------------------------------
20211               20211               0                   no
-------------------------------------------------------------------------------
Number of entries: 1
===============================================================================
-------------------------------------------------------------------------------
DF Candidate list
-------------------------------------------------------------------------------
EVI                                     DF Address
-------------------------------------------------------------------------------
20211                                   2001:db8::2
20211                                   2001:db8::3
-------------------------------------------------------------------------------
Number of entries: 2
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
```

Output example: show service system BGP EVPN ES information for unconfigured auto-ESI and ESI

```
A: node-2# show service system bgp-evpn ethernet-segment name "ES-1"
===========================================================
Service Ethernet Segment
===========================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Name            : ES-1
Eth Seg Type    : None
Admin State     : Enabled     Oper State         : Up
ESI             : None
Oper ESI        : None
Auto-ESI Type   : None
AC DF Capability: Exclude
Multi-homing    : allActive   Oper Multi-homing  : allActive
```

Output example: port-active mode

```
A: node-2# show service system bgp-evpn ethernet-segment name "ES-1" port-active
===============================================================================
Service Ethernet Segment
===============================================================================
Name                    : ES-1
Eth Seg Type            : None
Admin State             : Enabled            Oper State         : Up
ESI                     : 01:00:00:00:00:00:01:00:00:00
Oper ESI                : 01:00:00:00:00:00:01:00:00:00
Auto-ESI Type           : None
AC DF Capability        : Exclude
Multi-homing            : portActive         Oper Multi-homing  : portActive
ES Split Horizon Label  : 524285
ES Split Horizon Arg    : 1
Source BMAC LSB         : None
Lag Id                  : 1
ES Activation Timer     : 0 secs
Oper Group              : (Not Specified)
Svc Carving             : auto               Oper Svc Carving   : auto
Cfg Range Type          : primary
Vprn NextHop EVI Ranges : <none>
Adv IFL Host Ad Routes  : Enabled
Route-Tag               : <default>          Bgp-Instance       : 1
EVPN Nbr Sync           : disabled
===============================================================================

===============================================================================
Port Active
===============================================================================
Designated Forwarder                  : No
DF timer Remaining                    : 0
DF Last Changed                       : 09/20/2026 15:52:14
===============================================================================

===============================================================================
Port Active DF Candidate list
===============================================================================
DF Candidates                      Time Added          Oper Pref   Do Not
                                                         Value     Preempt
-------------------------------------------------------------------------------
2001:db8::2                        09/20/2026 15:52:35 0           Disabled
2001:db8::3                        09/20/2026 15:52:47 0           Disabled
-------------------------------------------------------------------------------
Number of entries: 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 49: Output fields: BGP-EVPN

Label	Description
Eth Seg Route Dist	Specifies the ES Route Distinguisher.
Eth Seg Oper Route Dist	Specifies the operational ES Route Distinguisher.
Eth Seg Oper Route Dist Type	Specifies the operational ES Route Distinguisher type.
Ad Per ES Route Target	Specifies the AD per-ES route target.
Leaf Label	Specifies the leaf label.
Alloc Leaf Label	Specifies the allocated leaf label.
Leaf Label Value	Specifies the leaf label value.
EVI RT set Route Dist.	Specifies the EVI RT set range.
Extended Evi Range	Specifies the EVI extended range status.
Mcast Leave Sync Prop	Specifies the multicast leave synchronization propagation time.
Attribute Uniform Prop	Specifies the attribute uniform propagation configuration.
BGP Path Selection	Specifies the configuration of the BGP Path Selection.
D-Path Length ignore	Specifies the configuration of the D-Path Length ignore.
EVPN Tunnel Dot1ad Ethertype	Specifies the configuration of the EVPN Tunnel 802.1ad Ethertype.

Table 50: Output fields: BGP EVPN ES

Field	Description
Name	The Ethernet Segment name
Eth Seg Type	The Ethernet Segment type
Admin State	The administrative state for this service Ethernet Segment
Oper State	The operational state for this service Ethernet Segment

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
ESI	The Ethernet Segment Identifier
Oper ESI	The current operational Ethernet Segment Identifier
Auto-ESI Type	The auto-derived Ethernet Segment Identifier type
AC DF Capability	The AC-DF Capability status (Exclude or Include)
Multi-homing	The multihoming mode for the Ethernet Segment
Oper Multi-homing	The operational multihoming mode for the Ethernet Segment
ES SHG Label	The ES Split Horizon Group label
Source BMAC LSB	The source BMac least significant bit
Vprn Next Hop	The IP address associated with an Ethernet Segment
PW Port Id	The PW port ID
PW Port Headend	The PW port headend status
ES BMac Tbl Size	The ES BMac table size
ES BMac Entries	The ES BMac entries
Lag Id	The LAG ID
ES Activation Timer	The ES activation timer
Svc Carving	The service carving type
Oper Svc Carving	The operational service carving type
Cfg Range Type	The configured range type
DF Pref Election Information	
Preference Mode	The preference mode
Preference Value	The preference value
Last Admin Change	The date and time of the last administrative change
Oper Pref Value	The operational preference value
Do No Preempt	The Do Not Preempt status
EVI Ranges	The EVI ranges
ISID Ranges	The ISID ranges
Vprn NextHop Evi Ranges	The Vprn NextHop Evi ranges

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Adv IFL Host Ad Routes	The Adv IFL Host Ad ranges
Route-Tag	The route tag value
EVPN Nbr Sync	The EVPN neighbor synchronization status
From	The beginning point of the EVI range
To	The ending point of the EVI range
Last Update	The date and time of the last range update
EVI Information	
EVI	The EVPN instance
SvcId	The service ID
Actv Timer Rem	The active timer rem value
DF	The designated forwarder status
Number of entries:	The number of entries
EVI DF and Candidate List	
DF Last Change	The date and time of the last DF candidate change
DF Candidates	The DF candidate IP address
Time Added	The date and time of the DF candidate addition
Q-Tag Ranges	
Q-Tag Start	The Q-Tag start range value
Q-Tag End	The Q-Tag end range value
Last Changed	The date and time of the last change
VC-Id Ranges	
VC-Id Start	The VC-Id start range value
VC-Id End	The VC-Id end range value
S-Tag Ranges	
S-Tag Start	The S-Tag start value
S-Tag End	The S-Tag end value
S-Tag C-Tag Ranges	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
C-Tag Start	The C-Tag start value
C-Tag End	The C-Tag end value
Vxlan Instance Service Ranges	
Svc Range Start	The service range start in this Vxlan instance
Svc Range End	The service range end in this Vxlan instance
Port Active	
Designated Forwarder	The designated forwarder status
DF timer remaining	The time remaining for the designated forwarder
DF last changed	The time of the last update to the designated forwarder
DF Candidates	The designated forwarder name
Time Added	The time the designated forwarder was added
Oper Pref Value	The operational preference value
Do Not Preempt	The Do Not Preempt status

bgp-evpn

Syntax

bgp-evpn

Context

[Tree] (tools>dump>service>system bgp-evpn)

Full Context

tools dump service system bgp-evpn

Description

Commands in this context display information about the BGP-EVPN base instance.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5.12 bgp-evpn-multi-homing

bgp-evpn-multi-homing

Syntax

bgp-evpn-multi-homing

Context

[Tree] (show>redundancy bgp-evpn-multi-homing)

Full Context

show redundancy bgp-evpn-multi-homing

Description

This command shows the information related to the EVPN global timers.

Platforms

All

Output

Output example

```
*A:PE2# show redundancy bgp-evpn-multi-homing
===============================================================================
Redundancy BGP EVPN Multi-homing Information
===============================================================================
Boot-Timer              : 10 secs
Boot-Timer Remaining    : 0 secs
ES Activation Timer     : 3 secs
===============================================================================
```

5.13 bgp-ipvpn

bgp-ipvpn

Syntax

bgp-ipvpn

Context

[Tree] (show>service>id bgp-ipvpn)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id bgp-ipvpn

Description

This command displays the BGP IPVPN configured parameters for a specified service.

Platforms

All

Output

The following outputs are examples of BGP IP VPN information, and Table 51: Output fields: BGP IPVPN describes the output fields:

- Output example (BGP-IPVPN showing static service label configured)
- Output example ((BGP-IPVPN MPLS information)

Output example (BGP-IPVPN showing static service label configured)

```
A:node-2# show service id 30 bgp-ipvpn

===============================================================================
Service 30 BGP-IPVPN MPLS Information
===============================================================================
Admin State       : Down                Oper State        : Down
VRF Import        : None
VRF Export        : None
Route Dist.       : None
Oper Route Dist   : 0:0
Oper RD Type      : none
Route Target      : None
Route Target Impor: None
Route Target Expor: None
Domain-Id         : None
Dyn Egr Lbl Limit : Disabled
Static Serv Lbl   : 32
Oper Serv Lbl     : None

Auto-Bind Tunnel
Resolution        : disabled            Strict Tnl Tag    : Disabled
ECMP              : 1                   Untagged Route    : none
Weighted ECMP     : Disabled            Flex Algo FB      : Disabled
St Blackhole First: Disabled
BGP Instance      : 1
Filter Tunnel Type: bgp
===============================================================================
```

Output example (BGP-IPVPN MPLS information)

```
A: node-2# show service id 2000 bgp-ipvpn
===============================================================================
Service 2000 BGP-IPVPN MPLS Information
===============================================================================
Admin State       : Up
VRF Import        : None
VRF Export        : None
Route Dist.       : 0:0
Oper Route Dist   : 192.0.2.3:64000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Oper RD Type      : auto
Route Target      : None
Route Target Impor: None
Route Target Expor: None
D-Path Domain-Id  : 65000:1
<snip>
```

Table 51: Output fields: BGP IPVPN

Label	Description
Admin State	The administrative state
Oper State	The operational state
VRF Import	The VRF import
VRF Export	The VRF export
Route Dist.	The route distinguisher
Oper Route Dist	The operational route distinguisher
Oper RD Type	The operational RD type
Route Target	The route target
Route Target Impor	The route target import
Route Target Expor	The route target export
Domain-Id	The domain ID
Dyn Egr Lbl Limit	The dynamic egress label limit
Static Serv Lbl	The static service label, which configures the static per-VRF MPLS service label. This enables the use of the static service label and anycast addresses or SIDs to reach any one of two or more provider edge (PE) nodes in the forwarding of Layer 3 service traffic.
Oper Serv Lbl	The operational service label is used by the core MPLS network (P routers) to forward the packet from the ingress PE router to the egress PE router.
Auto-Bind Tunnel	
Resolution	Indicates if resolution is enabled, which is a mechanism used by a PE router to automatically select an appropriate transport tunnel to carry VPN service traffic
Strict Tnl Tag	Indicates if strict tunnel tagging is enabled. When enabled, it means the system only considers tunnels that have a matching tunnel tag to the one specified or implied by the service or route.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
ECMP	The ECMP value
Untagged Route	The untagged route refers to a BGP route that does not have an administrative tag policy applied to it
Weighted ECMP	Indicates if Weighted ECMP is enabled
Flex Algo FB	The flexible algorithm fallback allows users to define custom routing algorithms beyond the standard shortest path calculation
St Blackhole First	Mechanism for a PE router to locally override BGP-learned VPN routes with a blackhole route. This gives immediate control over traffic forwarding for specific prefixes, often used for traffic suppression or mitigation purposes.
BGP Instance	The BGP instance
Filter Tunnel Type	The field tunnel types specify which types of underlying tunnels are allowed or preferred for resolving the BGP next hop of IPVPN routes

5.14 bgp-ls

bgp-ls

Syntax

bgp-ls [**hunt**] [**node** | **link** | **ipv4-prefix** [*ipv4-prefix*/*mask-len*]]

Context

[Tree] (show>router>bgp>routes bgp-ls)

Full Context

show router bgp routes bgp-ls

Description

This command displays BGP Link-State (BGP-LS) routes.

Parameters

hunt

Displays detailed information about the routes, including information about the advertised routes (RIB-OUT).

node

Displays BGP-LS link NLRI routes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

link

Displays BGP-LS node NLRI routes.

ipv4-prefix

Displays BGP-LS IPv4-prefix NLRI routes.

ipv4-prefix/prefix-length

Displays the entries matching the specified IPv4 prefix and length.

Values		
	ipv4-prefix:	a.b.c.d (host bits must be 0)
	ipv4-prefix-length:	0 to 32

Platforms

All

Output

The following outputs are examples of BGP-LS information:

- Output example: router bgp routes bgp-ls
- Output example: router bgp routes bgp-ls hunt link

Output example: router bgp routes bgp-ls

```
# show router bgp routes bgp-ls
===============================================================================
BGP-LS NLRIs
===============================================================================
-------------------------------------------------------------------------------
Type: Node
Protocol: ISIS | OSPFLevel: L1 | L2 | NA
Identifier:
Network : 215.0.0.0/24
Nexthop : 202.50.0.2
Path Id : None
From : 10.255.105.141
AS Path: 65534
Local Node
   Name:
   Autonomous System:
   Area ID:
   Rtr ID:
   Flags:
Type: Link
Protocol: ISIS | OSPFLevel: L1 | L2 | NA
Identifier:
Network : 215.0.0.0/24
Nexthop : 202.50.0.2
Path Id : None
From : 10.255.105.141
AS Path: 65534
Local Node
   Name:
   Autonomous System:
   Area ID:
   Rtr ID:
Remote Node
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   Name:
   Autonomous System:
   Area ID:
   Rtr ID:
Descriptor
   IPv4 Address: 10.10.1.1
Attributes
   Flags:
   IGP Metric: 1000
   Admin-Grp: 0
   Maximum Link BW (kbps): 100000
   Maximum Reservable BW (kbps): 100000
   TE Default Metric: 1000
   Unreserved BW (kbps): 10000

Type: IPv4 Prefix
Protocol: ISIS | OSPFLevel: L1 | L2 | NA
Identifier:
Network : 215.0.0.0/24
Nexthop : 202.50.0.2
Path Id : None
From : 10.255.105.141
AS Path: 65534
Local Node
   Name:
   Autonomous System:
   Area ID: 0.0.0.0
   Rtr ID: 10.20.1.6
   Flags:
Prefix descriptor
   IPv4 Address: 10.20.1.6
   Prefix-len: 32
   MT_ID :0
   Route Type :Unknown
```

Output example: router bgp routes bgp-ls hunt link

```
# show router bgp routes bgp-ls hunt link
===============================================================================
 BGP Router ID:38.120.48.226    AS:65000       Local AS:65000
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP-LS Link NLRIs
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network:
 Type          : LINK-NLRI
 Protocol      : ISIS Level-2           Identifier     : 0xa
 Local Node descriptor:
  Autonomous System  : 0.0.253.232
  Link State Id      : 10
  IGP Router Id      : 0x38120048184
 Remote Node descriptor:
  Autonomous System  : 0.0.253.232
  Link State Id      : 10
  IGP Router Id      : 0x38120048223
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Link descriptor:
  IPV4 Interface Addr: 10.0.14.184
  IPV4 Neighbor Addr : 10.0.14.223
Nexthop        : 38.120.48.199
From           : 38.120.48.199
Res. Nexthop   : 0.0.0.0
Local Pref.    : 100                    Interface Name : NotAvailable
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 38.120.48.199
Flags          : Valid  Best  IGP
Route Source   : Internal
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : N/A
Orig Validation: N/A
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
Last Modified  : 02h27m50s
-------------------------------------------------------------------------------
Link State Attribute TLVs :
 Administrative group (color) : 0x0
 Maximum link bandwidth : 100000 Kbps
 Max. reservable link bandwidth : 100000 Kbps
 Unreserved bandwidth0 : 100000 Kbps
 Unreserved bandwidth1 : 100000 Kbps
 Unreserved bandwidth2 : 100000 Kbps
 Unreserved bandwidth3 : 100000 Kbps
 Unreserved bandwidth4 : 100000 Kbps
 Unreserved bandwidth5 : 100000 Kbps
 Unreserved bandwidth6 : 100000 Kbps
 Unreserved bandwidth7 : 100000 Kbps
 TE Default Metric : 100
 IGP Metric : 100
 Adjacency Segment Identifier (Adj-SID) :       flags 0x30 weight 0 sid 262136
-------------------------------------------------------------------------------
Network:
 Type          : LINK-NLRI
 Protocol      : ISIS Level-2            Identifier     : 0xa
 Local Node descriptor:
  Autonomous System  : 0.0.253.232
  Link State Id      : 10
  IGP Router Id      : 0x38120048184
 Remote Node descriptor:
  Autonomous System  : 0.0.253.232
  Link State Id      : 10
  IGP Router Id      : 0x38120048223
 Link descriptor:
  IPV4 Interface Addr: 10.0.14.184
  IPV4 Neighbor Addr : 10.0.14.223
Nexthop        : 38.120.48.221
From           : 38.120.48.221
Res. Nexthop   : 0.0.0.0
Local Pref.    : 100                    Interface Name : NotAvailable
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Originator Id  : None                   Peer Router Id : 38.120.48.221
Flags          : Valid  IGP
TieBreakReason : OriginatorID
Route Source   : Internal
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : N/A
Orig Validation: N/A
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
Last Modified  : 02h27m54s
-------------------------------------------------------------------------------
Link State Attribute TLVs :
 Administrative group (color) : 0x0
 Maximum link bandwidth : 100000 Kbps
 Max. reservable link bandwidth : 100000 Kbps
 Unreserved bandwidth0 : 100000 Kbps
 Unreserved bandwidth1 : 100000 Kbps
 Unreserved bandwidth2 : 100000 Kbps
 Unreserved bandwidth3 : 100000 Kbps
 Unreserved bandwidth4 : 100000 Kbps
 Unreserved bandwidth5 : 100000 Kbps
 Unreserved bandwidth6 : 100000 Kbps
 Unreserved bandwidth7 : 100000 Kbps
 TE Default Metric : 100
 IGP Metric : 100
 Adjacency Segment Identifier (Adj-SID) :       flags 0x30 weight 0 sid 262136
-------------------------------------------
```

5.15 bgp-multi-homing

bgp-multi-homing

Syntax

bgp-multi-homing

Context

[Tree] (show>redundancy bgp-multi-homing)

Full Context

show redundancy bgp-multi-homing

Description

This command displays BGP multi-homing information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5.16 bgp-nh-info

bgp-nh-info

Syntax

bgp-nh-info [**location** *location-id*] [**bgp-nh** *ip-address*]

Context

[Tree] (show>router>bgp>orr bgp-nh-info)

Full Context

show router bgp optimal-route-reflection bgp-nh-info

Description

This command displays the calculated IGP cost from a particular location ID to all prefixes containing BGP next-hop addresses.

Parameters

location-id

Specifies the ORR location identifier.

Values 1 to 16 (7750 SR-12, VSR)
1 to 255 (all other platforms)

ip-address

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d.
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

All

Output

The following output is an example of BGP next-hop information, and Output fields: ORR BGP next-hop information describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
*A:Dut-C# show router bgp optimal-route-reflection bgp-nh-info
===============================================================================
ORR BGP-NH Table (Router: Base)
===============================================================================
Location 1:
    Primary        : 1.1.1.1
    Secondary      : -
    Tertiary       : -
    Primary-ipv6   : 2001::1
    Secondary-ipv6 : -
    Tertiary-ipv6  : -
Age          : 00h00m00s
Spf wait     : 60
Initial wait : 5
Second wait  : 15
-------------------------------------------------------------------------------
Next Hop
   Loc    Dest-Prefix
                              DB-Source  Type         Proto     Metric    Pref
-------------------------------------------------------------------------------
10.0.0.10
    1     Unreachable
192.0.2.1
    1     Unreachable
-------------------------------------------------------------------------------
No. of BGP-NHs: 2
===============================================================================
```

Table 52: Output fields: ORR BGP next-hop information

Label	Description
Next Hop Loc	The address of the next-hop location.
Dest-Prefix	Displays the longest prefix match for the BGP next-hop address from the point of view of a specific location. Displays "unreachable” if no route exists to the BGP next-hop from the location.
DB-Source	Displays the source of the reachability information in the TE database.
Type	Displays the type of route or reachability, either intra-area or inter-area.
Proto	Displays the source protocol that is providing reachability to the BGP next-hop address.
Metric	Displays the IGP cost to reach the BGP next-hop from the location reference point.
Preference	Displays the routing preference of the route that is providing reachability to the BGP next-hop address. This is derived from standard protocol preference values.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5.17 bgp-peering-policy

bgp-peering-policy

Syntax

bgp-peering-policy [*policy-name*]

Context

[Tree] (show>subscr-mgmt bgp-peering-policy)

Full Context

show subscriber-mgmt bgp-peering-policy

Description

This command displays BGP peering policy information.

Parameters

policy-name

Specifies the BPG peering policy name, up to 32 characters.

Platforms

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

Output

The following output is an example of BGP peering policy information, and Table 53: Output fields: BGP peering policy describes the output fields.

Output example

```
*A:Dut-C# show subscriber-mgmt bgp-peering-policy "bgp-policy-1"
===============================================================================
BGP Peering Policy: bgp-policy-1
===============================================================================
Description        : BGPv4 peering policy / single hop / bfd
IP address family
    IPv4           : Yes
    IPv6           : Yes
Advertise Inactive : Inherited         Aggregator id zero : Inherited
AS Override        : Inherited         Auth Key Chain     : Inherited
Authentication Key : Inherited
BFD Enable         : Enabled           Cluster Id         : Inherited
Connect Retry      : Inherited         Damping            : Inherited
Disable Client Ref*: Inherited         Disable Communities: Inherited
Disable FE Failover: Inherited         Hold Time          : Inherited
Keep Alive         : Inherited         Local Address      : 10.3.2.254
Local AS           : 65536             Local Preference   : Inherited
Loop Detect        : Inherited         MED Out            : Inherited
Min Route Advertis*: Inherited
Multihop           : Inherited         Next Hop Self      : Inherited
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Passive            : Inherited          Peer AS            : 65536
Preference         : Inherited          Prefix Limit       : Inherited
Prefix Log Only    : Inherited          Prefix Threshold   : Inherited
Remove Private AS  : Inherited          TTL Security       : Inherited
Type               : Internal           Disable 4byte ASN  : Inherited
Export Policy      : None Specified / Inherited
Import Policy      : None Specified / Inherited
Last Mgmt Change   : 05/22/2023 14:35:03

-------------------------------------------------------------------------------
Prefix Limits Per Address Family
-------------------------------------------------------------------------------
Family         Limit          Idle Timeout   Threshold Log Only  Post Import
-------------------------------------------------------------------------------
ipv4           100            forever        90        Enabled   Disabled
ipv6           50             forever        90        Enabled   Disabled
-------------------------------------------------------------------------------
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Table 53: Output fields: BGP peering policy

Label	Description
Description	Displays the description of the BGP peering policy
IP address family IPv4	Displays whether the IPv4 family is enabled
IP address family IPv6	Displays whether the IPv6 family is enabled
Advertise Inactive	Displays whether inactive BGP routes are advertised to other BGP peers
Aggregator id zero	Displays whether the router ID in the BGP aggregator path attribute is set to zero when BGP aggregates routes
AS Override	Displays whether the peer ASN is overridden with the local ASN in AS Path
Auth Key Chain	Displays the authentication key chain name
Authentication Key	Displays whether and authentication key is configured
BFD enable	Displays the BFD enable status
Cluster Id	Displays the cluster ID
Connect Retry	Displays the connect retry timer value in seconds
Damping	Displays whether BGP route damping for learned routes is enabled
Disable Client Ref*	Displays whether routes received from neighbors considered to be RR clients are reflected to other clients

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Disable Communities	Displays whether standard or extended communities are sent
Disable FE Failover	Displays the BGP fast external failover state
Hold Time	Displays the hold time in seconds before closing the BGP connection
Keep Alive	Displays the keepalive timer value in seconds
Local Address	Displays the local IP address
Local AS	Displays the local AS value
Local Preference	Displays the local preference value
Loop Detect	Displays the loop detect type: drop-peer|ignore-loop|off|discard-route
MED Out	Displays the Multi-Exit Discriminator value or "IGP Cost"
Min Route Advertis*	Displays the minimum interval in seconds for a prefix to be advertised to a peer
Multihop	Displays the TTL value entered in IP header of packets sent to peer
Next Hop Self	Displays whether the next hop path attribute is set to self when advertising
Passive	Displays whether to wait passively for BGP peer to connect
Peer AS	Displays the peer AS value
Preference	Displays the preference value
Prefix Limit	Displays the prefix limit type
Prefix Log Only	Displays the prefix log only type
Prefix Threshold	Displays the prefix threshold type
Remove Private AS	Displays whether private AS numbers up to first public ASN encountered should be removed
TTL Security	Displays the minimum TTL value for incoming BGP packets
Type	Displays the BGP peer type (Internal | External | No Type)
Disable 4byte ASN	Displays whether 4-byte AS numbers are used
Export Policy	Displays the export policies
Import Policy	Displays the import policies

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Last Mgmt Change	Displays the date and time of the last management change
Prefix Limits Per Address Family	
Family	Displays the address family: ipv4 | ipv6
Limit	Displays the maximum number of BGP routes per address family that can be received from an ESM dynamic BGP peer before an administrative action is taken
Idle Timeout	Displays the time, in minutes, before a BGP peer is automatically re-established after reaching the prefix limit. When unconfigured, this value is "forever" and a manual reset must be performed to re-establish the BGP peer after reaching the prefix limit.
Threshold	Displays the percentage threshold before triggering a warning message
Log Only	Displays whether only a warning message is sent or also the BGP session is taken down
Post Import	Displays the state on whether limits should be applied after import policies

5.18 bgp-route-distinguisher

bgp-route-distinguisher

Syntax

bgp-route-distinguisher [**vprn**] [**vpls**] [**epipe**]

bgp-route-distinguisher svc

bgp-route-distinguisher ad-evi-rt-set

bgp-route-distinguisher system

Context

[Tree] (show>service>system bgp-route-distinguisher)

Full Context

show service system bgp-route-distinguisher

Description

This command displays the BGP operational route distinguishers (RDs) used by all the BGP-enabled services in the system. The information can be filtered by service: VPRN, VPLS, or Epipe. The output

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

can also be filtered to show only the relevant RD information related to services (**svc**), or the EVPN Auto-Discovery routes (**ad-evi-rt-set**), or the system RDs (**system**).

Platforms

All

Output

The following output is an example of service BGP route disinguisher information.



Note: In the "Service System BGP Route Distinguisher Information" section of the sample output, the EVI RT Set RD Range is 1.2.3.6:1 to 1.2.3.6:512 when the Extended Evi Range is disabled. When the Extended Evi Range is enabled, the EVI RT Set RD Range is 1.2.3.6:1 to 1.2.3.6:65535.

Output example: service system bgp-route-distinguisher

```
*A:PE-2# show service system bgp-route-distinguisher
===============================================================================
Service Route Distinguishers
===============================================================================
Svc Id     Type  Oper Route-Distinguisher         Route-Distinguisher
-------------------------------------------------------------------------------
501        vprn  192.0.2.2:60000                  auto
800        vprn  192.0.2.2:60001                  auto
1          vpls  192.0.2.2:1                      configured
1          vpls  192.0.2.2:2                      configured
101        vpls  192.0.2.2:101                    configured
101        vpls  192.0.2.2:102                    configured
500        vpls  192.0.2.2:500                    derivedEvi
600        vpls  192.0.2.2:600                    derivedEvi
804        vpls  192.0.2.2:804                    derivedEvi
701        epipe 192.0.2.2:701                    derivedEvi
702        epipe 192.0.2.2:702                    derivedEvi
-------------------------------------------------------------------------------
Number of RD Entries: 11
===============================================================================
===============================================================================
Service System BGP Route Distinguisher Information
===============================================================================
                    Oper Route Distinguisher                      Type
-------------------------------------------------------------------------------
Auto-rd             192.0.2.2:60000-192.0.2.2:65000               configured
Ethernet-segment    192.0.2.2:0                                   default
EVI RT Set RD Range 1.2.3.6:1-1.2.3.6:512                         configured
// the above is the case when the "Extended Evi Range" is disabled.
// When enabled :it is "1.2.3.6:1-1.2.3.6:65535"
===============================================================================
===============================================================================
BGP EVPN Ethernet Segment AD EVI RT Set Route Distinguishers
===============================================================================
Eth Seg                          EVI     Svc ID     Route Distinguisher
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Entries: 0
===============================================================================
*A:PE-2# show service system bgp-route-distinguisher vpls
===============================================================================
Service Route Distinguishers
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Svc Id     Type  Oper Route-Distinguisher         Route-Distinguisher
-------------------------------------------------------------------------------
1          vpls  192.0.2.2:1                     configured
1          vpls  192.0.2.2:2                     configured
101        vpls  192.0.2.2:101                   configured
101        vpls  192.0.2.2:102                   configured
500        vpls  192.0.2.2:500                   derivedEvi
600        vpls  192.0.2.2:600                   derivedEvi
804        vpls  192.0.2.2:804                   derivedEvi
-------------------------------------------------------------------------------
Number of RD Entries: 7
===============================================================================
===============================================================================
Service System BGP Route Distinguisher Information
===============================================================================
                   Oper Route Distinguisher                      Type
-------------------------------------------------------------------------------
Auto-rd            192.0.2.2:60000-192.0.2.2:65000               configured
Ethernet-segment   192.0.2.2:0                                   default
EVI RT Set RD Range <none>
===============================================================================
===============================================================================
BGP EVPN Ethernet Segment AD EVI RT Set Route Distinguishers
===============================================================================
Eth Seg                          EVI     Svc ID     Route Distinguisher
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Entries: 0
===============================================================================
```

5.19 bgp-vpws

bgp-vpws

Syntax

bgp-vpws

Context

[Tree] (show>service>id bgp-vpws)

Full Context

show service id bgp-vpws

Description

This command displays BGP VPWS related information for the service.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of BGP VPWS information.

Output example

```
*A:cses-E11>config>service>epipe>bgp-vpws# show service id 2 bgp-vpws
===============================================================================
BGP VPWS Information
===============================================================================
Admin State          : Enabled
VE Name              : PE1                  VE Id           : 1
PW Template          : 2
Route Dist           : 65536:3
Rte-Target Import    : 65536:2              Rte-Target Export: 65536:2

PW-Template Id       : 2
Import Rte-Tgt       : None
-------------------------------------------------------------------------------
Remote-Ve Information
-------------------------------------------------------------------------------
Remote VE Name       : PE2                  Remote VE Id     : 2
===============================================================================
*A:cses-E11>config>service>epipe>bgp-vpws#
```

5.20 bier

bier

Syntax

bier

Context

[Tree] (clear>router bier)

Full Context

clear router bier

Description

Commands in this context clear and reset BIER entities.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

bier

Syntax

bier

Context

[Tree] (show>router bier)

Full Context

show router bier

Description

Commands in this context display BIER information.

Platforms

All

5.21 bier-info

bier-info

Syntax

bier-info [*system-id* | *lsp-id*] [**level** *level*]

Context

[Tree] (show>router>isis bier-info)

Full Context

show router isis bier-info

Description

This command displays IS-IS BIER sub-TLV information.

Parameters

system-id

Specifies the system ID, up to 72 characters.

lsp-id

Specifies the LSP ID, up to 72 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

5.22 bin-group

bin-group

Syntax

bin-group *bin-group-number* [**detail**]

Context

[Tree] (show>oam-pm bin-group)

Full Context

show oam-pm bin-group

Description

This command displays the configuration data for one or all OAM-PM bin groups.

Parameters

bin-group-number

Specifies an OAM-PM bin group.

Values 1 to 255

detail

Keyword to display additional exclusion and event monitoring information for the bin group.

Platforms

All

Output

The following outputs are examples of OAM-PM bin group information, and Table 54: Output fields: OAM-PM bin group information describes the output fields:

- Output example: OAM-PM bin group
- Output example: OAM-PM bin group detail

Output example: OAM-PM bin group

```
A:node-2# show oam-pm bin-group
-------------------------------------------------------------------------------
Configured Lower Bounds for Delay Tests, in microseconds
-------------------------------------------------------------------------------
Group Description                    Admin Bin     FD(us)    FDR(us)   IFDV(us)
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1     OAM PM default bin group (not*    Up   0          0          0          0
                                             1       5000       5000       5000
                                             2      10000          -          -
-------------------------------------------------------------------------------
2                                       Up   0          0          0          0
                                             1          1        500        250
                                             2        500       1000        500
                                             3       1000       1500       1000
                                             4       2000       2000       1500
                                             5       3000       2500       2000
                                             6       4000       3000       2500
                                             7       5000       3500       3000
                                             8       5500       4000       3500
                                             9       6500       4500       4000
-------------------------------------------------------------------------------
3                                       Up   0          0          0          0
                                             1          1        500        250
                                             2        500       1000        500
                                             3       1000       1500       1000
                                             4       2000       2000       1500
                                             5       3000       2500       2000
                                             6       4000       3000       2500
                                             7       5000       3500       3000
                                             8       5500       4000       3500
                                             9       6500       4500       4000
-------------------------------------------------------------------------------
* indicates that the corresponding row element may have been truncated.
```

Output example: OAM-PM bin group detail

```
A:node-2# show oam-pm bin-group 3 detail
-------------------------------------------------------------------------------
Configured Lower Bounds for Delay Tests, in microseconds
-------------------------------------------------------------------------------
Group Description                   Admin Bin     FD(us)    FDR(us)   IFDV(us)
-------------------------------------------------------------------------------
3                                       Up   0          0          0          0
                                             1          1        500        250
                                             2        500       1000        500
                                             3       1000       1500       1000
                                             4       2000       2000       1500
                                             5       3000       2500       2000
                                             6       4000       3000       2500
                                             7       5000       3500       3000
                                             8       5500       4000       3500
                                             9       6500       4500       4000
-------------------------------------------------------------------------------

---------------------------------------
Bins Excluded from Average
---------------------------------------
Bin Type     Direction            Bins
---------------------------------------
FD          round-trip             0,9
---------------------------------------

-------------------------------------------------------------------------
Delay Events Configured
-------------------------------------------------------------------------
Bin Type    Direction    Lowest Bin    Lower Bound (us)    Raise    Clear
-------------------------------------------------------------------------
FD         round-trip             8               5500      100     none
-------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------
Bins Excluded from Delay Event Count
-------------------------------------------------------------------
Bin Type     Direction     Lowest Excluded Bin     Lower Bound (us)
-------------------------------------------------------------------
FD          round-trip                      9                6500
-------------------------------------------------------------------

-------------------------------------------------------------------------------
Delay Events Configured
-------------------------------------------------------------------------------
Bin Type    Direction    Lowest Bin    Lower Bound (us)    Raise    Clear
-------------------------------------------------------------------------------
FD            forward             3                1000      200     none
-------------------------------------------------------------------------------

-------------------------------------------------------------------
Bins Excluded from Delay Event Count
-------------------------------------------------------------------
Bin Type     Direction     Lowest Excluded Bin     Lower Bound (us)
-------------------------------------------------------------------
FD             forward                      4                2000
-------------------------------------------------------------------
```

Table 54: Output fields: OAM-PM bin group information

Label	Description
Configured Lower Bounds for Delay Tests, in microseconds	
Group Description	The OAM-PM bin group description
Admin	Displays if the bin group is administratively up
Bin	The identifier for the bin group that is referenced by OAM-PM sessions
FD(us)	The number of frame delay (FD) bins created
FDR(us)	The number of frame delay range (FDR) bins created
IFDV(us)	The number of interframe delay variation (IFDV) bins created
Bins Excluded from Average	
Bin Type	The bin type: • FD – FD bin threshold configuration • FDR – FDR bin threshold configuration • IFDV – IFDV bin threshold configuration
Direction	The direction of the bin: • forward – the threshold is applied to the forward direction bin • backward – the threshold is applied to the backward direction bin • round-trip – the threshold is applied to the roundtrip direction bin

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Bins	The identifier for the bin group that is referenced by OAM-PM sessions
Delay Events Configured	
Bin Type	The bin type: • FD – FD bin threshold configuration • FDR – FDR bin threshold configuration • IFDV – IFDV bin threshold configuration
Direction	The direction of the bin: • forward – the threshold is applied to the forward direction bin • backward – the threshold is applied to the backward direction bin • round-trip – the threshold is applied to the roundtrip direction bin
Lowest Bin	The lowest bin number
Lower Bound (us)	The lower bound
Raise	The rising threshold that determines when the even is to be generated
Clear	The threshold when to generate the clear event
Bins Excluded from Delay Event Count	
Bin Type	The bin type: • FD – FD bin threshold configuration • FDR – FDR bin threshold configuration • IFDV – IFDV bin threshold configuration
Direction	The direction of the bin: • forward – the threshold is applied to the forward direction bin • backward – the threshold is applied to the backward direction bin • round-trip – the threshold is applied to the roundtrip direction bin
Lowest Excluded Bin	The lowest excluded bin
Lower Bound (us)	The lower bound

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5.23 bin-group-using

bin-group-using

Syntax

bin-group-using [**bin-group** *bin-group-number*]

Context

[Tree] (show>oam-pm bin-group-using)

Full Context

show oam-pm bin-group-using

Description

This command displays the list of sessions configured against one or all OAM-PM bin groups.

Parameters

bin-group-number

Specifies an OAM-PM bin group.

Values 1 to 255

Platforms

All

Output

The following outputs are examples of OAM-PM bin group session information, and Table 55: Output fields: OAM-PM bin group session information describes the output fields:

- Output example: OAM-PM bin group using
- Output example: OAM-PM bin group using bin-group 2

Output example: OAM-PM bin group using

```
A:node-2# show oam-pm bin-group-using
===============================================================================
OAM Performance Monitoring Bin Group Configuration for Sessions
===============================================================================
Bin Group       Admin   Session                           Session State
-------------------------------------------------------------------------------
2               Up      vpls1000-PM-AL5-1/1/9:1000.1000             Act
-------------------------------------------------------------------------------
3               Up      vpls1000-PM-YL4-1/1/9:1000.1000             Act
-------------------------------------------------------------------------------
===============================================================================
Admin: State of the bin group
Session State: The state of session referencing the bin-group
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: OAM-PM bin group using bin-group 2

```
A:node-2# show oam-pm bin-group-using bin-group 2
===============================================================================
OAM Performance Monitoring Bin Group Configuration for Sessions
===============================================================================
Bin Group       Admin   Session                              Session State
-------------------------------------------------------------------------------
2               Up      vpls1000-PM-AL5-1/1/9:1000.1000              Act
-------------------------------------------------------------------------------
===============================================================================
Admin: State of the bin group
Session State: The state of session referencing the bin-group
```

Table 55: Output fields: OAM-PM bin group session information

Label	Description
OAM Performance Monitoring Bin Group Configuration for Sessions	
Bin Group	The identifier for the bin group that is referenced by OAM-PM sessions
Admin	Displays if the bin group is administratively up
Session	The session associated with the bin group
Session State	Displays if the session is active

5.24 binding-label

binding-label

Syntax

binding-label [*label*] [**detail**]

binding-label [*label*] **egress-stats**

binding-label [*label*] **ingress-stats**

Context

[Tree] (show>router>mpls>forwarding-policies binding-label)

Full Context

show router mpls forwarding-policies binding-label

Description

This command displays the MPLS forwarding policy binding label information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

label

Specifies the label value.

Values 32 to 1048575

detail

Displays detailed information of the binding label.

egress-stats

Displays the egress statistics, if any, of all the instances of the specified forwarding policy.

ingress-stats

Displays ingress statistics information.

Platforms

All

Output

The following outputs are examples of MPLS forwarding policy binding label information, and Table 56: Output fields: MPLS binding label describes the output fields:

- Output example
- Output example: router MPLS forwarding policies binding label egress stats

Output example

```
===============================================================================
*A:Dut-C> show router mpls forwarding-policies binding-label
  - binding-label [<label>] [detail]
*A:Dut-C> show router mpls forwarding-policies binding-label
===============================================================================
Binding Label
===============================================================================
   Label                     Preference              Oper State
Policy Name
-------------------------------------------------------------------------------
   33                        253                     Down
indirect1
-------------------------------------------------------------------------------
No. of Binding Labels: 1
===============================================================================
*A:Dut-C> show router mpls forwarding-policies binding-label detail
===============================================================================
Binding Label (Detail)
===============================================================================
Label          : 33                    Preference     : 253
Policy Name    : indirect1
Oper State     : Down                  OperDownReason : notApplicable
Down Time      : 09/28/2018 19:53:33   NumNextHopGrps : 1
Ingress Stats  : Disabled              IngrOperState  : Down
Revert Timer   : 600
Retry Count    : 0                     Next Retry In  : 0
Next-hop Group : 1                     Resolution Type: indirect
Oper State     : Down                  OperDownReason : notApplicable
Num Revert     : 0                     Num Failover   : 0
Next Revert In : 0
Primary nexthop: 4.4.4.4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Resolved       : False                  NHopDownReason : notApplicable
Backup nexthop : 3.3.3.3
Resolved       : False                  NHopDownReason : notApplicable
-------------------------------------------------------------------------------
```

Output example: router MPLS forwarding policies binding label egress stats

```
show router mpls forwarding-policies binding-label 400001 egress-stats
===============================================================================
Binding Label (Detail)
===============================================================================
Label          : 400001               Preference        : 255
Policy Name    : cc                   Oper State        : Up
EgrStatsState  : Up
 Next-hop Group   : 1
  Primary nexthop : 10.10.5.5
   StatsOperState : Up
   Aggr Pkts: 11000                   Aggr Octets: 11550000
  Backup nexthop  : 10.10.11.4
   StatsOperState : Up
   Aggr Pkts: 11000                   Aggr Octets: 11550000
 Next-hop Group   : 2
  Primary nexthop : 10.10.5.5
   StatsOperState : Up
   Aggr Pkts: 11000                   Aggr Octets: 11550000
  Backup nexthop  : 10.10.11.4
   StatsOperState : Up
   Aggr Pkts: 11000                   Aggr Octets: 11550000
Total Aggr        :
   Aggr Pkts: 44000                   Aggr Octets: 46200000
-------------------------------------------------------------------------------
===============================================================================
```

Table 56: Output fields: MPLS binding label

Label	Description
Label	Specifies the label number.
Preference	Specifies the preference.
Oper State	Specifies the operational state (up | down).
Policy Name	Specifies the MPLS forwarding policies binding label name.
No. of Binding Labels	Specifies the number of binding labels.
OperDown Reason	Specifies the reason for being operationally down.
Down Time	Specifies the downtime date and time.
NumNextHop Grps	Specifies the number of next-hop groups.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ingress Stats	Specifies if ingress stats are enabled for collection (disabled | enabled).
IngOperState	Specifies the ingress operational state (up | down)
Revert Timer	Specifies the revert timer value.
Retry Count	Specifies the retry count.
Next Retry In	Specifies the next retry value.
Next-hop Group	Specifies the next-hop group.
Resolution Type	Specifies the resolution type (direct | indirect).
Num Revert	Specifies the number of reverts.
Num Failover	Specifies the number of failovers.
Next Revert In	Specifies the next revert interval.
Primary nexthop	Specifies the IP address of the primary next-hop.
Resolved	Specifies the resolved status (false | true).
NHopDown Reason	Specifies the reason for the next-hop down.
Backup nexthop	Specifies the IP address of the backup next-hop.
StatsOperState	Specifies if a statistic index is allocated to the next-hop.
EgrStatsState	Specifies if all next-hops have a statistic index allocated.

binding-label

Syntax

binding-label *label* **ingress-stats** [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>mpls>forwarding-policies binding-label)

Full Context

monitor router mpls forwarding-policies binding-label

Description

This command monitors statistics for Forwarding Policy Binding Label.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

label

Specifies the label value.

Values 32 to 1048575

ingress-stats

Displays ingress statistics information.

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

binding-label

Syntax

binding-label *label* **ingress-stats**

Context

[Tree] (clear>router>mpls>forwarding-policies binding-label)

Full Context

clear router mpls forwarding-policies binding-label

Description

This command clears or resets statistics for the MPLS forwarding policy binding label.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

label

Specifies the label value.

Values 32 to 1048575

ingress-stats

Displays ingress statistics information.

Platforms

All

5.25 bindings

bindings

Syntax

bindings [**mac** *ieee-address*]

Context

[Tree] (show>subscr-mgmt>vrgw>brg>gateway bindings)

Full Context

show subscriber-mgmt vrgw brg gateway bindings

Description

This command lists all the DHCP bindings of the local pool associated with the specified BRG. If the MAC attribute is specified, only the binding for that MAC address is displayed.

Parameters

ieee-address

specifies the MAC address identifying a specific binding.

Platforms

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

Output

The following output is an example of BRG gateway binding information.

Output example

```
Node# show subscriber-mgmt brg gateway brg-id "00:00:00:00:00:05" bindings
===============================================================================
Bridged Residential Gateway home-aware pool address bindings
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Home-aware pool              : 00:00:00:00:00:05
-------------------------------------------------------------------------------
MAC address                  : 00:02:00:00:00:19
IP address                   : 21.0.0.20
Allocation type              : dynamic
DHCP lease                   : true
Remaining lease time         : 489
Lease start time             : 2016/01/18 17:44:44
MAC address                  : 00:02:00:00:00:1a
IP address                   : 21.0.0.21
Allocation type              : dynamic
DHCP lease                   : true
Remaining lease time         : 493
Lease start time             : 2016/01/18 17:44:48
MAC address                  : 00:02:00:00:00:1b
IP address                   : 21.0.0.22
Allocation type              : dynamic
DHCP lease                   : true
Remaining lease time         : 497
Lease start time             : 2016/01/18 17:44:52
-------------------------------------------------------------------------------
No. of bindings: 3
===============================================================================
```

bindings

Syntax

bindings

Context

[Tree] (show>router>ldp bindings)

Full Context

show router ldp bindings

Description

This command displays LDP bindings information.

Platforms

All

Output

The following output is an example of LDP bindings information.

Output example

```
*A:Dut-A# show router ldp bindings active

===============================================================================
Legend: U - Label In Use,  N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        (S) - Static       (M) - Multi-homed Secondary Support
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        (B) - BGP Next Hop (BU) - Alternate Next-hop for Fast Re-Route
===============================================================================
LDP IPv4 Prefix Bindings (Active)
===============================================================================
Prefix                  Op   IngLbl    EgrLbl    EgrIntf/LspId  EgrNextHop
-------------------------------------------------------------------------------
10.20.1.1/32            Pop  131071      --        --             --
10.20.1.2/32            Push   --      131071    1/1/1          10.10.1.2
10.20.1.2/32            Swap 131070    131071    1/1/1          10.10.1.2
10.20.1.2/32            Push   --      262141BU  1/1/2          10.10.2.3
10.20.1.2/32            Swap 131070    262141BU  1/1/2          10.10.2.3
10.20.1.3/32            Push   --      131069BU  1/1/1          10.10.1.2
10.20.1.3/32            Swap 131069    131069BU  1/1/1          10.10.1.2
10.20.1.3/32            Push   --      262143    1/1/2          10.10.2.3
10.20.1.3/32            Swap 131069    262143    1/1/2          10.10.2.3
10.20.1.4/32            Push   --      131068    1/1/1          10.10.1.2
10.20.1.4/32            Swap 131068    131068    1/1/1          10.10.1.2
10.20.1.4/32            Push   --      262140BU  1/1/2          10.10.2.3
10.20.1.4/32            Swap 131068    262140BU  1/1/2          10.10.2.3
10.20.1.5/32            Push   --      131067BU  1/1/1          10.10.1.2
10.20.1.5/32            Swap 131067    131067BU  1/1/1          10.10.1.2
10.20.1.5/32            Push   --      262139    1/1/2          10.10.2.3
10.20.1.5/32            Swap 131067    262139    1/1/2          10.10.2.3
10.20.1.6/32            Push   --      131066    1/1/1          10.10.1.2
10.20.1.6/32            Swap 131066    131066    1/1/1          10.10.1.2
10.20.1.6/32            Push   --      262138BU  1/1/2          10.10.2.3
10.20.1.6/32            Swap 131066    262138BU  1/1/2          10.10.2.3
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
No. of IPv4 Prefix Active Bindings: 10
===============================================================================

===============================================================================
LDP IPv6 Prefix Bindings (Active)
===============================================================================
Prefix                                  Op              IngLbl    EgrLbl
EgrNextHop                              EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP Generic IPv6 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings (Active)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Source
Group                                     Interface
RootAddr                                  Op              IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                     Interface
RootAddr                                  Op              IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings (Active)
===============================================================================
Source
Group                                     RD              Op
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings (Active)
===============================================================================
Source
Group                                     RD              Op
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================


*A:Dut-A# show router ldp bindings

===============================================================================
LDP Bindings (IPv4 LSR ID 10.1.1.1:0)
             (IPv6 LSR ID ::[0])
===============================================================================
Legend: U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        S - Status Signaled Up,  D - Status Signaled Down
        E - Epipe Service, V - VPLS Service, M - Mirror Service
        A - Apipe Service, F - Fpipe Service, I - IES Service, R - VPRN service
        P - Ipipe Service, WP - Label Withdraw Pending, C - Cpipe Service
        BU - Alternate For Fast Re-Route, TLV - (Type, Length: Value)
===============================================================================
LDP IPv4 Prefix Bindings
===============================================================================
Prefix             Peer            IngLbl     EgrLbl EgrIntf/    EgrNextHop
                                                 LspId
-------------------------------------------------------------------------------
10.20.1.1/32       10.20.1.2       131071U     --     --          --
10.20.1.1/32       10.20.1.3       131071U     --     --          --
10.20.1.2/32       10.20.1.2         --       131071 1/1/1       10.10.1.2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.2/32       10.20.1.3       131070U    262141 1/1/2       10.10.2.3
10.20.1.3/32       10.20.1.2       131069U    131069 1/1/1       10.10.1.2
10.20.1.3/32       10.20.1.3         --       262143 1/1/2       10.10.2.3
10.20.1.4/32       10.20.1.2       131068N    131068 1/1/1       10.10.1.2
10.20.1.4/32       10.20.1.3       131068BU   262140 1/1/2       10.10.2.3
10.20.1.5/32       10.20.1.2       131067U    131067 1/1/1       10.10.1.2
10.20.1.5/32       10.20.1.3       131067N    262139 1/1/2       10.10.2.3
10.20.1.6/32       10.20.1.2       131066N    131066 1/1/1       10.10.1.2
10.20.1.6/32       10.20.1.3       131066BU   262138 1/1/2       10.10.2.3
-------------------------------------------------------------------------------
No. of IPv4 Prefix Bindings: 12
===============================================================================

===============================================================================
LDP IPv6 Prefix Bindings
===============================================================================
Prefix                                  IngLbl                  EgrLbl
Peer                                    EgrIntf/LspId
EgrNextHop
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP Generic IPv4 P2MP Bindings
===============================================================================
P2MP-Id
RootAddr                                Interface       IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
Peer
-------------------------------------------------------------------------------
100
10.1.1.1                                Unknw             --      131051
10.90.90.2                              1/1/6
10.2.2.2:0

104
10.1.1.1                                Unknw             --      131050
10.90.90.2                              1/1/6
10.2.2.2:0

600
10.1.1.1                                Unknw             --      131049
10.90.90.2                              1/1/6
10.2.2.2:0

700
10.1.1.1                                Unknw             --      131048
10.90.90.2                              1/1/6
10.2.2.2:0

800
10.1.1.1                                Unknw             --      131047
10.90.90.2                              1/1/6
10.2.2.2:0

900
10.1.1.1                                Unknw             --      131046
10.90.90.2                              1/1/6
10.2.2.2:0

1500
10.1.1.1                                Unknw             --      131045
10.90.90.2                              1/1/6
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.2.2.2:0

100
10.6.6.6                                  Unknw             --      131044
10.90.90.2                                1/1/6
10.2.2.2:0

900
10.6.6.6                                  Unknw             --      131043
10.90.90.2                                1/1/6
10.2.2.2:0

-------------------------------------------------------------------------------
No. of Generic IPv4 P2MP Bindings: 9
===============================================================================

===============================================================================
LDP Generic IPv6 P2MP Bindings
===============================================================================
P2MP-Id
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv4 P2MP Bindings
===============================================================================
Source
Group
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-SSM IPv6 P2MP Bindings
===============================================================================
Source
Group
RootAddr                                  Interface       IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv4 P2MP Bindings
===============================================================================
Source
Group                                     RD
RootAddr                                  Interface         IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
10.1.1.1
225.0.0.1                                 10.1.1.1:100
10.3.3.3                                  Unknwn             --         100
10.60.60.1                                1/1/1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.2.2.2:100

10.1.1.1
225.0.0.1                                10.1.1.1:100
10.3.3.3                                 Unknwn              --         100
10.60.60.1                               1/1/1
10.2.2.2:100

10.1.1.1
225.0.0.1                                10.1.1.1:100
10.3.3.3                                 Unknwn              --         100
10.60.60.1                               1/1/1
10.2.2.2:100

-------------------------------------------------------------------------------
No. of In-Band-VPN-SSM IPv4 P2MP Bindings: 3
===============================================================================

===============================================================================
LDP In-Band-VPN-SSM IPv6 P2MP Bindings
===============================================================================
===============================================================================
Source
Group                                     RD
RootAddr                                  Interface         IngLbl    EgrLbl
EgrNH                                     EgrIf/LspId
Peer
-------------------------------------------------------------------------------
10.1.1.1
225.0.0.1                                10.1.1.1:100
2000::3000                               Unknwn              --         100
10.60.60.1                               1/1/1
10.2.2.2:100

10.1.1.1
225.0.0.1                                10.1.1.1:100
2000::3000                               Unknwn              --         100
10.60.60.1                               1/1/1
10.2.2.2:100

10.1.1.1
225.0.0.1                                10.1.1.1:100
2000::3000                               Unknwn              --         100
10.60.60.1                               1/1/1
10.2.2.2:100

-------------------------------------------------------------------------------
No. of In-Band-VPN-SSM IPv6 P2MP Bindings: 3
===============================================================================

===============================================================================
LDP Service FEC 128 Bindings
===============================================================================
Type                                        VCId       SDPId     IngLbl  LMTU
Peer                                        SvcId                EgrLbl  RMTU
-------------------------------------------------------------------------------
?-Eth                                       100        R. Src      --    None
10.2.2.2:0                                   Ukwn                131023D 986

?-Eth                                       500        R. Src      --    None
10.2.2.2:0                                   Ukwn                131022D 1386

?-Eth                                       2001       R. Src      --    None
10.2.2.2:0                                   Ukwn                131019D 986
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
?-Eth                                          2003       R. Src      --    None
10.2.2.2:0                                      Ukwn                131017D 986

?-Ipipe                                        1800       R. Src      --    None
10.2.2.2:0                                      Ukwn                131014D 1486

-------------------------------------------------------------------------------
No. of VC Labels: 5
===============================================================================

===============================================================================
LDP Service FEC 129 Bindings
===============================================================================
SAII                                            AGII        IngLbl    LMTU
TAII                                            Type        EgrLbl    RMTU
Peer                                            SvcId       SDPId
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
```

5.26 bmca

bmca

Syntax

bmca

Context

[Tree] (show>system>ptp bmca)

Full Context

show system ptp bmca

Description

This command displays BMCA information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of BMCA information, and Table 57: Output fields: BMCA describes the output fields.

Output Example

```
show system ptp bmca
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IEEE 1588/PTP BMCA Clock Information
================================================================================
Timing Source                          Status
GMClk GMClk GMClk  GM  Loc GM              Stp Remote           Remote Local
Class Acc   LogVar Pr2 Pr  Clock ID         Rem Clock ID         PrtNm  PrtNm
--------------------------------------------------------------------------------
Port: 1/1/2                            Parent Clock
MAC Address: 20:f4:4f:ac:63:ef
6     0x21  0x4e5d 128 128 a47b2cfffe441e1f 0   a47b2cfffe441e1f 1      1

Router: Base                           Available
IP Address: 1.2.3.4
6     0x21  0x4e5d 128 128 a47b2cfffe441e1f 0   a47b2cfffe441e1f 1      4

Port: 1/1/3                            Available
MAC Address: 40:7c:7d:bb:72:5d

A/gnss                                 Not Available
--    --    --     --  0   --              --  --               --     65534

B/gnss                                 Not Available
--    --    --     --  0   --              --  --               --     65533

Local Clock                            Available
248   0xfe  0xffff 128 128 242124fffe49e335 0   N/A              N/A    N/A
================================================================================
*A:DUT-B#
```

Table 57: Output fields: BMCA

Label	Description
Timing Source	Displays the timing source information
GMClk Class	Displays the GM clockClass
GMClk Acc	Displays the GM accuracy
GMClk LogVar	Displays the GM offset scaled log variance
GM Pr2	Displays the GM priority 2 value
GM Clock ID	Displays the GM clock ID
Loc Pr	Displays the local priority value
Status	Displays the BMCA clock status
Stp Rem	Displays the steps removed
Remote PrtNm	Displays the remote port number
Local PrtNm	Displays the local port number
Port	Displays the port ID
Parent Clock	Displays the parent clock information
MAC Address	Displays the MAC address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Router	Displays the configured router information
IP Address	Displays the IP address
Local Clock	Displays the local clock information

5.27 bmp

bmp

Syntax

bmp

Context

[Tree] (clear>service>id bmp)

[Tree] (clear>router bmp)

Full Context

clear service id bmp

clear router bmp

Description

Commands in this context clear and reset BGP Monitoring Protocol (BMP) station connections.

Platforms

All

bmp

Syntax

bmp

Context

[Tree] (show>router bmp)

[Tree] (show>service>id bmp)

Full Context

show router bmp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show service id bmp

Description

Commands in this context display BGP related information.

Platforms

All

bmp

Syntax

bmp

Context

[Tree] (show bmp)

Full Context

show bmp

Description

Commands in this context display BGP Monitoring Protocol (BMP) information.

Platforms

All

5.28 bof

bof

Syntax

bof [*cflash-id* | **booted**]

Context

[Tree] (show bof)

Full Context

show bof

Description

This command displays the Boot Option File (BOF) executed on last system boot or on the specified device.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

If no device is specified, the BOF used in the last system boot displays. If the BOF has been modified since the system boot, a message displays.

Note:
This command is not available in the MD-CLI. Use the MD-CLI **admin show configuration bof** command or the **info** command in the bof configuration region.

Parameters

cflash-id

Displays the cflash directory name. The slot name is not case-sensitive. Use upper or lowercase "A" or "B" for the slot name.

Values cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

booted

displays the boot option file used to boot the system.

Platforms

All

Output

The following output is an example of BOF information, and Table 58: Output fields: BOF describes the output fields.

Output example

```
A:ALA-1# show bof cf3:
===============================================================================
BOF on cf3:
===============================================================================
autonegotiate
primary-image    ftp://test:test@192.168.xx.xx/./both.tim
primary-config   ftp://test:test@192.168.xx.xx/./1xx.cfg
secondary-image  cf1:/i650/
secondary-config cf1:/config.cfg
address          192.168.xx.xxx/20 active
address          192.168.xx.xxx/20 standby
primary-dns      192.168.xx.xxx
dns-domain       test.test.com
autonegotiate
duplex           full
speed            100
wait             2
persist          off
    console-speed    115200
===============================================================================
A:ALA-1#
A:ALA-1# show bof booted
===============================================================================
System booted with BOF
===============================================================================
primary-image    ftp://test:test@192.168.xx.xx/./both.tim
   primary-config   ftp://test:test@192.168.xx.xx/./103.cfg
   secondary-image  cf1:/i650/
   secondary-config cf1:/config.cfg
   address          192.168.xx.xxx/20 active
   address          192.168.xx.xxx/20 standby
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   primary-dns      192.168.xx.xxx
   dns-domain       test.test.com
   autonegotiate
   duplex           full
   speed            100
   wait             2
persist          off
    console-speed    115200
===============================================================================
A:ALA-1#
```

Table 58: Output fields: BOF

Label	Description
primary-image	The primary location of the directory that contains the runtime images of both CPM and XCM/IOM.
primary-config	The primary location of the file that contains the configuration.
primary-dns	The primary DNS server for resolution of host names to IP addresses.
secondary-image	The secondary location of the directory that contains the runtime images of both CPM and XCM/IOM.
secondary-config	The secondary location of the file that contains the configuration.
secondary-dns	The secondary DNS server for resolution of host names to IP addresses.
tertiary-image	The tertiary location of the directory that contains the runtime images of both CPM and XCM/IOM.
tertiary-config	The tertiary location of the file that contains the configuration.
address	The IP address and mask associated with the CPM Ethernet port or the secondary CPM port.
tertiary-dns	The tertiary DNS server for resolution of host names to IP addresses.
persist	on — Persistent indexes between system reboots is enabled. off — Persistent indexes between system reboots is disabled.
wait	The time configured for the boot to pause while waiting for console input.
autonegotiate	no autonegotiate — Autonegotiate not enabled. autonegotiate — Autonegotiate is enabled.
duplex	half — Specifies that the system uses half duplex. full — Specifies that the system uses full duplex.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
speed	The speed of the CPM Ethernet interface.
console speed	The console port baud rate.
dns domain	The domain name used when performing DNS address resolution.
uplinkA-address	Displays the Uplink-A IP address.
uplinkA-port	Displays the primary port to be used for auto-boot.
uplinkA-route	Displays the static route associated with Uplink-A.
uplinkA-vlan	Displays the VLAN ID to be used on Uplink-A.
uplinkB-address	Displays the Uplink-B IP address.
uplinkB-port	Displays the secondary port to be used for auto-boot.
uplinkB-route	Displays the static route associated with Uplink-B.
uplinkB-vlan	Displays the VLAN ID to be used on Uplink-B.
uplink-mode	Displays the uplink mode of the device.
no-service-ports	Displays the ports on which service traffic is not processed.
use-expansion-card-type	The expansion card type.
system-profile	The system profile used by the system when it is rebooted.

5.29 bonding

bonding

Syntax

bonding [**detail**]

bonding bonding-id *bonding-id* [**detail**]

Context

[Tree] (show>service bonding)

Full Context

show service bonding

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays an overview of active bonding contexts and the associated access connections.

When a bonding ID is specified, only information for that specific context is displayed.

Parameters

bonding-id

Specifies the ID of a specific bonding context.

detail

Displays additional detailed bonding settings, such as load-balancing.

Platforms

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

Output

The following output is an example of bonding information.

Output example

```
Node# show service bonding
===============================================================================
Bonding Summary
===============================================================================
-------------------------------------------------------------------------------
Bond1 - svc:40 - itf:grp_itf_bonding
-------------------------------------------------------------------------------
 1 - PPP  - svc:30 - sap:1/1/3:1 - mac:00:00:00:00:00:01 - sid:1
 2 - IPOE - svc:11 - sap:pxc-1.b:1.8 - mac:00:03:ff:f0:01:00
-------------------------------------------------------------------------------
===============================================================================
show service bonding bonding-id Bond1 detail
===============================================================================
Bonding Summary
===============================================================================
-------------------------------------------------------------------------------
Bond1 - svc:40 - itf:grp_itf_bonding
-------------------------------------------------------------------------------
 1 - PPP  - svc:30 - sap:1/1/3:1 - mac:00:00:00:00:00:01 - sid:1
 2 - IPOE - svc:11 - sap:pxc-1.b:1.8 - mac:00:03:ff:f0:01:00
-------------------------------------------------------------------------------
Reference rate                : 10000000 kbps
Low threshold rate            : 8000000 kbps
High threshold rate           : 9000000 kbps
Initial load-balancing weight : 100%
Load-balancing weight change  : 5%
Current load-balancing weight : 100%
-------------------------------------------------------------------------------
===============================================================================
```

bonding

Syntax

bonding

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

bonding eval-rates

Context

[Tree] (tools>perform>subscr-mgmt bonding)

Full Context

tools perform subscriber-mgmt bonding

Description

This command enables the tools used for hybrid access bonding.

Platforms

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

5.30 boot-messages

boot-messages

Syntax

boot-messages

Context

[Tree] (show boot-messages)

Full Context

show boot-messages

Description

This command displays boot messages generated during the last system boot.

Platforms

All

Output

The following output is an example of a boot message.

Output example

```
*A:raven14s# show boot-messages
===============================================================================
cf3:/bootlog.txt
===============================================================================
Boot log started on CPU#0
  Build: X-0.0.I5679 on Mon Oct  1 18:08:38 PDT 2018 by builder
  CPUCTL FPGA version: 17
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Boot rom version is v54
CPU Control FPGA version is 0x17
Multicore RAM test using 10 cores
>>>Testing  SDRAM from 0x0000000002200000 to 0x0000000080000000
>>>Testing  SDRAM from 0xffffffffe0000000 to 0xffffffffe000000
>>>Testing  SDRAM from 0x0000000080000000 to 0x00000003e4000000
>>>Testing Compact Flash 1... Slot Empty
>>>Testing Compact Flash 2... Slot Empty
>>>Testing Compact Flash 3... OK (STEC M2+ CF 9.0.2)
Board Serial Number is 'NS184100464'
Platforms in Chassis EEProm 1 is 0x1
Chassis type 34 (sr14s_r1) found in Chassis EEProm 1
Chassis Serial Number is 'NS173300113'
Searching for boot.ldr on local drives:
Searching cf3 for boot.ldr...
*******************************************************************************************
Total Memory: 16GB  Chassis Type: sr14s_r1 (0x22)  Card Type: pegasus_r1 (0x42)  [IOCTRL
 Ver:0x17 Date:not-available]   Git: [ Tag/Hash: TiMOS_16_0_R4-g49edf4fa7f67; branch: master,
 remote: master]
TiMOS-L-16.0.R4 boot/hops Nokia 7xxx ? Copyright (c) 2000-2018 Nokia.
All rights reserved. All use subject to applicable license agreements.
Built on Sun Sep 30 18:08:18 PDT 2018 by builder in /builds/160/R4/panos/main
TiMOS BOOT LOADER
Extended checks enabled with overhead of 36B
Fair scheduler is now enabled
Time from clock is TUE NOV 17 15:12:04 2020 UTC
Switching serial output to sync mode...   done
Looking for cf3:/bof.cfg ... OK, reading
Contents of Boot Options File on cf3:
```

5.31 brg

brg

Syntax

brg

Context

[Tree] (show>subscr-mgmt>vrgw brg)

Full Context

show subscriber-mgmt vrgw brg

Description

Commands in this context display operational information for connected BRGs and related hosts.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

brg

Syntax

brg

Context

[Tree] (clear>subscr-mgmt>vrgw brg)

Full Context

clear subscriber-mgmt vrgw brg

Description

This command clears BRG data.

Platforms

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

brg

Syntax

brg

Context

[Tree] (tools>perform>subscr-mgmt>vrgw brg)

Full Context

tools perform subscriber-mgmt vrgw brg

Description

This command enables tools for controlling BRGs.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

5.32 brg-hosts

brg-hosts

Syntax

brg-hosts [**mac** *ieee-address*] [**ip** *ip-address*]

Context

[Tree] (show>subscr-mgmt>vrgw>brg brg-hosts)

Full Context

show subscriber-mgmt vrgw brg brg-hosts

Description

This command displays operational information for connected BRGs and related hosts.

Parameters

ieee-address

Displays detailed information for each prefix.

ip-address

Displays only the prefixes associated with this subscriber interface.

Platforms

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

Output

The following output is an example of subscriber management BRG host information.

Output example

```
Node# show subscriber-mgmt brg brg-hosts
===============================================================================
Bridged Residential Gateway hosts
===============================================================================
Identifier                  : 00:00:00:00:00:05
MAC address                 : 00:02:00:00:00:19
IP address                  : 21.0.0.20
Service                     : 4 (VPRN)
Allocation type             : dynamic
Home-aware pool             : 00:00:00:00:00:05
DHCP lease                  : true
Remaining lease time        : 482
Lease start time            : 2016/01/18 17:44:44
Identifier                  : 00:00:00:00:00:05
MAC address                 : 00:02:00:00:00:19
IP address                  : 3ffe:0:0:5::
Service                     : 4 (VPRN)
Identifier                  : 00:00:00:00:00:05
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MAC address                  : 00:02:00:00:00:1a
IP address                   : 21.0.0.21
Service                      : 4 (VPRN)
Allocation type              : dynamic
Home-aware pool              : 00:00:00:00:00:05
DHCP lease                   : true
Remaining lease time         : 486
Lease start time             : 2016/01/18 17:44:48
Identifier                   : 00:00:00:00:00:05
MAC address                  : 00:02:00:00:00:1a
IP address                   : 3ffe:0:0:5::
Service                      : 4 (VPRN)
Identifier                   : 00:00:00:00:00:05
MAC address                  : 00:02:00:00:00:1b
IP address                   : 21.0.0.22
Service                      : 4 (VPRN)
Allocation type              : dynamic
Home-aware pool              : 00:00:00:00:00:05
DHCP lease                   : true
Remaining lease time         : 490
Lease start time             : 2016/01/18 17:44:52
-------------------------------------------------------------------------------
No. of BRG hosts: 5
===============================================================================
```

5.33 brg-profile

brg-profile

Syntax

brg-profile

brg-profile *name*

brg-profile *name* **associations**

Context

[Tree] (show>subscr-mgmt>vrgw>brg brg-profile)

Full Context

show subscriber-mgmt vrgw brg brg-profile

Description

This command displays BRG profile information.

Parameters

name

Specifies an existing BRG profile name.

associations

Displays information associated with the specified BRG profile name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

5.34 brief

brief

Syntax

brief

Context

[Tree] (show>router>bgp>routes brief)

Full Context

show router bgp routes brief

Description

This command displays summary information about the BGP routes.

brief is a parameter of the **show router bgp routes** command. Depending on the parameters that are used to issue the command, the output can display a narrower or wider set of routes, including routes belonging to other address families. See the **show router bgp routes** command description for syntax variants, parameter descriptions and values, and output examples.

Platforms

All

5.35 build-packet

build-packet

Syntax

build-packet

Context

[Tree] (show>test-oam build-packet)

Full Context

show test-oam build-packet

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display OAM egress port finder information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

5.36 bundles

bundles

Syntax

bundles

Context

[Tree] (show>router>l2tp>mlppp bundles)

Full Context

show router l2tp mlppp bundles

Description

This command displays L2TP MLPPP bundle statistics.

Platforms

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

Output

The following outputs are examples of L2TP MLPPP bundle statistics information.

- Output example: one MLPPP bundle (using two links)
- Output example: two MLPPP bundles (using two links)

Output example: one MLPPP bundle (using two links)

```
*A:Dut-B# show router 100 l2tp mlppp
*A:Dut-B# show router 100 l2tp mlppp bundles
===============================================================================
L2TP MLPPP LAC Bundles
===============================================================================
User user_v46_1
Bundle index                : 1
Service                     : 100
Forwarding tunnel ID        : N/A
Local endpoint class        : ipv4-address
Local endpoint address      : 1.1.1.1
Remote endpoint class       : local
Remote endpoint address     : linuxBundle1
Links                       : 1. ID 805988014 (established)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                              2. ID 805991249 (established)
-------------------------------------------------------------------------------
Number of bundles: 1
===============================================================================
*A:Dut-B#
```

Output example: two MLPPP bundles (using two links)

```
*A:Dut-B# show router 100 l2tp mlppp
*A:Dut-B# show router 100 l2tp mlppp bundles
===============================================================================
L2TP MLPPP LAC Bundles
===============================================================================
User user_v46_1
Bundle index                : 1
Service                     : 100
Forwarding tunnel ID        : N/A
Local endpoint class        : ipv4-address
Local endpoint address      : 1.1.1.1
Remote endpoint class       : local
Remote endpoint address     : linuxBundle1
Links                       : 1. ID 518660444 (established)
                              2. ID 518672262 (established)
User user_v46_2
Bundle index                : 2
Service                     : 100
Forwarding tunnel ID        : N/A
Local endpoint class        : ipv4-address
Local endpoint address      : 1.1.1.1
Remote endpoint class       : local
Remote endpoint address     : linuxBundle2
Links                       : 1. ID 518652432 (established)
                              2. ID 518652553 (established)
-------------------------------------------------------------------------------
Number of bundles: 2
===============================================================================
*A:Dut-B#
```

5.37 bypass-tunnel

bypass-tunnel

Syntax

bypass-tunnel [**to** *ip-address*] [**protected-lsp** [*name*]] [**dynamic** | **manual** | **p2mp**] [**detail**] [**lsp-name** *session-name*]

bypass-tunnel [**detail**] [**dns**]

Context

[Tree] (show>router>mpls bypass-tunnel)

Full Context

show router mpls bypass-tunnel

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays MPLS bypass tunnel information.

If fast reroute is enabled on an LSP and the facility method is selected, instead of creating a separate LSP for every LSP that is to be backed up, a single LSP is created and serves as a backup for a set of LSPs. Such an LSP tunnel is called a bypass tunnel.

Parameters

ip-address

Specifies the IP address of the egress router.

name

Specifies the name of the LSP protected by the bypass tunnel up to 160 characters. "*" is accepted as a wild card character.

dynamic

Keyword used to display dynamically-assigned labels for bypass protection.

manual

Keyword used to display manually-assigned labels for bypass protection.

detail

Keyword used to display detailed information.

p2mp

Keyword used to display P2MP bypass tunnel information.

session-name

Specifies the session name, up to 160 characters, of the LSP used in the path. "*" can be used as a wildcard character.

dns

Keyword used to display reverse DNS resolution of actual and explicit hop information.

Platforms

All

Output

The following outputs are examples of MPLS bypass tunnel detailed information, and the associated tables describe the output fields:

- Output example, Table 59: Output fields: MPLS bypass tunnel
- Output example: router MPLS bypass tunnel detail, Table 60: Output fields: MPLS bypass tunnel detail
- Output example: router MPLS bypass tunnel detail (for bypass node 10.20.1.2), Table 60: Output fields: MPLS bypass tunnel detail
- Output example: router MPLS bypass tunnel detail (for bypass node 10.20.1.2), Table 60: Output fields: MPLS bypass tunnel detail
- Output example: router MPLS bypass tunnel detail (for bypass node 10.20.1.2), Table 60: Output fields: MPLS bypass tunnel detail
- Output example: router MPLS bypass tunnel detail DNS, Table 60: Output fields: MPLS bypass tunnel detail

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:SRU4>show>router>mpls# bypass-tunnel
===============================================================================
MPLS Bypass Tunnels
===============================================================================
Legend :  m - Manual      d - Dynamic      p - P2mp
===============================================================================
To              State  Out I/F        Out Label     Reserved   Protected  Type
                                                     BW (Kbps)  LSP Count
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
```

Output example: router MPLS bypass tunnel detail

```
A:Dut-B# show router mpls bypass-tunnel detail
===============================================================================
MPLS Bypass Tunnels (Detail)
===============================================================================
-------------------------------------------------------------------------------
bypass-node10.20.1.4
-------------------------------------------------------------------------------
To              : 10.20.1.7          State               : Up
Out I/F         : 1/1/4              Out Label           : 131071
Up Time         : 0d 01:17:22        Active Time         : n/a
Reserved BW     : 0 Kbps             Protected LSP Count : 1
Type            : Dynamic
Setup Priority  : 7                  Hold Priority       : 0
Class Type      : 0
Exclude Node    : 10.20.1.4          Inter-Area          : True
Computed Hops   :
    10.10.8.2(S)                     Egress Admin Groups : None
-> 10.10.8.6(SA)                    Egress Admin Groups : None
-> 10.20.1.7(L)                     Egress Admin Groups : None
Actual Hops     :
    10.10.8.2(10.20.1.2)             Record Label        : N/A
-> 10.10.8.6(10.20.1.6)             Record Label        : 131071
-> 10.20.1.7(10.20.1.7)             Record Label        : 131068
-> 10.10.22.7                       Record Label        : 131068

===============================================================================
```

Output example: router MPLS bypass tunnel detail (for bypass node 10.20.1.2)

```
A:Dut-A>config>router>mpls>lsp$ /show router mpls bypass-tunnel detail
===============================================================================
MPLS Bypass Tunnels (Detail)
===============================================================================
-------------------------------------------------------------------------------
bypass-node10.20.1.2
-------------------------------------------------------------------------------
To              : 10.20.1.4          State               : Up
Out I/F         : 1/1/2              Out Label           : 131070
Up Time         : 0d 00:00:18        Active Time         : n/a
Reserved BW     : 0 Kbps             Protected LSP Count : 1
Type            : Dynamic
Setup Priority  : 7                  Hold Priority       : 0
Class Type      : 0
Exclude Node    : None               Inter-Area          : False
Computed Hops   :
    10.20.1.1, If Index : 3(S)       Egress Admin Groups : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-> 10.20.1.3, If Index : 2(S)       Egress Admin Groups : None
-> 10.20.1.4, If Index : 5(S)       Egress Admin Groups : None
Actual Hops     :
    10.20.1.1, If Index : 3          Record Label        : N/A
-> 10.20.1.3, If Index : 2          Record Label        : 131070
-> 10.20.1.4, If Index : 5          Record Label        : 131070

===============================================================================
```

Output example: router MPLS bypass tunnel detail (for bypass node 10.20.1.4)

```
B:Dut-B>config>router>mpls>lsp# show router mpls bypass-tunnel detail
===============================================================================
MPLS Bypass Tunnels (Detail)
===============================================================================
-------------------------------------------------------------------------------
bypass-node10.20.1.4
-------------------------------------------------------------------------------
To              : 10.10.10.6         State               : Up
Out I/F         : lag-1              Out Label           : 131071
Up Time         : 0d 00:00:06        Active Time         : n/a
Reserved BW     : 0 Kbps             Protected LSP Count : 1
Type            : Dynamic
Setup Priority  : 7                  Hold Priority       : 0
Class Type      : 0
Exclude Node    : None
Actual Hops     :
    10.10.12.2(S)                     Egress Admin Groups:
                                      lime
                                      olive
                                      blue
                                      black
                                      acqua
-> 10.10.12.3(S)                     Egress Admin Groups:
                                      olive
                                      Unknown Group 9
                                      Unknown Group 11
                                      black
                                      Unknown Group 16
                                      Unknown Group 18
-> 10.10.5.5(S)                      Egress Admin Groups:
                                      purple
                                      Unknown Group 7
                                      Unknown Group 11
                                      orange
                                      acqua
                                      Unknown Group 16
                                      Unknown Group 19
                                      Unknown Group 21
                                      Unknown Group 22
                                      Unknown Group 26
                                      khaki
-> 10.10.10.6(S)                     Egress Admin Groups: None

===============================================================================
```

Output example: router MPLS bypass tunnel detail (for bypass link 10.10.104.4)

```
A:Dut-B# show router mpls bypass-tunnel detail
===============================================================================
MPLS Bypass Tunnels (Detail)
===============================================================================
bypass-link10.10.104.4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
To              : 10.10.101.4        State               : Up
Out I/F         : 1/1/2:1            Out Label           : 129994
Up Time         : 0d 00:02:33        Active Time         : n/a
Reserved BW     : 0 Kbps             Protected LSP Count : 1
Type            : Dynamic
SetupPriority   : 7                  Hold Priority       : 0
Class Type      : 0
Actual Hops     :
    10.10.101.2     -> 10.10.101.4
===============================================================================
```

Output example: router MPLS bypass tunnel detail DNS

```
A:Dut-C# show router mpls bypass-tunnel path detail dns

===============================================================================
MPLS Bypass Tunnels (Detail)
===============================================================================
-------------------------------------------------------------------------------
bypass-node10.20.1.1-61442
-------------------------------------------------------------------------------
To             : 10.10.12.2          State               : Up
Out I/F        : lag-1               Out Label           : 524278
Up Time        : 0d 00:07:35         Active Time         : n/a
Reserved BW    : 0 Kbps              Protected LSP Count : 10
Type           : Dynamic             Bypass Path Cost    : 333
Setup Priority : 7                   Hold Priority       : 0
Class Type     : 0
Exclude Node   : None                Inter-Area          : False
Computed Hops  :
    10.10.12.3(S)                    Egress Admin Groups : None
 -> 10.10.12.2(S)                    Egress Admin Groups : None
Actual Hops    :
    10.10.12.3(10.20.1.3)            Record Label        : N/A
    toB-lag.Dut-C.nokia.com
    (Dut-C.system.nokia.com)
 -> 10.10.12.2(10.20.1.2)            Record Label        : 524278
    toC-lag.Dut-B.nokia.com
    (Dut-B.nokia.com)
Last Resignal  :
Attempted At   : n/a                 Resignal Reason     : n/a
Resignal Status: n/a                 Reason              : n/a

===============================================================================
```

Table 59: Output fields: MPLS bypass tunnel

Label	Description
To	The IP address of the egress router.
State	The LSP’s administrative state.
Out I/F	Specifies the name of the network IP interface.
Out Label	Specifies the incoming MPLS label on which to match.
Reserved BW (kb/s)	Specifies the amount of bandwidth in Mb/s reserved for the LSP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Protected LSP Count	Specifies the protected LSP count
Type	Specifies the type

Table 60: Output fields: MPLS bypass tunnel detail

Label	Description
Up Time	Specifies the up time
Active Time	Specifies the active time
Bypass Path Cost	Specifies the bypass path cost
Setup Priority	Specifies the setup priority
Hold Priority	Specifies the hold priority
Class Type	Specifies the class type
Exclude Node	Specifies the excluded nodes
Inter-Area	Specifies the inter-area status
Computed Hops	Specifies the computed hops
Egress Admin Groups	Specifies the Egress administration groups
Actual Hops	Specifies the actual hops
Record Label	Specifies the record label
Last Resignal	Specifies the resignal time
Attempted At	Specifies the attempted at time
Resignal Reason	Specifies the resignal reason
Resignal Status	Specifies the resignal status
Reason	Specifies the reason

bypass-tunnel

Syntax

bypass-tunnel [*lsp-name*] **plr**

Context

[Tree] (tools>dump>router>mpls bypass-tunnel)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump router mpls bypass-tunnel

Description

This command displays information about the MPLS bypass tunnel.

Parameters

lsp-name

Specifies the LSP name up to 64 characters in length.

plr

Specifies the point of local repair (PLR).

Platforms

All

Output

The following output is an example of MPLS bypass tunnels PLR fields.

Output example

```
tools dump router mpls bypass-tunnel plr
===============================================================================
MPLS Bypass Tunnels
===============================================================================
Legend :  m - Manual      d - Dynamic      p - P2mp
===============================================================================
To              State  Out I/F        Out Label     Reserved   Protected  Type
                                                    BW (Kbps)  LSP Count
-------------------------------------------------------------------------------
10.10.12.1      Up     1/1/4          124181        0          369        d

To              : 10.10.12.1         State               : Up
Out I/F         : 1/1/4              Out Label           : 124181
Up Time         : 0d 19:24:13        Active Time         : n/a
Reserved BW     : 0 Kbps             Protected LSP Count : 369
Type            : Dynamic
SetupPriority   : 7                  Hold Priority       : 0
Class Type      : 0                  Tunnel Id : 63697
Actual Hops     :
    10.10.12.2(S)      -> 10.10.12.1(S)

         Plr List: (Last PlrIdx 2)
         --------
                 PLR List Index = 1
                 PLR current State = PLRS_CONNECTED
                 NextNodeSysId = 10.8.8.8
                  AvoidNodeId   = 10.2.2.2
                 NodeProtect   = 2 (Node Protect)
                 LSP Count     = 197
                 PLR List Index = 2
                 PLR current State = PLRS_BackupInUse
                 NextNodeSysId = 10.8.8.8
                 AvoidNodeId   = 10.2.2.2
                 NodeProtect   = 2 (Node Protect)
                 LSP Count     = 203
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6 c Commands

6.1 ca-profile

ca-profile

Syntax

ca-profile

ca-profile *name* [**association**]

Context

[Tree] (show>certificate ca-profile)

Full Context

show certificate ca-profile

Description

This command shows certificate-authority profile information.

Parameters

name

Specifies the name of the Certificate Authority (CA) profile.

association

Displays associated CA profiles.

Platforms

All

6.2 cache

cache

Syntax

cache [**peer** *ip-address*] [**group** *ip-address*] [**source** *ip-address*] [**originrp** *ip-address*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>router>msdp cache)

Full Context

clear router msdp cache

Description

This command clears the MSDP cache.

Parameters

peer *ip-address*

Clears the cache of the IP address of the peer to which MSDP source-active (SA) requests for groups matching this entry's group range were sent.

group *ip-address*

Clears the group IP address of the SA entry.

source *ip-address*

Clears the source IP address of the SA entry.

originrp *ip-address*

Clears the origin rendezvous point (RP) address type of the SA entry.

Platforms

All

cache

Syntax

cache aggregate {**src-dst-proto** | **src-dst-proto-port**} **family** {**ipv4** | **ipv6**}

cache all family {**ipv4** | **ipv6**}

Context

[Tree] (tools>dump>cflowd cache)

Full Context

tools dump cflowd cache

Description

This command displays the contents of the cflowd active cache. This information can be displayed either in raw form where every flow entry is displayed or in an aggregated form.

Table 61: Output fields: tools dump cflowd cache describes the cflowd cache output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 61: Output fields: tools dump cflowd cache

Label	Description
Proto/Protocol	Displays the IPv4 or IPv6 protocol type
Source Address/Src-IP	Displays the source IP address of the flow (IPv4 or IPv6)
Destination Address/ Dst-IP	Displays the destination IP address of the flow (IPv4 or IPv6)
Intf/Ingr	Displays the ingress interface associated with the sampled flow (only displayed with the raw (all) output)
Intf/Egr	Displays the egress interface associated with the sampled flow (only displayed with the raw (all) output)
S-Port	Displays the source protocol port number
D-Port	Displays the destination protocol port number
Pkt-Cnt	Displays the total number of packets sampled for the associated flow
Byte-Cnt	Displays the total number of bytes of traffic sampled for the associated flow
Start-Time	Displays the system time when the first packet was sampled for the associated flow
Flags	Displays the IP flag value from the sampled IP flow header (only displayed with the raw (all) output)
ToS	Displays the ToS byte values from the sampled IP flow header (only displayed with the raw (all) output)
(Src) Mask	Displays the IP route mask for the route to the flow source IP address associated with the flow (only displayed with the raw (all) output)
(Dst) Mask	Displays the IP route mask for the route to the flow destination IP address associated with the flow (only displayed with the raw (all) output)
(Src) AS	Displays the ASN associated with the route to the flow source IP address associated with the flow (only displayed with the raw (all) output)
(Dst) AS	Displays the ASN associated with the route to the flow destination IP address associated with the flow (only displayed with the raw (all) output)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
vRtr-ID	Displays the Virtual Router ID associated with the reported IP flow (only displayed with the raw (all) output)

Parameters

aggregate

Displays the aggregated active cache flow data.

Values src-dst-proto — Aggregates the active flow cache based on the source and destination IP address and the IP protocol value.

src-dst-proto-port — Aggregates the active flow cache based on the source and destination IP address, IP protocol value, and the source and destination port numbers.

family

Specifies which IP address family flow data should be displayed.

Values ipv4 — Displays the IPv4 flow data.

ipv6 — Displays the IPv6 flow data.

all

Displays the raw active cache flow data with no aggregation.

Platforms

All

6.3 cache-contents

cache-contents

Syntax

cache-contents [**isa** *mda-id/esa-vm-id*] **url** *file-url*

Context

[Tree] (tools>dump>app-assure>group>ipassist cache-contents)

Full Context

tools dump application-assurance group ip-identification-assist cache-contents

Description

This command dumps the cache contents generated by the IP identification assist feature into a local or remote destination.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

isa *mda-id*

Specifies the slot and MDA of the ISA in the format *slot*/*mda*.

Values	*slot*/*mda*	
	slot	1 to 10, depending on chassis model
	mda	1 to 2, depending on chassis model

isa *esa-vm-id*

Specifies the ESA and ESA VM in the format esa-*esa-id*/*vm-id*.

Values	esa-*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

url *file-url*

Specifies a local or remote destination to which the cache content output is directed.

Values	*local-url* | *remote-url*	
	local-url	[*cflash-id*/]*file-path* 200 characters maximum, including cflash-id directory length 99 characters maximum each
	remote-url	{ftp | tftp}://[*login*:*pswd*@]*remote-locn*/[*filepath*] 255 characters maximum, *filepath* 199 characters maximum
	remote-locn	{*hostname* | *ipv4-address* | "["*ipv6-address*"]" }[:*port*]
	ipv4-address	*a.b.c.d*
	ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*] *x:x:x:x:x:x:d.d.d.d*[-*interface*] *x* - [0 to FFFF]H *d* - [0 to 255]D interface - 32 characters maximum, for link local addresses
	port	[0 to 65535]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

cflash-id	cf1: | cf1-A: | cf1-B: | cf2: | cf2-A: | cf2-B: | cf3: | cf3-A: | cf3-B:

Platforms

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

Output

Use the following command to direct the cache contents generated by the IP identification assist feature to a remote destination.

```
tools dump application-assurance group 1 ip-identification-assist cache-contents isa 1/1 url
 ftp://exuser:expassword@192.0.2.1/tmp/sample-cache
```

Output Example

```
===============================================================================
Application-Assurance Group 1 ip-identification-assist cache contents
===============================================================================

Writing to file ftp://exuser:expassword@192.0.2.1/tmp/sample-cache_1_1.ip-ident-assist-
cache ...

File closed

-rw-r--r-- 1 exuser exuser 16553 Aug 24 09:22 sample-cache_1_1.ip-ident-assist-cach
```

Use the following command to dump information stored in the cache related to the IP identification assist feature for top applications.

```
tools dump application-assurance group "1" ip-identification-assist cache-contents isa "1/1"
```

Output Example

```
===============================================================================
Application-Assurance Group 1 ip-identification-assist cache contents
===============================================================================

isa 1/1
Entry      IP Address                               Application                       Parent
 Application                Status                Num IP Matches        Num Updates
 Create Time           Last Update Time      Last Match Time
---------- ---------------------------------------- ---------------------------------- --------
------------------------ -------------------- -------------------- -------------------- --
------------------ -------------------- --------------------
1          20.217.13.99                             "Application1"                    "Parent
Application1"               Active-Application    0                    0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"

2          112.217.13.99                            "Application2"                    "Parent
Application2"               Active-Application    0                    0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"

3          79.217.13.99                             "Application3"                    "Parent
Application3"               Active-Application    0                    0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"
…
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
….
…..
150        35.217.13.99                              "Application4"                      "Parent
Application1"               Active-Application    0                     0
 "06/13/2023 14:29:11" "06/13/2023 14:29:11" "N/A"


Total entries in-use:   150
===============================================================================
```

Use the following command to dump detailed information stored in the cache related to the IP identification assist feature for top applications.

```
tools dump application-assurance group "1" ip-identification-assist cache-contents detail isa
 "1/1"
```

Output Example

```


===============================================================================
Application-Assurance Group 1 ip-identification-assist cache contents
===============================================================================

isa 1/1
Entry      IP Address                                Application                         Parent
 Application                Status               Num IP Matches        Num Updates
 Create Time           Last Update Time      Last Match Time
---------- ---------------------------------------- ---------------------------------- --------
------------------------- -------------------- -------------------- -------------------- --
------------------ -------------------- --------------------
1          20.217.13.99                              "Application1"                      "Parent
Application1"               Active-Application    0                     0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"
              Dns Snoop
                           Active-Application    0                      0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"
              Positive App Id
                           "N/A"                 0                      0
 "N/A"                "N/A"                 "N/A"

2          112.217.13.99                             "Application2"                      "Parent
Application2"               Active-Application    0                     0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"
              Dns Snoop
                           Active-Application    0                      0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"
              Positive App Id
                           "N/A"                 0                      0
 "N/A"                "N/A"                 "N/A"

3          79.217.13.99                              "Application3"                      "Parent
Application3"               Active-Application    0                     0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"
              Dns Snoop
                           Active-Application    0                      0
 "06/13/2023 14:29:10" "06/13/2023 14:29:10" "N/A"
              Positive App Id
                           "N/A"                 0                      0
 "N/A"                "N/A"                 "N/A"
…
….
…..
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
150        35.217.13.99                              "Application4"                      "Parent
Application1"               Active-Application    0                    0
 "06/13/2023 14:29:11" "06/13/2023 14:29:11" "N/A"
              Dns Snoop
                           Active-Application    0                     0
 "06/13/2023 14:29:11" "06/13/2023 14:29:11" "N/A"
              Positive App Id
                           "N/A"                 0                     0
 "N/A"                 "N/A"                 "N/A"


Total entries in-use:   150
===============================================================================
```

6.4 calculate-maps

calculate-maps

Syntax

calculate-maps router *router-instance* **subscriber-type** *nat-sub-type* **prefix** *ip-prefix/length*

Context

[Tree] (tools>perform>nat>deterministic calculate-maps)

Full Context

tools perform nat deterministic calculate-maps

Description

This command allows the operator to reveal the auto-mappings before they are created in the system, while the inside prefix is still out of service (in a **shutdown** administrative state). Based on the auto-mapping results, the user can decide to use the auto-mapping and operationalize the prefix (**no shutdown** command), or to use custom mappings.

The inside IP addresses for deterministic subscribers and for 1:1 protocol agnostic subscribers can be mapped to outside IP addresses in the following ways:

- Automatically by the system. By enabling the deterministic prefix (**no shutdown** command), the system will automatically create map commands and sequentially map subscribers into outside IP address space.
- Manually by the operator by configuring the map commands. This gives the operator control over mappings beyond the sequential auto-mapping.

Parameters

router-instance

Specifies the inside router name or VPRN service instance where the deterministic prefix resides.

Values <router-name> | <vprn-svc-id>

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

router-name — "Base"

vprn-svc-id — 1 to 2147483647

nat-sub-type

Specifies the NAT subscriber type.

Values classic-lsn-sub, dslite-lsn-sub

ip-prefix/length

Specifies the inside prefix containing IP addresses for which mapping is sought. The IP prefix is IPv4 family type for classic LSN subscriber and IPv6 family type for a DS-Lite subscriber.

Values

<ip-prefix/ip-prefix-length>	<ipv4-prefix>/<ipv4-prefix-length>
	<ipv6-prefix>/<ipv6-prefix-length>
<ipv4-prefix>	a.b.c.d (host bits must be 0)
<ipv4-prefix-length>	0 to 32
<ipv6-prefix>	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D
<ipv6-prefix-length>	[0 to 128]

Platforms

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

6.5 call-home

call-home

Syntax

call-home

Context

[Tree] (clear>system>management-interface>netconf call-home)

Full Context

clear system management-interface netconf call-home

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context reset statistics for NETCONF call-home clients.

Platforms

All

6.6 call-trace

call-trace

Syntax

call-trace

Context

[Tree] (show call-trace)

Full Context

show call-trace

Description

Commands in this context display information related to the call-trace module.

Platforms

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

call-trace

Syntax

call-trace

Context

[Tree] (clear call-trace)

Full Context

clear call-trace

Description

This command clears call trace jobs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

6.7 cam-utilization

cam-utilization

Syntax

cam-utilization [**card** *slot-number*]

Context

[Tree] (tools>dump>filter cam-utilization)

Full Context

tools dump filter cam-utilization

Description

This command, when used without parameters, specifies the utilization per CAM table for line card ACL filters per FP for FP4- and FP5-based cards in the system. Optionally, the card number can be provided as a parameter to limit the output to a single card.

Parameters

slot-number

Specifies the IOM slot number.

Values 1 to 10, **A**, **B**

Platforms

All

Output

The following output is an example of CAM utilization information for filters.

Output Example

```
*A:7750# tools dump filter cam-utilization
===========================================
Filter Cam Utilization
===========================================
Slot FP  Dir   Type       Cam Utilization %
-------------------------------------------
2    1   Ing   ip-mac                    0
2    1   Egr   ip-mac                  100
2    1   Ing   ipv6                     0
2    1   Egr   ipv6                     0
===========================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.8 candidate

candidate

Syntax

candidate

Context

[Tree] (show>system candidate)

Full Context

show system candidate

Description

This command shows classic CLI candidate configuration information.

Note:
This command is not available in the MD-CLI. Use the MD-CLI **info** command in a configuration region.

Platforms

All

Output

The following output is an example of candidate information, and Table 62: Output fields: candidate describes the output fields.

Output Example

```
*A:bksim3107# show system candidate
===============================================================================
Candidate Config Information
===============================================================================
Candidate configuration state          : modified
Num editors/viewers                    : 0
Candidate cfg exclusive locked         : no
Last commit state                      : revert-failed
Last commit time                       : 10/23/2012 17:21:47
Checkpoint created with last commit    : yes
Scheduled revert time                  : N/A
Last commit revert time                : 10/23/2012 17:22:47

===============================================================================
Users in edit-cfg mode
===============================================================================
Username         Type (from)
===============================================================================
admin            Console
Joris            Telnet (192.0.2.239)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Table 62: Output fields: candidate

Label	Description
Candidate configuration state	• empty — indicates there are no uncommitted changes in the candidate config • modified — indicates there are uncommitted changes in the candidate config • unconfirmed — indicates there are no uncommitted changes in the candidate config but the result of the last commit will be auto-reverted unless it is confirmed before the timeout expires
Num editors/viewers	Displays the number of CLI sessions currently in edit-cfg mode
Candidate cfg exclusive locked	Indicates if a user has exclusively locked the candidate using the **candidate edit exclusive** command
Last commit state	• none — indicates there have been no commits since the last reboot of the node • in-progress — indicates the system is currently committing the candidate config • success — indicates the last commit finished successfully • revert-pending — indicates the last commit finished successfully but has not been confirmed yet, and will be auto-reverted if it is not confirmed before the timeout expires • failed — indicates the last commit failed and has been undone • revert-in-progress — indicates the last commit finished successfully but was not confirmed in time and is currently being reverted • reverted — indicates the last commit finished successfully but was not confirmed in time and has been reverted • revert-failed — indicates the last commit finished successfully but was not confirmed in time and the system attempted to revert it but failed
Last commit time	Displays the time at which the last commit attempt was started
Checkpoint created with last commit	Indicates if a rollback checkpoint was created after the previous commit completed
Scheduled revert time	Indicates the currently scheduled auto-revert time based on the confirmed option being used with a candidate commit
Last commit revert time	Displays the time the commit was last reverted

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Users in edit-cfg mode	Lists all the user sessions that are currently in edit-cfg mode
Type (from)	Indicates the type of session (such as Console, Telnet, and so on) and also the source of the session (such as the source IP address of the remote host)

6.9 capabilities

capabilities

Syntax

capabilities [*system-id* | *lsp-id*] [**level** *level*]

Context

[Tree] (show>router>isis capabilities)

Full Context

show router isis capabilities

Description

This command displays the IS-IS capability information.

Parameters

system-id

Only the LSPs related to the specified *system-id* are listed.

lsp-id

Only the specified LSP is listed.

level

Specifies the interface level (1, 2, or 1 and 2).

Platforms

All

Output

The following output is an example of IS-IS capability information, and Table 63: Output fields: IS-IS capabilities describes the output fields.

Output Example

```
*A:Dut-B# show router isis 0 capabilities
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Rtr Base ISIS Instance 0 Capabilities
===============================================================================
Displaying Level 1 capabilities
-------------------------------------------------------------------------------
LSP ID    : Dut-B.00-00
  Router Cap : 10.20.1.2, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
    FAD Sub-Tlv:
        Flex-Algorithm   : 128
        Metric-Type      : delay
        Calculation-Type : 0
        Priority         : 100
        Flags: M
LSP ID    : Dut-D.00-00
  Router Cap : 10.20.1.4, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
    FAD Sub-Tlv:
        Flex-Algorithm   : 128
        Metric-Type      : delay
        Calculation-Type : 0
        Priority         : 50
        Flags: M
Level (1) Capability Count : 2
Displaying Level 2 capabilities
LSP ID    : Dut-A.00-00
  Router Cap : 10.20.1.1, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
LSP ID    : Dut-B.00-00
  Router Cap : 10.20.1.2, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
    FAD Sub-Tlv:
        Flex-Algorithm   : 128
        Metric-Type      : delay
        Calculation-Type : 0
        Priority         : 100
        Flags: M
LSP ID    : Dut-C.00-00
  Router Cap : 10.20.1.3, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
Level (2) Capability Count : 3
===============================================================================
*A:Dut-B#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 63: Output fields: IS-IS capabilities

Label	Description
Flex-Algorithm	The flexible algorithm number
Priority	Displays the FAD priority; It is the tiebreaker when multiple FADs are received
Metric Type	The metric used by the winning FAD igp — the IGP metric is used te-metric — the TE metric is used delay — the delay metric is used
Calculation Type	Displays the calculation type; for SPF a zero value is only defined
Flags	Displays the FAD Flags; the M-flag is used for inter-area; when set, the metric must be used for inter-area traffic to avoid loops and blackhole traffic on ABR/ASBR

capabilities

Syntax

capabilities [*router-id*]

Context

[Tree] (show>router>ospf3 capabilities)

[Tree] (show>router>ospf capabilities)

Full Context

show router ospf3 capabilities

show router ospf capabilities

Description

This command displays the entries in the Router Information (RI) LSAs.

Parameters

router-id

Lists only the LSAs related to that router ID. If no *router-id* is specified, all database entries are listed.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

OSPF Capabilities Output

The following table describes the standard and detailed command output fields for OSPF capabilities.

Output Example

```
*A:Dut-C# show router ospf capabilities
===============================================================================
Rtr Base OSPFv2 Instance 0 Capabilities
===============================================================================
scope     Router Id           Capabilities
-------------------------------------------------------------------------------
Area      10.20.1.2           0x14: Stub P2P-VLAN
                              SR Algorithm: IGP-metric-based-SPF
                              SR Label Range: start label 22000 range 1001
Area      10.20.1.3           0x14: Stub P2P-VLAN
                              SR Algorithm: IGP-metric-based-SPF
                              SR Label Range: start label 23030 range 71
Area      10.20.1.4           0x14: Stub P2P-VLAN
                              SR Algorithm: IGP-metric-based-SPF
                              SR Label Range: start label 24000 range 1001
Area      10.20.1.5           0x14: Stub P2P-VLAN
                              SR Algorithm: IGP-metric-based-SPF
                              SR Label Range: start label 25000 range 1001
Area      10.20.1.1           0x14: Stub P2P-VLAN
                              SR Algorithm: IGP-metric-based-SPF
                              SR Label Range: start label 21000 range 1001
Area      10.20.1.2           0x14: Stub P2P-VLAN
                              SR Algorithm: IGP-metric-based-SPF
                              SR Label Range: start label 22000 range 1001
Area      10.20.1.3           0x14: Stub P2P-VLAN
                              SR Algorithm: IGP-metric-based-SPF
                              SR Label Range: start label 23030 range 71
-------------------------------------------------------------------------------
No. of LSAs: 7
===============================================================================
```

6.10 capture-sap

capture-sap

Syntax

capture-sap [**statistics**] *sap-id*

Context

[Tree] (show>service>id>dynsvc capture-sap)

Full Context

show service id dynamic-services capture-sap

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the status and statistics of a dynamic services capture. Statistics include counters for the number of data triggers received and data trigger drop reasons.

Note:
This command is not available in the MD-CLI.

Parameters

sap-id

Specifies the dynamic services capture SAP.

statistics

Displays data trigger receive and drop reason counters for this dynamic services capture SAP.

Platforms

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

Output

The following output is an example of capture SAP information.

Output Example

```
# show service id 10 dynamic-services capture-sap 1/1/1:10.*
===============================================================================
Dynamic Services Capture SAP 1/1/1:10.*
===============================================================================
Dynamic services policy      : dyn-svc-1
Administrative state         : in-service
-------------------------------------------------------------------------------
Last Mgmt Change             : 01/20/2016 12:54:06
===============================================================================
# show service id 10 dynamic-services capture-sap 1/1/1:10.*  statistics
===============================================================================
Dynamic Services Capture SAP 1/1/1:10.* Statistics
===============================================================================
Data packets received by SAP                          : 0
-------------------------------------------------------------------------------
Drop Reason Counters
-------------------------------------------------------------------------------
No policy configured at capture SAP level             : 0
No authentication configured in policy                : 0
Data-trigger already exists                           : 0
Lockout is active                                     : 0
Reached data-trigger system limit                     : 0
No memory available                                   : 0
Unsuccessful authentication                           : 0
No data-trigger SAP-id in authentication              : 0
Corresponding dynamic SAP is not created              : 0
===============================================================================
```

Table 64: Output fields: capture SAP describes the Capture SAP policy fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 64: Output fields: capture SAP

Counter	Description
Data packets received by SAP	The number of dynamic service data triggers received on the capture SAP that reached the CPM.
No policy configured at capture SAP level	There is no dynamic-services-policy configured at the capture SAP. This is required to determine the authentication destination.
No authentication configured in policy	The authentication section in the specified in dynamic services policy is missing or incomplete.
Data-trigger already exists	A new data trigger frame is received for an existing data trigger that is authenticated, but the corresponding dynamic SAP is not yet created. The new data trigger packet is dropped.
Lockout is active	The data trigger for this managed SAP is currently in a lockout state due to previous authentication failures.
Reached data-trigger system limit	The maximum number of dynamic service data triggers supported on the system is reached. Additional data triggers are dropped.
No memory available	There is not enough system memory available to process the data trigger.
Unsuccessful authentication	The authentication for a data trigger on this capture SAP failed or timed out.
No data-trigger SAP-id in authentication	The dynamic services data trigger SAP ID is not provided in authentication. This is a mandatory parameter.
Corresponding dynamic SAP is not created	The data trigger successfully authenticated but the corresponding dynamic SAP was not created. This is typically caused by a dynamic services script error.

capture-sap

Syntax

capture-sap [**statistics**] *sap-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>service>id>dynsvc capture-sap)

Full Context

clear service id dynamic-services capture-sap

Description

This command clears the dynamic services capture SAP control plane statistics (data triggers received and data trigger drop reason counters).

Parameters

statistics

Clears the data trigger statistics for a capture SAP.

sap-id

Specifies the dynamic services capture SAP.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *eth-sat-id*	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id* | *eth-sat-id*:[qtag1 | *cp-conn-prof-id*]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id* | *eth-sat-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-*conn-prof-id*]	
	cp	keyword
	conn-prof-id	*1 to 8000*
cem	*slot/mda/port.channel*	
ima-grp	*bundle-id* [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | **lag**-*string*	
	lag	keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	id	1 to 800
	string	23 characters max
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	null | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094
eth-sat-id	**esat**-*id/slot/port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

Platforms

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

6.11 card

card

Syntax

card *slot-number* **cpu** [**sample-period** *seconds*]

card *slot-number* **fp** *fp-number* **dist-cpu-protection**

card *slot-number* **fp** *fp-number* [**tap** *tap-number*] **ingress per-egress-fp-stats**

card *slot-number* **fp** *fp-number* [**tap** *tap-number*] **egress per-ingress-fp-stats**

card *slot-number* **fp** *fp-number* **policy-accounting**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

card *slot-number* **memory-pools**

card state

card [*slot-number*]

card [*slot-number*] **detail**

card *slot-number* **fp** *fp-number* **fwd-engine drop-reason statistics**

card *slot-number* **fp** *fp-number* **ingress queue-group mode** {**access** | **network**}

card *slot-number* [**detail**] **fp** *fp-number* **ingress queue-group** *queue-group-name* **instance** [*instance-number*] **mode** {**access** | **network**} [**statistics**]

Context

[Tree] (show card)

Full Context

show card

Description

This command displays card information.

If no command line parameters are specified, a card summary for all cards is displayed.

Parameters

slot-number

Displays information for the specified card slot.

Values Depending on the chassis model, IOM/XCM slots are numbered from 1 to 10. CPM slots are A, B. The 7950 XRS has additional slots C, D (upper or lowercase). SFM slots are not addressed as cards. See the **show sfm** command.

cpu

Displays CPU utilization.

seconds

Displays the number of seconds over which to sample CPU task utilization.

Values 1 to 300

fp-number

Displays information for the specified forwarding plane.

Values 1 to 8

dist-cpu-protection

Displays the distributed CPU protection information.

policy-accounting

Displays the policy accounting information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

memory-pools

Displays the memory pools for the card.

state

Displays provisioned and equipped card and MDA information.

detail

Displays detailed card information.

fwd-engine

Displays forwarding engine information.

drop-reason

Displays drop reason information.

statistics

Displays statistics information.

ingress

Specifies statistics are ingress related.

egress

Specifies statistics are egress related.

tap-number

Displays the source TAP number.

Values 1 to 2

per-egress-fp-stats

Displays packet and octet statistics for unicast traffic sent from the specified FP to each destination FP. Only supported on 7750 SR-1 and 7750 SR-s platforms.

per-ingress-fp-stats

Displays packet and octet statistics for unicast traffic received by the specified FP from each source FP. Only supported on 7750 SR-1 and 7750 SR-s platforms.

queue-group

Displays queue group information.

mode

Specifies the mode in which the card will operate.

access

Displays information for the queue groups related to access mode.

network

Displays information for the queue groups related to network mode.

Platforms

All

Output

The following outputs are examples of card information, and the associated tables describe the output fields:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output Example: show card (showing the 7750 SR-12)
- Output Example: show card (showing the 7950 XRS-40)
- Output Fields: show card
- Output Example: show card state (showing 7750 SR-12 Chassis)
- Output Example: show card state (showing 7750 SR-14s Chassis)
- Output Example: show card state (showing 7450 ESS-12 Chassis)
- Output Example: show card state (showing a 7950 XRS Chassis)
- Output Fields: show card state
- Output Example: show card <slot-number> detail (showing IOM5-e Card)
- Output Example: show card <slot-number> detail (showing XCM-20 Card)
- Output Fields: show card <slot-number> detail (for an IOM or XCM Card)
- Output Example: show card <slot-number> detail (showing CPM5 Cards)
- Output Example: show card <slot-number> detail (showing CPM-x20 Cards)
- Output Fields: show card <slot-number> detail (for a CPM)
- Output Example: show card <slot-number> detail (showing IOM with license detail)
- Output Fields: show card <slot-number> detail (showing IOM with license level)
- Output Example: show card <slot-number> fp fwd-engine drop-reason statistics
- Output Fields: show card<slot-number> fp fwd-engine drop-reason statistics
- Output Example: show card <slot-number> fp <fp-number> ingress per-egress-fp-stats
- Output Example: show card <slot-number> fp <fp-number> ingress per-egress-fp-stats tap <tap-number>
- Output Example: show card <slot-number> fp <fp-number> egress per-ingress-fp-stats
- Output Fields: show card <slot-number> fp <fp-number> ingress per-egress-fp-stats

Output Example: show card (showing the 7750 SR-12)

```
*A:Dut-A# show card
===============================================================================
Card Summary
===============================================================================
Slot      Provisioned Type                          Admin Operational   Comments
              Equipped Type (if different)          State State
-------------------------------------------------------------------------------
6         iom4-e                                    up    up
7         iom4-e                                    up    up
8         iom4-e-hs                                 up    up
9         iom4-e                                    up    up
A         cpm5                                      up    up/active
B         cpm5                                      up    up/standby
===============================================================================
```

Output Example: show card (showing the 7950 XRS-40)

```
A:Dut-A#   show card
===============================================================================
Card Summary
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Slot   Provisioned Type                              Admin Operational   Comments
           Equipped Type (if different)              State State
-------------------------------------------------------------------------------
1      xcm-x20                                       up    up
2      xcm-x20                                       up    up
A      cpm-x20                                       up    up/active
B      cpm-x20                                       up    up/standby
C      cpm-x20                                       up    down/ext-stby
D      cpm-x20                                       up    up/ext-actv
===============================================================================
```

Output Fields: show card

Table 65: Output fields: card describes the output fields for the **show card** command.

Table 65: Output fields: card

Label	Description
Slot	The slot number of the card in the chassis.
Provisioned Type	The card type that is configured for the slot. Note: CPMs C and D do not appear in the summary unless the Chassis Topology is Extended (for the 7950 XRS-40).
Equipped Type	The card type that is actually populated in the slot. Note: CPMs C and D do not appear in the summary unless the Chassis Topology is Extended (for the7950 XRS-40).
Admin State	Up — The card is administratively up. Down — The card is administratively down.
Operational State	Up — The card is operationally up. Down — The card is operationally down. active — The CPM is the Active CPM for the system (actively managing the system components, processing various protocols, and so on). standby — The CPM is the Standby CPM. The standby is hot synchronized with the Active CPM. ext-actv — The CPM is operating in an Extension role in a 7950 XRS-40 system and is the active extension CPM for the chassis in which it sits. ext-stby — The CPM is operating in an Extension role in a 7950 XRS-40 system and is the standby extension CPM for the chassis in which it sits.
Comments	Active — Indicates if the CPM is the active state. Standby — Indicates if the CPM is the standby state. No SFM — Indicates no SFM is online that is usable by this card. Pwr Save — Indicates if the card is in power save mode. Lo Power — Indicates if the card is in low power mode. It is prevented from booting by power management.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	SFM Test — Indicates card is being held in booting because a B2B standalone SFM inter-connect test is in progress. No MDA — Indicates the card is waiting for MDAs. MDAs are either missing or failed.

Output Example: show card state (showing 7750 SR-12 Chassis)

```
*A:Dut-A# show card state
===============================================================================
Card State
===============================================================================
Slot/  Provisioned Type                  Admin Operational   Num   Num Comments
Id         Equipped Type (if different)  State State         Ports MDA
-------------------------------------------------------------------------------
6      iom4-e                            up    up                  2
6/1    me40-1gb-csfp                     up    up            40
6/2    me40-1gb-csfp                     up    up            40
7      iom4-e                            up    up                  2
7/1    me40-1gb-csfp                     up    up            40
8      iom4-e-hs                         up    up                  2
8/1    me12-10/1gb-sfp+                  up    up            12
8/2    me40-1gb-csfp                     up    up            40
9      iom4-e                            up    up                  2
9/1    me12-10/1gb-sfp+                  up    up            12
9/2    me12-10/1gb-sfp+                  up    up            12
A      cpm5                              up    up                      Active
B      cpm5                              up    up                      Standby
===============================================================================
```

Output Example: show card state (showing 7750 SR-14s Chassis)

```
A:Dut-O# show card state
===============================================================================
Card State
===============================================================================
Slot/  Provisioned Type                  Admin Operational   Num   Num Comments
Id         Equipped Type (if different)  State State         Ports MDA
-------------------------------------------------------------------------------
1      xcm-14s                           up    up                  2
1/1    s18-100gb-qsfp28:he1200g+         up    up            18
1/x2   iom-s-3.0t:he3000g+               up    up
1/x2/1 ms18-100gb-qsfp28                 up    up            18
1/x2/2 ms4-400g-qsfpdd+4-100g-qsfp28     up    up            8
2      xcm-14s                           up    up                  2
2/x1   iom-s-3.0t:he3000g+               up    up
2/x1/1 ms6-200gb-cfp2-dco                up    up            6
6      xcm-14s                           up    up                  2
6/1    s36-400gb-qsfpdd:he4800g+         up    up            36
6/2    s36-100gb-qsfp28:he2400g+         up    up            36
A      cpm-s                             up    up                      Active
B      cpm-s                             up    up                      Standby
===============================================================================
```

Output Example: show card state (showing 7450 ESS-12 Chassis)

```
A:node-2# show card state
===============================================================================
Card State
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Slot/  Provisioned Type                  Admin Operational   Num   Num Comments
Id         Equipped Type (if different)  State State         Ports MDA
-------------------------------------------------------------------------------
1      iom4-e                            up    up                  2
1/1    me2-100gb-ms-qsfp28               up    up            2
1/2    isa2-tunnel                       up    up            2
A      cpm5                              up    up                      Active
B      cpm5                              up    down                    Standby
===============================================================================
```

Output Example: show card state (showing a 7950 XRS Chassis)

```
A:node-2# show card state
===============================================================================
Card State
===============================================================================
Slot/  Provisioned Type                  Admin Operational   Num   Num Comments
Id         Equipped Type (if different)  State State         Ports MDA
-------------------------------------------------------------------------------
1      xcm-x20                           up    up                  2
1/1    x40-10g-sfp                       up    up             40
A      cpm2-x20                          up    up                      Active
B      cpm2-x20                          up    down                    Standby
===============================================================================
```

Output Fields: show card state

Table 66: Output fields: card state describes the output fields for the **show card state** command.

Table 66: Output fields: card state

Label	Description
Slot/MDA	The slot number of the card in the chassis.
Provisioned Type	The card type that is configured for the slot.
Equipped Type	The card type that is actually populated in the slot.
Admin State	Up — The card is administratively up. Down — The card is administratively down.
Operational State	Up — The card is operationally up. Provisioned — There is no card in the slot but it has been pre-configured.
Num Ports	The number of ports available on the MDA.
Num MDA	The number of MDAs installed.
Comments	Active — Indicates if the CPM is the active state. Standby — Indicates if the CPM is the standby state. No SFM — Indicates no SFM is online that is usable by this card. Pwr Save — Indicates if the card is in power save mode. Lo Power — Indicates if the card is in low power mode. It is prevented from booting by power management.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	SFM Test — Indicates card is being held in booting because a B2B standalone SFM inter-connect test is in progress. No MDA — Indicates the card is waiting for MDAs. MDAs are either missing or failed.

Output Example: show card <slot-number> detail (showing IOM5-e Card)

```
*A:Dut-A# show card 1 detail
===============================================================================
Card 1
===============================================================================
Slot      Provisioned Type                          Admin Operational   Comments
              Equipped Type (if different)          State State
-------------------------------------------------------------------------------
1         iom5-e:he1200g+                           up    up
IOM Card Licensing Data
    Licensed Level                : he1200g+
    Description                   : 1.2T /w Agg to 2.4T, High Edge Routing
IOM Card Specific Data
    Clock source                  : none
    Fail On Error                 : Disabled
    Reset On Recoverable Error    : Disabled
    Available MDA slots           : 2
    Installed MDAs                : 2
FP 1 Specific Data
    WRED Admin State              : Out Of Service
    WRED buffer-allocation max    : 2500
    WRED buffer-allocation min    : 2500
    WRED reserved-cbs max         : 2500
    WRED reserved-cbs min         : 2500
    WRED Slope Policy             : default
    hi-bw-mc-srcEgress Alarm      : disabled
    hi-bw-mc-srcEgress Group      : 0
    mc-path-mgmt Admin State      : Out Of Service
    Ingress Bandwidth Policy      : default
    FP Resource Policy            : default
    Hw-Agg-Shaping QSets          : True
    Hw-Agg-Shaping QSet Size      : 4
    Hw-Agg-Shaping In Use         : saps
    Stable Pool Sizing            : False
    Ingress Buffer Pool Size      : 8257536 KB
    Egress Buffer Pool Size       : 8257536 KB
    Initial Extract Priority Mode : uniform
    HS Pool Policy                : None
    HS Fixed High Threshold Delta : default
    Generation                    : FP4
    Network ingress queue policy  : default
Hardware Data
    Platform type                 : 7750
    Part number                   : 3HE12332CARB01
    CLEI code                     : INUIAD3HAA
    Serial number                 : NS1936F7144
    Manufacture date              : 09082019
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 82-0926-03
    Administrative state          : up
    Operational state             : up
    Temperature                   : 60C
    Temperature threshold         : 75C
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Software boot (rom) version   : X-0.0.I6157 on Thu Jan 16 18:06:36 PST
                                    2020 by builder
    Software version              : TiMOS-I-21.2.B1-6 iom/hops64 Nokia 7750 SR
                                    Copyright (c) 2000-2021 Nokia.
                                    All rights reserved. All use subject to
                                    applicable license agreements.
                                    Built on Fri Feb 5 18:15:30 PST 2021 by
                                    builder in /builds/c/212B/B1-6/panos/main/
                                    sros
    Time of last boot             : 2021/02/09 07:35:30
    Current alarm state           : alarm cleared
    Base MAC address              : 14:7b:ac:b4:b0:e1
    Firmware revision status      : acceptable
    Last bootup reason            : clear card
    Memory capacity               : 16,384 MB
===============================================================================
*A:Dut-A#
```

Output Example: show card <slot-number> detail (showing XCM-20 Card)

```
A:bkvm20# show card 2 detail
===============================================================================
Card 2
===============================================================================
Slot      Provisioned Type                          Admin Operational   Comments
              Equipped Type (if different)          State State
-------------------------------------------------------------------------------
2         xcm2-x20                                  up    provisioned
              (not equipped)
IOM Card Specific Data
    Clock source                  : none
    Fail On Error                 : Disabled
    Available MDA slots           : 2
    Installed MDAs                : 0
FP 1 Specific Data
    WRED Admin State              : Out Of Service
    WRED buffer-allocation max    : 2500
    WRED buffer-allocation min    : 2500
    WRED reserved-cbs max         : 2500
    WRED reserved-cbs min         : 2500
    WRED Slope Policy             : default
    hi-bw-mc-srcEgress Alarm      : disabled
    hi-bw-mc-srcEgress Group      : 0
    mc-path-mgmt Admin State      : Out Of Service
    Ingress Bandwidth Policy      : default
    FP Resource Policy            : default
    Stable Pool Sizing            : False
    Initial Extract Priority Mode : uniform
    Generation                    : FP4
    Network ingress queue policy  : default
FP 2 Specific Data
    WRED Admin State              : Out Of Service
    WRED buffer-allocation max    : 2500
    WRED buffer-allocation min    : 2500
    WRED reserved-cbs max         : 2500
    WRED reserved-cbs min         : 2500
    WRED Slope Policy             : default
    hi-bw-mc-srcEgress Alarm      : disabled
    hi-bw-mc-srcEgress Group      : 0
    mc-path-mgmt Admin State      : Out Of Service
    Ingress Bandwidth Policy      : default
    FP Resource Policy            : default
    Stable Pool Sizing            : False
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Initial Extract Priority Mode : uniform
    Generation                    : FP4
    Network ingress queue policy  : default
FP 3 Specific Data
    WRED Admin State              : Out Of Service
    WRED buffer-allocation max    : 2500
    WRED buffer-allocation min    : 2500
    WRED reserved-cbs max         : 2500
    WRED reserved-cbs min         : 2500
    WRED Slope Policy             : default
    hi-bw-mc-srcEgress Alarm      : disabled
    hi-bw-mc-srcEgress Group      : 0
    mc-path-mgmt Admin State      : Out Of Service
    Ingress Bandwidth Policy      : default
    FP Resource Policy            : default
    Stable Pool Sizing            : False
    Initial Extract Priority Mode : uniform
    Generation                    : FP4
    Network ingress queue policy  : default
Hardware Data
    Platform type                 : N/A
    Part number                   :
    CLEI code                     :
   Serial number                 :
    Manufacture date              :
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number :
    Administrative state          : up
    Operational state             : provisioned
    Software boot (rom) version   : (Not Specified)
    Software version              : (Not Specified)
    Time of last boot             : N/A
    Current alarm state           : alarm cleared
    Base MAC address              :
    Last bootup reason            :
    Memory capacity               : 0 MB
Hardware Resources (Power-Zone 1)
    Voltage
        Minimum                   :     0.00 Volts  (N/A)
        Current                   :     0.00 Volts
        Peak                      :     0.00 Volts  (N/A)
   Wattage
        Minimum                   :     0.00 Watts  (N/A)
        Current                   :     0.00 Watts
        Peak                      :     0.00 Watts  (N/A)
        Max Required              :   282.00 Watts
    Amperage
        Minimum                   :     0.00 Amps   (N/A)
        Current                   :     0.00 Amps
        Peak                      :     0.00 Amps   (N/A)
===============================================================================
A:bkvm20#
```

Output Fields: show card <slot-number> detail (for an IOM or XCM Card)

Table 67: Output fields: card detail (for an IOM or XCM Card) describes the output fields for the **show card detail** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 67: Output fields: card detail (for an IOM or XCM Card)

Label	Description
Clock source	Source of clock for the IOM. Currently this parameter always displays "none”.
Available MDA slots	The number of MDA slots available on the IOM.
Installed MDAs	The number of MDAs installed on the IOM.
FP Resource Policy	The FP resource policy for the specified FP.
Initial Extract Priority Mode	The scheme used to select the initial drop priority of extracted control plane traffic. uniform — Initializes the drop priority of all extracted control traffic as high priority. l3-classify — Initializes the drop priority of all Layer 3 extracted control traffic (for example, BGP or OSPF) based on the QoS classification of the packets. See "Classification-Based Priority for Extracted Protocol Traffic" in the*7450 ESS, 7750 SR, 7950 XRS, and VSR System Management Guide* for more details.
Part number	The IOM part number.
CLEI code	The Common Language Location Identifier (CLLI) code string for the router.
Serial number	The serial number. Not user-modifiable.
Manufacture date	The chassis manufacture date. Not user-modifiable.
Manufacturing string	Factory-inputted manufacturing text string. Not user-modifiable.
Manufacturing deviations	Displays a record of changes by manufacturing to the hardware or software that is outside the normal revision control process.
Administrative state	Up — The card is administratively up. Down — The card is administratively down.
Operational state	Up — The card is operationally up. Down — The card is operationally down.
Temperature	Internal chassis temperature.
Temperature threshold	The value above which the internal temperature must rise in order to indicate that the temperature is critical.
Software boot version	The version of the boot image.
Software version	The software version number.
Time of last boot	The date and time the most recent boot occurred.
Current alarm state	Displays the alarm conditions for the specific board.
Base MAC address	Displays the base MAC address of the hardware component.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Memory capacity	Displays the memory capacity of the card.
Generation	Displays the FP generation of the assembly. N/A is displayed if there is no XMA installed in the card slot.
Comments	Active — Indicates if the CPM is the active state. Standby — Indicates if the CPM is the standby state. No SFM — Indicates no SFM is online that is usable by this card. Pwr Save — Indicates if the card is in power save mode. Lo Power — Indicates if the card is in low power mode. It is prevented from booting by power management. SFM Test — Indicates card is being held in booting because a B2B standalone SFM inter-connect test is in progress. No MDA — Indicates the card is waiting for MDAs. MDAs are either missing or failed.
Network ingress queue policy	Displays the name of the network ingress queue policy applied to the FP.

Output Example: show card <slot-number> detail (showing CPM5 Cards)

```
B:Dut-D# show card A detail
===============================================================================
Card A
===============================================================================
Slot      Provisioned Type                          Admin Operational   Comments
              Equipped Type (if different)          State State
-------------------------------------------------------------------------------
A         cpm5                                      up    up/active
BOF last modified                : N/A
Config file version              : FRI APR 12 01:08:10 2019 UTC
Config file last modified        : N/A
Config file last saved           : 2019/04/16 21:08:31
M/S clocking ref state           : primary
Flash - cf1:
    Administrative State         : up
    Operational state            : up
    Serial number                : 20101124004146824682
    Firmware revision            : 20091110
    Model number                 : SMART CF
    Size                         : 3,907 MB
    Free space                   : 798,240 KB
    Percent Used                 : 80 %
Flash - cf2:
    Administrative State         : up
    Operational state            : up
    Serial number                : 20101124004180EB80EB
    Firmware revision            : 20091110
    Model number                 : SMART CF
    Size                         : 3,907 MB
    Free space                   : 1,562 MB
    Percent Used                 : 59 %
Flash - cf3:
    Administrative State         : up
    Operational state            : up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Serial number                : 000060089160A700003F
    Firmware revision            : 110301a
    Model number                 : SFCF32GBH1BO4TO-I-NC-543-ALU
    Size                         : 31,248 MB
    Free space                   : 27,771 MB
    Percent Used                 : 11 %
Hardware Data
    Platform type                : 7750
    Part number                  : 3HE08423AARC01
    CLEI code                    : IPUCBGZ1AA
    Serial number                : NS155160462
    Manufacture date             : 12222015
    Manufacturing deviations     : (Not Specified)
    Manufacturing assembly number : 82-0553-05
    Administrative state         : up
    Operational state            : up
    Temperature                  : 51C
    Temperature threshold        : 75C
    Software boot (rom) version  : X-13.0.R4 on Wed Jul 29 15:56:20 PDT 2015
                                   by builder
    Software version             : TiMOS-C-16.0.R6 cpm/hops64 Nokia 7750 SR
                                   Copyright (c) 2000-2019 Nokia.
                                   All rights reserved. All use subject to
                                   applicable license agreements.
                                   Built on Wed Feb 27 14:42:05 PST 2019 by
                                   builder in /builds/c/160B/R6/panos/main
    Time of last boot            : 2019/04/15 09:31:29
    Current alarm state          : alarm cleared
    Base MAC address             : e4:81:84:81:ca:06
    Firmware revision status     : acceptable
    Memory capacity              : 16,384 MB
    System timing oscillator type : OCXO
    Secure boot status           : enabled
    UEFI variables status        : ok
===============================================================================
A:MLS2-SR164# show card "b" detail
===============================================================================
Card B
===============================================================================
Slot      Provisioned Type                        Admin Operational   Comments
              Equipped Type (if different)        State State
-------------------------------------------------------------------------------
B         cpm5                                    up    up/standby
BOF last modified            : N/A
Config file version          :
Config file last modified    : N/A
Config file last saved       : N/A
M/S clocking ref state       : secondary
Flash - cf1:
    Administrative State     : up
    Operational state        : not equipped
Flash - cf2:
    Administrative State     : up
    Operational state        : not equipped
Flash - cf3:
    Administrative State     : up
    Operational state        : up
    Serial number            : 000060078551A1000397
    Firmware revision        : 110301a
    Model number             : SFCF4096H1BO2TO-I-D1-543-ALU
    Size                     : 3,904 MB
    Free space               : 1,135 MB
    Percent Used             : 70 %
Hardware Data
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Platform type                : 7750
    Part number                  : 3HE08423AARC01
    CLEI code                    : IPUCBGZ1AA
    Serial number                : NS160164783
    Manufacture date             : 01172016
    Manufacturing deviations     : (Not Specified)
    Manufacturing assembly number : 82-0553-05
    Administrative state         : up
    Operational state            : up
    Temperature                  : 50C
    Temperature threshold        : 75C
    Software boot (rom) version  : X-13.0.R4 on Wed Jul 29 15:56:20 PDT 2015
                                   by builder
    Software version             : TiMOS-C-16.0.R6 cpm/hops64 Nokia 7750 SR
                                   Copyright (c) 2000-2019 Nokia.
                                   All rights reserved. All use subject to
                                   applicable license agreements.
                                   Built on Wed Feb 27 14:42:05 PST 2019 by
                                   builder in /builds/c/160B/R6/panos/main
    Time of last boot            : 2019/04/15 09:32:04
    Current alarm state          : alarm cleared
    Base MAC address             : e4:81:84:81:db:7c
    Firmware revision status     : acceptable
    Memory capacity              : 16,384 MB
    System timing oscillator type : OCXO
    Secure boot status           : enabled
    UEFI variables status        : ok
===============================================================================
```

Output Example: show card <slot-number> detail (showing CPM-x20 Cards)

```
*A:bksim3107# show card A detail
===============================================================================
Card A
===============================================================================
Slot Provisioned Type Admin Operational Comments
Equipped Type (if different) State State
-------------------------------------------------------------------------------
A cpm-x20 up up/active

BOF last modified : 2013/05/15 12:33:22
Config file version : FRI MAR 08 13:24:58 2013 UTC
Config file last modified : 2013/05/15 12:34:22
Config file last saved : 2013/05/15 12:36:22
M/S clocking ref state : primary

Flash - cf1:
Administrative State : up
Operational state : up
Serial number : serial-1
Firmware revision : v1.0
Model number : PC HD 1
Size : 1,950 MB
Free space : 1,950 MB

Flash - cf2:
Administrative State : up
Operational state : up
Serial number : serial-2
Firmware revision : v1.0
Model number : PC HD 2
Size : 0 Bytes
Free space : 0 Bytes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Flash - cf3:
Administrative State : up
Operational state : up
Serial number : serial-3
Firmware revision : v1.0
Model number : PC HD 3
Size : 18,432 Bytes
Free space : 6,144 Bytes
Hardware Data
Platform type : 7950
Part number : Sim Part#
CLEI code : Sim CLEI
Serial number : card-11
Manufacture date : 01012003
Manufacturing deviations : Sim MfgDeviation card-11
Manufacturing assembly number : 01-2345-67
Administrative state : up
Operational state : up
Temperature : -1C
Temperature threshold : 75C
Software boot (rom) version : simulated
Software version : TiMOS-C-11.0.R2 cpm/i386 Nokia 7950 XRS*
Time of last boot : 2013/05/13 08:10:33
Current alarm state : alarm cleared
Base MAC address : ac:9f:0b:00:00:01
Memory capacity : 3,072 MB

Inter Chassis CPM Interconnect
CPM Interconnect Port 1
Oper State : up
SFF Status : operational

CPM Interconnect Port 2
...
* indicates that the corresponding row element may have been truncated.
===============================================================================

*A:Dut-A# show card D detail

===============================================================================
Card D
===============================================================================
Slot   Provisioned Type                          Admin Operational   Comments
           Equipped Type (if different)          State State
-------------------------------------------------------------------------------
D      cpm-x20                                   up    up/ext-stby


BOF last modified                : N/A
Config file version              :
Config file last modified        : N/A
Config file last saved           : N/A
M/S clocking ref state           : secondary

Flash - cf1:
    Administrative State         : up
    Operational state            : up
    Serial number                : WE11K6300191
    Firmware revision            : 2.1ME
    Model number                 : WDC SSD-D0128S-7117
    Size                         : 122,089 MB
    Free space                   : 122,089 MB
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Flash - cf2:
    Administrative State          : up
    Operational state             : not equipped

Flash - cf3:
    Administrative State          : up
    Operational state             : up
    Serial number                 :     SPG2012061404165
    Firmware revision             : 20101222
    Model number                  : SMART CF
    Size                          : 3,907 MB
    Free space                    : 3,802 MB

Hardware Data
    Platform type                 : 7950
    Part number                   : 3HE07116AARB01
    CLEI code                     : IPUCA9T1AA
    Serial number                 : NS13426D067
    Manufacture date              : 03162014
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 82-0488-05
    Administrative state          : up
    Operational state             : up
    Temperature                   : 39C
    Temperature threshold         : 75C
    Software boot (rom) version   : X-12.0.B1-120 on Wed Jul 16 18:55:26 PDT
                                    2014 by builder
    Software version              : TiMOS-C-12.0.B1-120 cpm/hops64 Nokia_7950 XRS
                                    7950 Copyright (c) 2000-2016 Nokia
                                    All rights reserved. All use subject to
                                    applicable license agreements.
                                    Built on Wed Jul 16 19:26:12 PDT 2014 by
                                    builder in /rel12.0/b1/B1-120/panos/main
    Time of last boot             : 2014/07/17 13:41:28
    Current alarm state           : alarm cleared
    Base MAC address              : 00:d0:f6:f3:3c:9e
    Memory capacity               : 8,192 MB

Hardware Resources (Power-Zone 2)
    Voltage
        Minimum                   :    53.10 Volts  (07/17/2014 12:40:28)
        Current                   :    53.16 Volts
        Peak                      :    54.15 Volts  (07/17/2014 12:18:27)
    Wattage
        Minimum                   :   151.10 Watts  (07/17/2014 13:31:23)
        Current                   :   202.61 Watts
        Peak                      :   208.79 Watts  (07/17/2014 13:00:07)
        Max Required              :   204.00 Watts
    Amperage
        Minimum                   :     3.69 Amps   (07/17/2014 12:18:27)
        Current                   :     3.82 Amps
        Peak                      :     3.94 Amps   (07/17/2014 13:07:25)

Inter Chassis CPM Interconnect
    CPM Interconnect Port 1
        Oper State                : up
        SFF Status                : operational
    CPM Interconnect Port 2
        Oper State                : up
        SFF Status                : operational
===============================================================================
```

Output Fields: show card <slot-number> detail (for a CPM)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 68: Output fields: card detail (for a CPM) describes the output fields for the **show card detail** command for a CPM card.

Table 68: Output fields: card detail (for a CPM)

Label	Description
Slot	The slot of the card in the chassis.
Card Provisioned	The CPM type that is configured for the slot. Note: CPMs C and D will not show up in the summary unless the Chassis Topology is Extended (XRS-40).
Card Equipped	The CPM type that is actually populated in the slot. Note: CPMs C and D will not show up in the summary unless the Chassis Topology is Extended (XRS-40).
Admin State	Up — The CPM is administratively up. Down — The CPM is administratively down.
Operational State	Up — The CPM is operationally up. Down — The CPM is operationally down.
Inter chassis cpm interconnect	Up — The CPM is operationally up. Down — The CPM is operationally down.
BOF last modified	The date and time of the most recent BOF modification.
Config file version	The configuration file version.
Config file last modified	The date and time of the most recent config file modification.
Config file last modified	The date and time of the most recent config file modification.
Config file last saved	The date and time of the most recent config file save.
CPM card status	active — The card is acting as the primary (active) CPM in a redundant system. standby — The card is acting as the standby (secondary) CPM in a redundant system.
Administrative state	Up — The CPM is administratively up. Down — The CPM is administratively down.
Operational state	Up — The CPM is operationally up. Down — The CPM is operationally down.
Serial number	The compact flash part number. Not user modifiable.
Firmware revision	The firmware version. Not user modifiable.
Model number	The compact flash model number. Not user modifiable.
Size	The amount of space available on the compact flash card.
Free space	The amount of space remaining on the compact flash card.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Part number	The CPM part number.
CLEI code	The code used to identify the router.
Serial number	The CPM part number. Not user modifiable.
Manufacture date	The chassis manufacture date. Not user modifiable.
Manufacturing string	Factory-set manufacturing text string. Not user modifiable.
Administrative state	Up — The card is administratively up. Down — The card is administratively down.
Operational state	Up — The card is operationally up. Down — The card is operationally down.
Time of last boot	The date and time the most recent boot occurred.
Current alarm state	Displays the alarm conditions for the specific board.
Status	Displays the current status.
Temperature	Internal chassis temperature.
Temperature threshold	The value above which the internal temperature must rise in order to indicate that the temperature is critical.
Software boot version	The version of the boot image.
Memory capacity	The total amount of memory.
Secure boot status	Status of the Secure Boot for this CPM. enabled — Secure Boot is enabled disabled — Secure Boot is disabled
UEFI variable status	Status of the Secure Boot UEFI variables for this CPM. ok — no update required update required — update is required
Comments	Active — Indicates if the CPM is the active state. Standby — Indicates if the CPM is the standby state. No SFM — Indicates no SFM is online that is usable by this card. Pwr Save — Indicates if the card is in power save mode. Lo Power — Indicates if the card is in low power mode. It is prevented from booting by power management. SFM Test — Indicates card is being held in booting because a B2B standalone SFM inter-connect test is in progress.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	No MDA — Indicates the card is waiting for MDAs. MDAs are either missing or failed.

Output Example: show card <slot-number> detail (showing IOM with license detail)

```
*A:bkvm18# show card 1 detail
===============================================================================
Card 1
===============================================================================
Slot      Provisioned Type                          Admin Operational   Comments
              Equipped Type (if different)          State State
-------------------------------------------------------------------------------
1         iom5-e:he1200g+                           up    up
IOM Card Licensing Data
    Licensed Level                : he1200g+
    Description                   : 1.2T /w Agg to 2.4T, High Edge Routing
    Licensed Bandwidth Used       : 900 Gbps
IOM Card Specific Data
    Clock source                  : none
    Fail On Error                 : Disabled
    Reset On Recoverable Error    : Disabled
    Available MDA slots           : 2
    Installed MDAs                : 0
FP 1 Specific Data
    WRED Admin State              : Out Of Service
    WRED buffer-allocation max    : 2500
    WRED buffer-allocation min    : 2500
    WRED reserved-cbs max         : 2500
    WRED reserved-cbs min         : 2500
    WRED Slope Policy             : default
    hi-bw-mc-srcEgress Alarm      : disabled
    hi-bw-mc-srcEgress Group      : 0
    mc-path-mgmt Admin State      : Out Of Service
    Ingress Bandwidth Policy      : default
    FP Resource Policy            : default
    Stable Pool Sizing            : False
    Ingress Buffer Allocation     : 50.00
    Initial Extract Priority Mode : uniform
    HS Pool Policy                : None
    HS Fixed High Threshold Delta : default
    Generation                    : FP4
    Network ingress queue policy  : default
Hardware Data
    Platform type                 : N/A
    Part number                   :
    CLEI code                     :
    Serial number                 :
    Manufacture date              :
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number :
    Administrative state          : up
    Operational state             : provisioned
    Software boot (rom) version   : (Not Specified)
    Software version              : (Not Specified)
    Time of last boot             : N/A
    Current alarm state           : alarm cleared
    Base MAC address              :
    Last bootup reason            :
    Memory capacity               : 0 MB
```

Output Fields: show card <slot-number> detail (showing IOM with license level)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 69: Output fields: card detail (showing IOM with license level) describes the output fields for the **show card detail** command with IOM licensing information.

Table 69: Output fields: card detail (showing IOM with license level)

Label	Description
Slot	The slot of the card in the chassis.
Provisioned Type	The IOM type and level that is configured for the slot.
Equipped Type (if different)	The IOM type and level that is actually populated in the slot if it is different than the Provisioned Type.
Admin State	Up — The IOM is administratively up. Down — The IOM is administratively down.
Operational State	Up — The IOM is operationally up. Down — The IOM is operationally down.
Licensed Level	License level of the card.
Description	Description of the license.
Licensed Bandwidth Used	The total connector bandwidth configured on the assembly.
Comments	Active — Indicates if the CPM is the active state. Standby — Indicates if the CPM is the standby state. No SFM — Indicates no SFM is online that is usable by this card. Pwr Save — Indicates if the card is in power save mode. Lo Power — Indicates if the card is in low power mode. It is prevented from booting by power management. SFM Test — Indicates card is being held in booting because a B2B standalone SFM inter-connect test is in progress. No MDA — Indicates the card is waiting for MDAs. MDAs are either missing or failed.

Output Example: show card <slot-number> fp fwd-engine drop-reason statistics

```
*A:cses-V93# show card 1 fp 1 fwd-engine drop-reason statistics
===============================================================================
Card 1 FP 1 Egress Forwarding Engine Drop Reason Statistics
===============================================================================
Egress Encapsulation Exceeded                          0
MTU Exceeded                                           0
Frame too big for port                                 4
===============================================================================
```

Output Fields: show card<slot-number> fp fwd-engine drop-reason statistics

Table 70: Output fields: card forwarding plane forwarding engine drop reason describes the output fields for the **show card fp fwd-engine drop-reason** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 70: Output fields: card forwarding plane forwarding engine drop reason

Label	Description
Card	The card in the chassis.
FP	The egress forwarding plane hardware component.
Egress Encapsulation Exceeded	Addition of egress encapsulation headers would have exceeded the maximum frame size.
MTU Exceeded	Protocol supports packet fragmentation but fragmentation was blocked (for example, packet is IPv6 or packet is IPv4 and DF set to one).
Frame too big for port	Final check before transmitting has detected frame exceeded the port MTU.

Note:
A single frame can only result in one drop reason statistic being incremented.

Output Example: show card <slot-number> fp <fp-number> ingress per-egress-fp-stats

```
# show card 4 fp 5 ingress per-egress-fp-stats
===============================================================================
Card 4 FP 5 TAP 1 (Ingress Per-Egress FP Statistics)
===============================================================================
To FP/TAP      Priority            Forwarded Packets     Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1        Expedite            0                     0
               Best-Effort         114919092             114919092000
4 - 5/1        Expedite            792                   788688
               Best-Effort         0                     0
A - 1/1        Expedite            5782                  2154196
               Best-Effort         0                     0
===============================================================================
===============================================================================
Card 4 FP 5 TAP 2 (Ingress Per-Egress FP Statistics)
===============================================================================
To FP/TAP      Priority            Forwarded Packets     Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1        Expedite            0                     0
               Best-Effort         114919195             114919195000
===============================================================================
```

Output Example: show card <slot-number> fp <fp-number> ingress per-egress-fp-stats tap <tap-number>

```
*A:Dut-A# show card 4 fp 5 ingress per-egress-fp-stats tap 1
===============================================================================
Card 4 FP 5 TAP 1 (Ingress Per-Egress FP Statistics)
===============================================================================
To FP/TAP      Priority            Forwarded Packets     Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1        Expedite            0                     0
               Best-Effort         115935212             115935212000
4 - 5/1        Expedite            792                   788688
               Best-Effort         0                     0
A - 1/1        Expedite            5816                  2169292
               Best-Effort         0                     0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
-------------------------------------------------------------------------------
===============================================================================
*A:Dut-A# show card 4 fp 5 ingress per-egress-fp-stats tap 2
===============================================================================
Card 4 FP 5 TAP 2 (Ingress Per-Egress FP Statistics)
===============================================================================*
To FP/TAP      Priority             Forwarded Packets     Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1        Expedite             0                     0
               Best-Effort          115935316             115935316000
===============================================================================
```

Output Example: show card <slot-number> fp <fp-number> egress per-ingress-fp-stats

```
# show card 1 fp 1 egress per-ingress-fp-stats
===============================================================================
Card 1 FP 1 TAP 1 Egress Per-Ingress FP Statistics
===============================================================================
To FP/TAP   Priority      Received Packets      Received Octets
-------------------------------------------------------------------------------
1 1/1       Expedite      172437                  2207203840
            Best-Effort   12345678                3160493568
1 2/1       Expedite      103446                  1324118016
            Best-Effort   987654                  252839424
1 3/1       Expedite      6899108                 883085824
            Best-Effort   11223344                2873176064
1 4/1       Expedite      0                       0
            Best-Effort   0                       0
2 1/1       Expedite      0                       0
            Best-Effort   0                       0
2 2/2       Expedite      0                       0
            Best-Effort   0                       0
-------------------------------------------------------------------------------
===============================================================================
```

Output Fields: show card <slot-number> fp <fp-number> ingress per-egress-fp-stats

Table 71: Output fields: egress and ingress card statistics per ingress or egress FP describes the output fields for the egress and ingress card statistics per ingress or egress FP.

Table 71: Output fields: egress and ingress card statistics per ingress or egress FP

Label	Description
To FP/TAP	Displays the To forwarding plane TAP information.
Priority	Displays the priority (Best-Effort, Expedite, or Auto-Expedite).
Forwarded Packets	Displays the unicast packet statistics sent from the specified FP to the destination FP.
Forwarded Octets	Displays the unicast octet statistics sent from the specified FP to the destination FP.

Output example: CPU utilization

```
A:node-2# show card 1 cpu sample-period 1
===============================================================================
Card a CPU Utilization (Sample period: 1 second)
===============================================================================
Name                                 CPU Time       CPU Usage        Capacity
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                      (uSec)                          Usage
-------------------------------------------------------------------------------
Agg Schedulers Algorithm             2,188           0.01%           0.18%
Agg Shapers Algorithm                  444          ~0.00%           0.04%
BFD                                     78          ~0.00%          ~0.00%
BGP                                      0           0.00%           0.00%
BGP PE-CE                                0           0.00%           0.00%
BIER                                     0           0.00%           0.00%
CALLTRACE                              226           0.01%           0.02%
CFLOWD                                  21          ~0.00%          ~0.00%
Cards & Ports                        4,151           0.20%           0.34%
DCPU Control                         3555            0.01%           0.01%
DHCP Server                              7          ~0.00%          ~0.00%
ETH-CFM                                430           0.02%           0.02%
HPol Algorithm                         333           0.00%           0.00%
HPol Statistics                        333           0.00%           0.00%
HQoS Algorithm                         444          ~0.00%           0.04%
HQoS Statistics                       2188           0.01%           0.18%
ICC                                     54          ~0.00%          ~0.00%
IGMP/MLD                                93          ~0.00%          ~0.00%
IMSI Db Appl                            21          ~0.00%          ~0.00%
IOM                                      0           0.00%           0.00%
IP Stack                             1,335           0.06%           0.04%
IS-IS                                  162          ~0.00%          ~0.00%
ISA                                  1,044           0.05%           0.04%
LDP                                    241           0.01%           0.02%
Logging                                 15          ~0.00%          ~0.00%
MBUF                                     0           0.00%           0.00%
MCS                                     37          ~0.00%          ~0.00%
MPLS/RSVP                              738           0.03%           0.04%
MSCP                                     0           0.00%           0.00%
MSDP                                     0           0.00%           0.00%
Management                           1,690           0.08%           0.07%
OAM                                  1,219           0.06%           0.03%
OSPF                                   892           0.04%           0.02%
PIM/L2Mcast                              0           0.00%           0.00%
PKI                                     15          ~0.00%          ~0.00%
PTP                                     14          ~0.00%          ~0.00%
RIP                                      0           0.00%           0.00%
RTM/Policies                             0           0.00%           0.00%
Redundancy                             743           0.03%           0.04%
SDN Protocols                            5          ~0.00%          ~0.00%
SIM                                  2,488           0.12%           0.23%
SNMP Daemon                              0           0.00%           0.00%
Security                                 0           0.00%           0.00%
Services                               725           0.03%           0.02%
Stats                                    0           0.00%           0.00%
Stats-Extended                           0           0.00%           0.00%
Subscriber Mgmt                        549           0.02%          ~0.00%
System                               8,833           0.44%           0.37%
Traffic Eng                              0           0.00%           0.00%
Tree Sid                                 0           0.00%           0.00%
VRRP                                   144          ~0.00%          ~0.00%
WEB Redirect                            62          ~0.00%          ~0.00%
-------------------------------------------------------------------------------
Total                            2,004,289         100.00%
   Idle                          1,978,257          98.70%
   Usage                            26,032           1.29%
Busiest Core Utilization            13,154           1.31%
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 72: Output fields: card CPU sample-period

Label	Description
Name	The name of the CPU task
CPU Time (uSec)	The CPU usage time, in microseconds
CPU Usage	The CPU usage as a percentage of the total sampled time
Capacity Usage	The level the specified service is being utilized. When this number hits 100%, this part of the system is busied out. There may be extra CPU cycles still left for other processes, but this service is running at capacity. This column does not reflect the true CPU utilization value; that data is still available in the **CPU Usage** column. This column is the **busiest** task in each group, where **busiest** is defined as either actually running or blocked attempting to acquire a lock.
Total	The total CPU time measured in the sample period
Idle	The total CPU idle time
Usage	The total CPU usage time
Busiest Core Utilization	The CPU utilization of the busiest core

card

Syntax

card *slot-number*

card *slot-number* **fp** *fp-number* **hs-pool high-water-mark**

card *slot-number* **fp** *fp-number* **hs-pool high-water-mark mid-pool** [*value*]

card *slot-number* **fp** *fp-number* **hs-pool high-water-mark root-pool** [*value*]

card *slot-number* **fp** *fp-number* **hs-pool high-water-mark system**

card *slot-number* **fp** *fp-number* **dist-cpu-protection**

card *slot-number* **fp** *fp-number* **ingress per-egress-fp-stats**

card *slot-number* **fp** *fp-number* **egress per-ingress-fp-stats**

card *slot-number* **soft** [**hard-reset-unsupported-mdas**]

card *slot-number* **fp** *fp-number* **fwd-engine drop-reason statistics**

card *slot-number* **fp** *fp-number* **ingress mode** {**access** | **network**} **queue-group** *group-name* **instance** *instance* **statistics**

Context

[Tree] (clear card)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear card

Description

This command re-initializes the card in the specified slot. A **clear card** command (without the soft) is referred to as a *Hard Reset*. A **clear card x soft** command (with the soft) is referred to as a *Soft Reset*.

Parameters

slot-number

Clears information for the specified card slot.

Values 1 to 20, A, B, C, D

fp-number

Displays information for the specified forwarding plane.

Values 1 to 8

high-water-mark

Clears the high water marks within the HS pool on the specified card and FP.

mid-pool

Clears the high water marks within the mid pools in the HS pool and on the specified card and FP.

Values 1 to 16

root-pool

Clears the high water marks within the root pools in the HS pool and on the specified card and FP.

Values 1 to 16

system

Clears the high water marks within the in the HS system pool and on the specified card and FP.

dist-cpu-protection

Clears the distributed CPU protection information.

soft

Issues a soft reset of the I/O module (IOM).

hard-reset-unsupported-mdas

Allows a soft reset operation when some of the MDA's cannot perform a soft reset. A soft reset is performed on MDAs that support a soft reset and a hard reset is performed on MDAs that do not support soft resets.

fwd-engine

Specifies to clear the forwarding engine information.

drop-reason

Specifies to clear the drop reason information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Specifies to clear the statistics.

ingress

Specifies to clear the ingress information.

egress

Specifies to clear the egress information.

per-egress-fp-stats

Specifies to clear packet and octet statistics for unicast traffic sent from the specified FP to each destination FP. Only supported on 7750 SR-1 and 7750 SR-s platforms.

per-ingress-fp-stats

Specifies to clear packet and octet statistics for unicast traffic received by the specified FP from each source FP. Only supported on 7750 SR-1 and 7750 SR-s platforms.

mode

Specifies the mode in which the card is to operate.

access

Specifies to clear the access mode information.

network

Specifies to clear the network mode information.

group-name

Specifies the group name, to a maximum of 32 characters.

instance

Specifies the instance of the named queue group to be cleared.

Values 1 to 65535

Platforms

All

card

Syntax

card *slot-number* **fp** *fp-number* **queue-group** *queue-group-name* **instance** *instance-id* [{**access** | **network**}] [{**ingress** | **egress**}] [**arbiter** {*name* | *root*}] [**port** *port-id*] [{**detail** | **root-detail** | **thresholds** | **priority-info** | **depth**}]

Context

[Tree] (show>qos>policer-hierarchy card)

Full Context

show qos policer-hierarchy card

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays physical card related information.

Parameters

slot-number

Displays information about the slot number of the card in the chassis. The maximum slot number is platform dependent.

Values 1 to 10

fp-number

Displays information about the specified forwarding plane number.

Values 1

queue-group-name

Displays information about the specified queue group name, up to 32 characters.

instance-id

Displays information about the instance of the named queue group.

Values 1 to 65535

name

Displays information about the name of the QoS arbiter.

root

Displays information about the arbiter root.

port-id

Displays information about the specified port ID.

access

Displays policer-hierarchy statistics applied on an access port.

network

Displays policer-hierarchy statistics applied on a network port.

ingress

Displays ingress queue group information.

egress

Displays egress queue group information.

detail

Displays detailed information.

root-detail

Displays detailed information about the arbiter root.

thresholds

Displays the threshold, parenting, rate, and traffic information related to a policer.

priority-info

Displays the threshold information related to the root arbiter.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

depth

Displays the bucket depth, parenting, rate, and traffic information related to a policer.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

card

Syntax

card [*slot-num*]

card [*slot-num*] **all**

Context

[Tree] (tools>dump>resource-usage card)

Full Context

tools dump resource-usage card

Description

This command displays resource information for cards.

Parameters

slot-num

Specifies a card slot.

Values 1 to 10

all

Displays all available information for the card, including resource usage information for all child objects of the card such as FPs and MDAs.

Platforms

All

card

Syntax

card *slot-number* **fp** *fp-number* **ingress** {**access** | **network**} **queue-group** *queue-group-name* **instance** *instance-id* [**absolute** | **percent-rate**] [**interval** *seconds*] [**repeat** *repeat*] **policer** *policer-id* [*reference-rate*]

card *slot-number* **fp** *fp-number* **ingress** [**tap** *tap-number*] **per-egress-fp-stats** [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

card *slot-number* **fp** *fp-number* [**tap** *tap-number*] **egress per-ingress-fp-stats** [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor card)

Full Context

monitor card

Description

This command monitors statistics in an ingress and egress Forwarding Plane (FP).

Parameters

slot-number

Monitors information on the specified card slot.

Values 1 to 20 (The maximum slot number is platform dependent)

fp-number

Monitors information on the specified FP.

Values 1 to 8

ingress

Monitors information on the ingress.

egress

Monitors information on the egress.

access

Displays policer statistics on the FP access.

network

Displays policer statistics on the FP network.

queue-group-name

Specifies the queue group name, up to 32 characters.

instance-id

Specifies the identification of a specific instance of the queue group.

Values 1 to 65535

absolute

Displays the raw statistics, without processing. No calculations are performed on the delta or rate statistics.

percent-rate

Displays the rate-per-second for each statistic based on the reference rate of 10G.

seconds

Specifies the interval for each display in seconds.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 11 to 60

Default 11

repeat

Specifies how many times the command is repeated.

Values 1 to 999

Default 10

policer-id

Must exist within the queue-group template applied to the ingress context of the forwarding plane.

Values 1 to 32

reference-rate

Displays the rate-per-second for each statistic as a percentage based on the reference rate specified.

Values 100M, 1G, 10G, 40G, 100G, 400G

Default 10G

tap-number

Specifies the source TAP.

Values 1 to 2

per-egress-fp-stats

Displays packet and octet statistics for unicast traffic sent from the specified FP to each destination FP.

per-ingress-fp-stats

Displays packet and octet statistics for unicast traffic received by the specified FP from each source FP.

rate

Displays the rate-per-second for each statistic instead of the delta.

Platforms

All

Output

See the following sections for output examples:

- Output Example Ingress per-egress-fp-stats
- Output Example Ingress per-egress-fp-stats rate
- Output Example Ingress per-egress-fp-stats absolute
- Output Example Ingress per-egress-fp-stats absolute tap

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output Example Ingress per-egress-fp-stats rate tap
- Output Example Ingress per-egress-fp-stats
- Output Example Ingress per-ingress-fp-stats tap
- Output Example Egress per-ingress-fp-stats interval repeat
- Output Example Egress per-ingress-fp-stats interval repeat rate

Output Example Ingress per-egress-fp-stats

```
# monitor card "4" fp 5 ingress per-egress-fp-stats
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       42659137          42659137000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          3338              1054788
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       42659012          42659012000

===============================================================================
At time t = 11 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375377           1375377000
4 - 5/1     Expedite          0                 0
            Best-Effort       0                 0
A - 1/1     Expedite          46                20832
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375605           1375605000
```

Output Example Ingress per-egress-fp-stats rate

```
# monitor card "4" fp 5 ingress per-egress-fp-stats rate
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       45802801          45802801000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          3444              1102780
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       45802905          45802905000

===============================================================================
At time t = 11 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                  0
            Best-Effort       125039            125039364          1000
4 - 5/1     Expedite          0                 0                  0
            Best-Effort       0                 0                  0
A - 1/1     Expedite          4                 1921               0
            Best-Effort       0                 0                  0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                  0
            Best-Effort       125039            125039273          1000

===============================================================================
At time t = 22 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                  0
            Best-Effort       124999            124999273          999
4 - 5/1     Expedite          0                 0                  0
            Best-Effort       0                 0                  0
A - 1/1     Expedite          4                 1867               0
            Best-Effort       0                 0                  0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                  0
            Best-Effort       124999            124999182          999
```

Output Example Ingress per-egress-fp-stats absolute

```
# monitor card "4" fp 5 ingress per-egress-fp-stats absolute
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       49729775          49729775000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          3585              1163992
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       49729878          49729878000

===============================================================================
At time t = 11 sec (Mode: Absolute)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       51104481          51104481000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          3631              1184824
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       51104584          51104584000

===============================================================================
At time t = 22 sec (Mode: Absolute)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       52479477          52479477000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          3677              1206224
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       52479581          52479581000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example Ingress per-egress-fp-stats absolute tap

```
# monitor card "4" fp 5 ingress per-egress-fp-stats absolute tap 1
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       53893930          53893930000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          3726              1227188
            Best-Effort       0                 0

===============================================================================
At time t = 11 sec (Mode: Absolute)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       55269466          55269466000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          3773              1248320
            Best-Effort       0                 0


# monitor card "4" fp 5 ingress per-egress-fp-stats absolute tap 2
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       56153283          56153283000

===============================================================================
At time t = 11 sec (Mode: Absolute)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       57528327          57528327000
```

Output Example Ingress per-egress-fp-stats rate tap

```
# monitor card "4" fp 5 ingress per-egress-fp-stats rate tap 1
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       59487961          59487961000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          3915              1312280
            Best-Effort       0                 0

===============================================================================
At time t = 11 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                  0
            Best-Effort       125035            125034818          1000
4 - 5/1     Expedite          0                 0                  0
            Best-Effort       0                 0                  0
A - 1/1     Expedite          4                 1955               0
            Best-Effort       0                 0                  0

===============================================================================
At time t = 22 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                  0
            Best-Effort       124995            124994909          999
4 - 5/1     Expedite          0                 0                  0
            Best-Effort       0                 0                  0
A - 1/1     Expedite          4                 1921               0
            Best-Effort       0                 0                  0

===============================================================================
At time t = 33 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                  0
            Best-Effort       124994            124993818          999
4 - 5/1     Expedite          0                 0                  0
            Best-Effort       0                 0                  0
A - 1/1     Expedite          4                 1867               0
            Best-Effort       0                 0                  0

===============================================================================
At time t = 44 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                  0
            Best-Effort       125002            125001545          1000
4 - 5/1     Expedite          0                 0                  0
            Best-Effort       0                 0                  0
A - 1/1     Expedite          4                 1886               0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            Best-Effort       0                 0                   0

===============================================================================
At time t = 55 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                   0
            Best-Effort       124998            124998182           999
4 - 5/1     Expedite          0                 0                   0
            Best-Effort       0                 0                   0
A - 1/1     Expedite          4                 1894                0
            Best-Effort       0                 0                   0

===============================================================================
At time t = 66 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                   0
            Best-Effort       125001            125000636           1000
4 - 5/1     Expedite          0                 0                   0
            Best-Effort       0                 0                   0
A - 1/1     Expedite          4                 1955                0
            Best-Effort       0                 0                   0

===============================================================================
At time t = 77 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                   0
            Best-Effort       124998            124998273           999
4 - 5/1     Expedite          0                 0                   0
            Best-Effort       0                 0                   0
A - 1/1     Expedite          4                 1921                0
            Best-Effort       0                 0                   0

===============================================================================
At time t = 88 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                   0
            Best-Effort       125076            125075545           1000
4 - 5/1     Expedite          0                 0                   0
            Best-Effort       0                 0                   0
A - 1/1     Expedite          4                 1867                0
            Best-Effort       0                 0                   0

===============================================================================
At time t = 99 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                   0
            Best-Effort       125039            125039091           1000
4 - 5/1     Expedite          0                 0                   0
            Best-Effort       0                 0                   0
A - 1/1     Expedite          4                 1886                0
            Best-Effort       0                 0                   0

===============================================================================
At time t = 110 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                   0
            Best-Effort       124999            124998636           999
4 - 5/1     Expedite          0                 0                   0
            Best-Effort       0                 0                   0
A - 1/1     Expedite          4                 1894                0
            Best-Effort       0                 0                   0

===============================================================================


# monitor card "4" fp 5 ingress per-egress-fp-stats rate tap 2
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       84288530          84288530000

===============================================================================
At time t = 11 sec (Mode: Rate)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets   Mbps
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0                   0
            Best-Effort       124982            124981818           999
```

Output Example Ingress per-egress-fp-stats

```
# monitor card "4" fp 5 ingress per-egress-fp-stats
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       90150683          90150683000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          4949              1778224
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       90150787          90150787000

===============================================================================
At time t = 11 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375025           1375025000
4 - 5/1     Expedite          0                 0
            Best-Effort       0                 0
A - 1/1     Expedite          47                21132
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375024           1375024000

===============================================================================
At time t = 22 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375003           1375003000
4 - 5/1     Expedite          0                 0
            Best-Effort       0                 0
A - 1/1     Expedite          45                20532
            Best-Effort       0                 0
-------------------------------------------------------------------------------
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375003           1375003000
```

Output Example Ingress per-ingress-fp-stats tap

```
# monitor card "4" fp 5 ingress per-egress-fp-stats tap 1
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            Best-Effort       93787778          93787778000
4 - 5/1     Expedite          792               788688
            Best-Effort       0                 0
A - 1/1     Expedite          5071              1833136
            Best-Effort       0                 0

===============================================================================
At time t = 11 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 1 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375605           1375605000
4 - 5/1     Expedite          0                 0
            Best-Effort       0                 0
A - 1/1     Expedite          47                20748
            Best-Effort       0                 0

# monitor card "4" fp 5 ingress per-egress-fp-stats tap 2
===============================================================================
===============================================================================
At time t = 0 sec (Base Statistics)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       96041192          96041192000

===============================================================================
At time t = 11 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1374706           1374706000

===============================================================================
At time t = 22 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1374960           1374960000

===============================================================================
At time t = 33 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1374980           1374980000

===============================================================================
At time t = 44 sec (Mode: Delta)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375009           1375009000

===============================================================================
At time t = 55 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375010           1375010000

===============================================================================
At time t = 66 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1374987           1374987000

===============================================================================
At time t = 77 sec (Mode: Delta)
===============================================================================
Card: 4 FP: 5 Tap: 2 (Ingress Per-Egress FP Statistics)
-------------------------------------------------------------------------------
To FP/TAP   Priority          Forwarded Packets Forwarded Octets
-------------------------------------------------------------------------------
1 - 2/1     Expedite          0                 0
            Best-Effort       1375005           1375005000
```

Output Example Egress per-ingress-fp-stats interval repeat

```
*A:PE1# monitor card 1 fp 1 egress per-ingress-fp-stats interval 11 repeat 1
===============================================================================
Card 1 FP 1 TAP 1 Egress Per-Ingress FP Statistics
===============================================================================
To FP/TAP   Priority      Received Packets      Received Octets
-------------------------------------------------------------------------------
1 1/1       Expedite      172437                 2207203840
            Best-Effort   12345678               3160493568
1 2/1       Expedite      103446                 1324118016
            Best-Effort   987654                 252839424
1 3/1       Expedite      6899108                883085824
            Best-Effort   11223344               2873176064
1 4/1       Expedite      0                      0
            Best-Effort   0                      0
2 1/1       Expedite      0                      0
            Best-Effort   0                      0
2 2/1       Expedite      0                      0
            Best-Effort   0                      0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 11 sec (Mode: Delta)
-------------------------------------------------------------------------------
1 1/1       Expedite      272437                 2232803840
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            Best-Effort   12545678              3211693568
1 2/1       Expedite      403446                1400918016
            Best-Effort   1387654               355239424
1 3/1       Expedite      7399108               1011085824
            Best-Effort   11823344              3026776064
1 4/1       Expedite      0                     0
            Best-Effort   0                     0
2 1/1       Expedite      0                     0
            Best-Effort   0                     0
2 2/1       Expedite      0                     0
            Best-Effort   0                     0
===============================================================================
```

Output Example Egress per-ingress-fp-stats interval repeat rate

```
#   monitor card 1 fp 1 egress per-ingress-fp-stats interval 11 repeat 1 rate
===============================================================================
Card 1 FP 1 TAP 1 Egress Per-Ingress FP Statistics
===============================================================================
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
To FP/TAP   Priority      Received Packets      Received Octets
-------------------------------------------------------------------------------
1 1/1       Expedite      172437                2207203840
            Best-Effort   12345678              3160493568
1 2/1       Expedite      103446                1324118016
            Best-Effort   987654                252839424
1 3/1       Expedite      6899108               883085824
            Best-Effort   11223344              2873176064
1 4/1       Expedite      0                     0
            Best-Effort   0                     0
2 1/1       Expedite      0                     0
            Best-Effort   0                     0
2 2/1       Expedite      0                     0
            Best-Effort   0                     0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 11 sec (Mode: Rate)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
To FP/TAP   Priority      Received Packets      Received Octets      Mbps
-------------------------------------------------------------------------------
1 1/1       Expedite      100000                25600000               19
            Best-Effort   200000                51200000               37
1 2/1       Expedite      300000                76800000               56
            Best-Effort   400000                102400000              74
1 3/1       Expedite      500000                128000000              93
            Best-Effort   600000                153600000              112
1 4/1       Expedite      0                     0
            Best-Effort   0                     0
2 1/1       Expedite      0                     0
            Best-Effort   0                     0
2 2/1       Expedite      0                     0
            Best-Effort   0                     0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

card

Syntax

card *slot-number* **fp** *fp-number* **queue-group** *queue-group-name* **instance** *instance-id* [**ingress**] [**access** | **networks**] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **percent-rate** [*reference-rate*]] [**arbiter root** | *name*]

Context

[Tree] (monitor>qos>arbiter-stats card)

Full Context

monitor qos arbiter-stats card

Description

This command monitors arbiter statistics in an ingress FP queue group.

Parameters

slot-number

Specifies the slot number associated with the queue group, expressed as an integer.

Values 1 to 20

fp-number

Specifies the FP number associated with the queue group, expressed as an integer.

Values 1 to 8

ingress

Displays policer statistics applied on the ingress FP.

access

Displays policer statistics on the FP access.

network

Displays policer statistics on the FP network.

queue-group-name

Specifies the name of the queue group up to 32 characters.

instance-id

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

seconds

Configures the interval for each display in seconds.

Default 11 seconds

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 11 to 60

repeat

Configures how many times the command is repeated.

Default 10

Values 1 to 999

absolute

When the absolute keyword is specified, the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

percent-rate

When the percent-rate keyword is specified, the rate-per-second for each statistic is displayed based on the reference rate of 10G.

reference-rate

When a reference-rate value is specified, the rate-per-second for each statistic is displayed as a percentage based on the reference rate specified.

Values 100M, 1G, 10G, 40G, 100G, 400G

name

Specify the name of the policer control policy arbiter.

Values An existing arbiter-name in the form of a string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

root

Specifies the root arbiter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

card

Syntax

card *slot-number* **fp** *fp-number* **ingress** [**access** | **network**] **queue-group** *queue-group-name* [**instance** *instance-id*] [**arbiter** {*name* | *root*}]

Context

[Tree] (clear>qos>arbiter-stats card)

Full Context

clear qos arbiter-stats card

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears arbiter statistics per card.

Parameters

slot-number

Specifies the slot number associated with the queue group.

Values 1 to 2 (7750 SR-2s)
1 to 5 (7750 SR-7)
1 to 6 (7750 SR-14s)
1 to 10 (7450 ESS, 7750 SR-12)
1 to 14 (VSR)
1 to 20 (7950 XRS, VSR)

fp-number

Specifies the FP number associated with the queue group.

Values 1 to 4

access

Clears policer statistics on the FP access.

network

Clears policer statistics on the FP network.

queue-group-name

Specifies the queue group name, up to 32 characters.

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

card

Syntax

card *slot-number* **fp** *fp-number* **ingress** [**access** | **network**] [**queue-group** *queue-group-name*] [**instance** *instance-id*] [**arbiter** *name* | *root*]

Context

[Tree] (show>qos>arbiter-stats card)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show qos arbiter-stats card

Description

This command displays the arbiter statistics per card.

Parameters

slot-number

Displays information for the specified card slot.

Values 1 (7750 SR-1, VSR)
1 to 2 (7750 SR-2s)
1 to 5 (7750 SR-7)
1 to 6 (7750 SR-14s)
1 to 10 (7450 ESS, 7750 SR-12)
1 to 14 (VSR)
1 to 20 (7950 XRS, VSR)

fp-number

Specifies the FP number associated with the queue group.

Values 1

access

Displays arbiter statistics applied on an access port.

network

Displays arbiter statistics applied on a network port.

queue-group-name

Specifies the queue group name, up to 32 characters.

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

card

Syntax

card *slot-number* **fp** *fp-number* **queue-group** *group-name* **instance** *instance-id* {**access** | **network**} [**detail**] [**ingress**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>qos>policer card)

Full Context

show qos policer card

Description

This command displays the policer statistics per card.

Parameters

slot-number

Displays information for the specified card slot.

Values 1 (7750 SR-1, VSR)
1 to 2 (7750 SR-2s)
1 to 5 (7750 SR-7)
1 to 6 (7750 SR-14s)
1 to 10 (7450 ESS, 7750 SR-12)
1 to 14 (VSR)
1 to 20 (7950 XRS, VSR)

fp-number

Specifies the FP number associated with the queue group.

Values 1

group-name

Specifies the queue group name, up to 32 characters.

access

Displays policer statistics applied on an access port.

network

Displays policer statistics applied on a network port.

detail

Displays detailed information.

ingress

Displays ingress queue group information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.12 card-status

card-status

Syntax

card-status

Context

[Tree] (tools>dump>service>id>fdb card-status)

Full Context

tools dump service id fdb card-status

Description

This command displays the following MAC address information for each line card in the system:

- the number of allocated MAC addresses
- the number of pending MAC address allocations
- the number of pending free MAC addresses

Platforms

All

Output

Output Example

```
*A:PE1# tools dump service id 1 fdb card-status
===============================================================================
VPLS FDB Card Status at 01/31/2017 08:44:38
===============================================================================
Card                Allocated           PendAlloc           PendFree
-------------------------------------------------------------------------------
1                   4                   0                   0
2                   4                   0                   0
5                   4                   0                   0
===============================================================================
*A:PE1#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.13 category-map

category-map

Syntax

category-map [*category-map*]

category-map *category-map* **subscribers**

Context

[Tree] (show>subscr-mgmt category-map)

Full Context

show subscriber-mgmt category-map

Description

This command displays category map information.

With no parameters specified, a summary view of all configured category maps is displayed.

With the optional *category-map* name parameter specified, the detailed configuration of the specified category map name is displayed.

With the *category-map* **subscribers** parameters specified, all subscribers that have the specified *category-map* associated are displayed.

Parameters

category-map

Specifies the category map name for which information is displayed.

Platforms

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

Output

The following output is an example of subscriber management category map information.

Output Example

```
Node# show subscriber-mgmt category-map "cat-map-1"
===============================================================================
Category Map: cat-map-1
===============================================================================
Description        : gy - time and volume
Credit Type        : volume             Credit Exh. Thresh.: 80%
Activity Thresh.   : 0 kb/s
Gx session level
usage monitoring   : false
-------------------------------------------------------------------------------
Category: cat-1-time
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Description        : Rating group for Time quota
Credit Type Over.  : none               Rating Group       : 11
OutOfCredit Action : none
Default Credit     : none
Ingress Queues     : 1
Egress Queues      : 1
Ingress Policers   : none
Egress Policers    : none
ExhCrdSvcLvl Pir   : none
-------------------------------------------------------------------------------
Category: cat-1-volume
-------------------------------------------------------------------------------
Description        : Rating group for Volume quota
Credit Type Over.  : none               Rating Group       : 12
OutOfCredit Action : none
Default Credit     : none
Ingress Queues     : 1
Egress Queues      : 1
Ingress Policers   : none
Egress Policers    : none
ExhCrdSvcLvl Pir   : 100
===============================================================================
```

Table 73: Output fields: category map describes category map output fields.

Table 73: Output fields: category map

Field	Description
Description	The user provided description of this policy
Credit Type	The volume or time based accounting is performed
Credit Exh. Thresh	The credit exhaust threshold considered to take action
Activity Thresh.	The threshold (in kb/s) that is applied to determine whether or not activity is occurring
Gx session level usage monitoring	Whether category map supports Gx session level usage monitoring
Credit Type Over.	Credit type override
Rating Group	The rating group applicable for this category
OutOfCredit Action	The action to be taken if the credit es exhausted
Default Credit	The default value for the Time credit
Ingress Queues	The ingress queues defined in this category
Egress Queues	The egress queues defined in this category
Ingress Policers	The ingress policers defined in this category
Egress Policers	The egress queues defined in this category

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
ExhCrdSvcLvl Pir	The credit exhaust threshold considered to take action

6.14 category-set-id

category-set-id

Syntax

category-set-id *category-set*

Context

[Tree] (show>app-assure>web-service category-set-id)

Full Context

show application-assurance web-service category-set-id

Description

This command displays information for the web-service category set.

Parameters

category-set

Specifies the category set ID.

Values 0 to 65535

Platforms

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

Output

The following output examples show information about SAPs using the application profile.

Output Example

```
# show application-assurance web-service category-set-id 1
===============================================================================
Compatible Classifier-ids
===============================================================================
Name                Description
-------------------------------------------------------------------------------
web-sevice-1        WebTitan Web Filtering
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.15 ccrt-replay

ccrt-replay

Syntax

ccrt-replay [**session-id** *session-id*] [**diameter-application-policy** *name*]

ccrt-replay diameter-application-policy *name* **summary**

ccrt-replay summary

Context

[Tree] (show>subscr-mgmt>diam-session ccrt-replay)

Full Context

show subscriber-mgmt diameter-session ccrt-replay

Description

This command displays:

- information for all diameter sessions that are in CCR-T replay mode:
  - Diameter session ID
  - Diameter Application Policy
  - Replay Time left
- statistics per diameter application policy for diameter sessions in CCR-T replay mode or that were in CCR-T replay mode and were dropped or terminated:
  - Sessions in CCR-T replay mode: the number of Diameter Gx or Gy sessions from the specified diameter application policy that are currently in CCR-T replay mode
  - Replay sessions dropped (maximum life-time expired): the number of Diameter Gx or Gy sessions from the specified diameter application policy that were in CCR-T replay mode and got dropped because no CCA-t was received before **max-lifetime** expiration
  - Replay sessions dropped (to free resources): the number of Diameter Gx or Gy sessions from the specified diameter application policy that were in CCR-T replay mode and got dropped because the maximum number of active Diameter sessions for Gx or Gy was reached
  - Replay sessions dropped (cleared): the number of Diameter Gx or Gy sessions from the specified diameter application policy that were in CCR-T replay mode and got dropped because the operator issued a **clear subscriber-mgmt diameter-session ccrt-replay diameter-application-policy** *name* **sessions** command
  - Replay sessions terminated (CCA-T received): the number of Diameter Gx or Gy sessions from the specified diameter application policy that were in CCR-T replay mode and for which a CCA-t was received before **max-lifetime** expiration
  - Statistics last cleared time: timestamp when the statistics were last cleared or n/a if the statistics were never cleared

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

name

Specifies the application policy, up to 32 characters.

session-id

Specifies a diameter session ID.

summary

Displays summarized information about CCR-T replay.

Platforms

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

Output

The following output is an example of subscriber management CCR-T replay information.

Output Example

```
*A:Dut-C# show subscriber-mgmt diameter-session ccrt-replay
===============================================================================
Diameter Sessions in CCR-t Replay Mode
===============================================================================
Session-id                                                  Replay Time Left
    Diameter Application Policy
-------------------------------------------------------------------------------
router.workstation.be;1431089354;13
    diamapppol_gx                                           0d 21:21:46
bng.nokia.com;1537773225;4
    diam-gy-1                                               0d 00:59:16
-------------------------------------------------------------------------------
No. of Matching Entries: 2
===============================================================================
*A:Dut-C# show subscriber-mgmt diameter-session ccrt-replay session-id ro
===============================================================================
Diameter Sessions in CCR-t Replay Mode
===============================================================================
Session-id                                                  Replay Time Left
    Diameter Application Policy
-------------------------------------------------------------------------------
router.workstation.be;1431089354;13
    diamapppol_gx                                           0d 21:21:27
-------------------------------------------------------------------------------
No. of Matching Entries: 1
===============================================================================
*A:Dut-C# show subscriber-mgmt diameter-session ccrt-replay summary
===============================================================================
Diameter Sessions in CCR-t Replay Mode
===============================================================================
Total Count : 2
===============================================================================
*A:Dut-C# show subscriber-mgmt diameter-session ccrt-replay diameter-application-policy "diam-
gy-1"
===============================================================================
Diameter Sessions in CCR-T Replay Mode
===============================================================================
Session-id                                                  Replay Time Left
    Diameter Application Policy
-------------------------------------------------------------------------------
bng.nokia.com;1537773225;6
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    diam-gy-1                                                  0d 00:58:33
-------------------------------------------------------------------------------
No. of Matching Entries: 1
===============================================================================
===============================================================================
Diameter CCR-T Replay status for policy "diam-gy-1"
===============================================================================
Sessions in CCR-T replay mode                          : 1
Replay sessions dropped (maximum life-time expired)    : 0
Replay sessions dropped (to free resources)            : 0
Replay sessions dropped (cleared)              : 0
Replay sessions terminated (CCA-T received)            : 1
Statistics last cleared time                           : N/A
===============================================================================
```

Table 74: Output fields: CCR-T replay describes CCRT replay output fields.

Table 74: Output fields: CCR-T replay

Field	Description
Session-id	The diameter session ID that is in CCR-T replay mode
Diameter Application Policy	The diameter application policy name to which the Gx or Gy session in CCR-T replay mode belongs
Replay Time Left	The remaining **max-lifetime** before the Diameter Gx or Gy session in CCR-T replay mode is dropped
No. of Matching Entries	The number of entries matching the search criteria
Sessions in CCR-T replay mode	The number of Diameter Gx or Gy sessions from the specified diameter application policy that are in CCR-T replay mode
Replay sessions dropped (maximum life-time expired)	The number of Diameter Gx or Gy sessions from the specified diameter application policy that were in CCR-T replay mode and got dropped because no CCA-t was received before max-lifetime expiration
Replay sessions dropped (to free resources)	The number of Diameter Gx or Gy sessions from the specified diameter application policy that were in CCR-T replay mode and got dropped because the maximum number of Diameter sessions was reached
Replay sessions dropped (cleared)	The number of Diameter Gx or Gy sessions from the specified diameter application policy that were in CCR-T replay mode and got dropped because the operator issued a **clear subscriber-mgmt diameter-session ccrt-replay diameter-application-policy** *name* **sessions** command
Replay sessions terminated (CCA-T received)	The number of Diameter Gx or Gy sessions from the specified diameter application policy that were in CCR-T replay mode and for which a CCA-t was received before max-lifetime expiration

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Statistics last cleared time	The timestamp when the statistics were last cleared or n/a if the statistics were never cleared

ccrt-replay

Syntax

ccrt-replay diameter-application-policy *name* **statistics**

ccrt-replay diameter-application-policy *name* **sessions**

Context

[Tree] (clear>subscr-mgmt>diam-session ccrt-replay)

Full Context

clear subscriber-mgmt diameter-session ccrt-replay

Description

This command, when the **statistics** parameter is specified, clears the CCR-T replay statistics and updates the "Statistics last cleared time" value.

This command, when the **sessions** parameter is specified, drops the diameter Gx or Gy sessions that are in CCR-T replay mode.

Parameters

name

Specifies the diameter application policy, up to 32 characters.

statistics

Clears the CCR-T replay statistics.

sessions

Clears the sessions that are in CCR-T replay mode.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.16 cem

cem

Syntax

cem

Context

[Tree] (clear>service>statistics>id cem)

Full Context

clear service statistics id cem

Description

This command clears CEM statistics for this service.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.17 cert-profile

cert-profile

Syntax

cert-profile *name* **association**

cert-profile [*name*]

cert-profile *name* **entry** [*value*]

Context

[Tree] (show>ipsec cert-profile)

Full Context

show ipsec cert-profile

Description

This command displays IPsec certificate profile information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

name

Specifies an existing certificate profile name.

association

Displays information for which this IPsec certificate profile is associated.

value

Displays information for the specified entry.

Values 1 to 8

Platforms

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

Output

The following output is an example of the **show ipsec cert-profile** command.

Output Example

```
*A:Dut-A# show ipsec cert-profile cert "cert-1.der"
===============================================================================
Certificate Profile Entry
===============================================================================
Id Cert                     Key                     Status Flags
-------------------------------------------------------------------------------
1  cert-1.der               key-1.der
===============================================================================
*A:Dut-A#


*A:Dut-A# show ipsec cert-profile "cert-1.der" entry 1
===============================================================================
IPsec Certificate Profile: cert-1.der Entry: 1 Detail
===============================================================================
Cert File        : cert-1.der
Key File         : key-1.der
Status Flags     : (Not Specified)
Comp Chain       : complete

Compute Chain CA Profiles
-------------------------------------------------------------------------------
CA10
CA9
CA8
CA7
CA6
===============================================================================
*A:Dut-A#
```

cert-profile

Syntax

cert-profile [*name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

cert-profile *name* **association**

cert-profile *name* **entry** *entry*

Context

[Tree] (show>system>security>tls cert-profile)

Full Context

show system security tls cert-profile

Description

This command displays information about server and client profiles that are using this certificate profile.

Parameters

entry

Specifies a certificate profile entry number for which to display information.

Values 1 to 8

name

Specifies the name of a certificate profile for which to display information.

Platforms

All

6.18 certificate

certificate

Syntax

certificate *filename* **association**

Context

[Tree] (show certificate)

[Tree] (show>ipsec certificate)

Full Context

show certificate

show ipsec certificate

Description

This command displays certificate-related information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

filename

Specifies the certificate file name.

association

Displays information for which this IPsec certificate is associated.

Platforms

All

- show certificate

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

- show ipsec certificate

Output

The following output is an example of the **show certificate** command.

Output Example

```
*A:Dut-B# show certificate ca-profile
-------------------------------------------------------------------------------
Max Cert Chain Depth: 7 (default)
-------------------------------------------------------------------------------
Certificate Display Format: 1 ASCII
===============================================================================
CA Profile
===============================================================================
CA Profile        Admin Oper  Cert File                CRL File
                  State State
-------------------------------------------------------------------------------
CA0               up    up    CA1-00cert.der           CA1-00crl.der
CA1               up    up    CA1-01cert.der           CA1-01crl.der
CA2               up    up    CA1-02cert.der           CA1-02crl.der
CA3               up    up    CA1-03cert.der           CA1-03crl.der
CA4               up    up    CA1-04cert.der           CA1-04crl.der
CA5               up    up    rsa_sha512_1024_0cert.d* rsa_sha512_1024_0crl.der
CA6               up    up    rsa_sha512_1024_1cert.d* rsa_sha512_1024_1crl.der
CA7               up    up    rsa_sha512_1024_2cert.d* rsa_sha512_1024_2crl.der
CA8               up    up    rsa_sha512_1024_3cert.d* rsa_sha512_1024_3crl.der
CA9               up    up    rsa_sha512_1024_4cert.d* rsa_sha512_1024_4crl.der
CA10              up    up    rsa_sha512_1024_5cert.d* rsa_sha512_1024_5crl.der
CA11              up    up    rsa_sha384_1024_0cert.d* rsa_sha384_1024_0crl.der
CA12              up    up    rsa_sha384_1024_1cert.d* rsa_sha384_1024_1crl.der
CA13              up    up    rsa_sha384_1024_2cert.d* rsa_sha384_1024_2crl.der
CA14              up    up    rsa_sha384_1024_3cert.d* rsa_sha384_1024_3crl.der
CA15              up    up    rsa_sha384_1024_4cert.d* rsa_sha384_1024_4crl.der
CA16              up    up    rsa_sha384_1024_5cert.d* rsa_sha384_1024_5crl.der
CMPv2             up    up    rsaCMPv2cert.der         rsaCMPv2CRL.der
-------------------------------------------------------------------------------
Entries found: 18
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-B#


*A:Dut-B# show ipsec certificate cert-1.der association
===============================================================================
Associated Tunnels
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Tunnel                        SvcId       Sap                           Admin
-------------------------------------------------------------------------------
tun-1-s-cert-v2               3           tunnel-1.private:3            Up
tun-1-s-cert-MTA-v2           8           tunnel-1.private:7            Up
tun-1-s-cert-i_op-ss-v2       42          tunnel-1.private:10           Up
tun-1-s-cert-MTA-i_op-ss-v2   48          tunnel-1.private:11           Up
-------------------------------------------------------------------------------
IPsec Tunnels: 4
===============================================================================
*A:Dut-B#
```

In the following example, the "cert-1.der" is the certificate-profile name, whereas above the cert-1.der is the actual file in use.

```
*A:Dut-B# show ipsec cert-profile association "cert-1.der"
===============================================================================
IPsec tunnels using certificate profile
===============================================================================
SvcId      Type   SAP                           Tunnel
-------------------------------------------------------------------------------
3          vprn   tunnel-1.private:3           tun-1-s-cert-v2
8          vprn   tunnel-1.private:7           tun-1-s-cert-MTA-v2
42         vprn   tunnel-1.private:10          tun-1-s-cert-i_op-ss-v2
48         vprn   tunnel-1.private:11          tun-1-s-cert-MTA-i_op-ss-v2
===============================================================================
Number of tunnel entries: 4
===============================================================================
===============================================================================
IPsec gateways using certificate profile
===============================================================================
SvcId      Type   SAP                           Gateway
-------------------------------------------------------------------------------
1057       vprn   tunnel-1.public:18           d-cert-MTA-g1-1-v2
1092       vprn   tunnel-1.public:21           d-cert-i_op-ss-g1-1-v2
===============================================================================
Number of gateway entries: 2
===============================================================================
*A:Dut-B#


show ipsec gateway tunnel 10.2.2.100:500
===============================================================================
IPsec Remote Users Tunnel Detail
===============================================================================
IP Addr: 10.2.2.100:500, port: 500
-------------------------------------------------------------------------------
Service Id       : 300                 Sap Id           : tunnel-1.public:100
Address          : 10.2.2.100:500
Private If       : priv
Private Address  : 10.20.20.50
Private Service  : 400                 Template Id      : 1
Replay Window    : None                Bi Direction SA  : true
Host MDA         : 1/2
Match TrustAnchor: labroot
Last Oper Changed: 05/04/2016 17:36:20
IKE IDI Type     : derAsn1Dn
IKE IDI Value    : CN=Client-1
-------------------------------------------------------------------------------
Dynamic Keying Parameters
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Transform Id1    : 1                    Transform Id2    : None
Transform Id3    : None                 Transform Id4    : None
IPsec GW Name    : rw
Local GW Address : 172.16.100.1
Ike Policy Id    : 1                    Ike Pol Auth     : cert
Pre Shared Key   : None
Cert Profile     : segw
Trust Anchor Prof: labroot
Selected Cert    : segw-1.cert
Selected Key     : segw-1.key
Send Chain Prof  : None
Local Id Type    : none
Client Database
    Name         : (Not Specified)
    Client ID    : None
Radius Acct Plcy : None
Radius Auth Plcy : None
TS-List          : <none>
Certificate Status Verify
-------------------------------------------------------------------------------
Primary          : crl                  Secondary        : none
Default Result   : good
DHCP
-------------------------------------------------------------------------------
Admin State      : Up                   Send Release     : true
Service          : 400
Gi-Address       : 10.20.20.1
Server1-Address  : 10.9.9.9
DHCPv4 Lease
-------------------------------------------------------------------------------
Private Address    : 10.20.20.50
Acquired           : 2016/05/04 17:36:19 UTC
Renew              : 2016/05/04 18:06:19 UTC
Rebind             : 2016/05/04 18:28:49 UTC
Valid Lifetime
    End            : 2016/05/04 18:36:19 UTC
    Total          : 3600 seconds
    Remaining      : 3585 seconds
Server             : 10.9.9.9
-------------------------------------------------------------------------------
ISAKMP-SA
-------------------------------------------------------------------------------
State            : Up
Established      : 05/04/2016 17:36:20  Lifetime         : 86400
Expires          : 05/05/2016 17:36:20
ISAKMP Statistics
--------------------
Tx Packets       : 2                    Rx Packets       : 2
Tx Errors        : 0                    Rx Errors        : 0
Tx DPD           : 0                    Rx DPD           : 0
Tx DPD ACK       : 0                    Rx DPD ACK       : 0
DPD Timeouts     : 0                    Rx DPD Errors    : 0
-------------------------------------------------------------------------------
IPsec-SA : 1, Inbound (index 2)
-------------------------------------------------------------------------------
SPI              : 207232
Auth Algorithm   : Sha1                 Encr Algorithm   : Aes128
Installed        : 05/04/2016 17:36:20  Lifetime         : 3600
Local Traffic Selectors:
10.9.9.9-10.9.9.9
    any protocol
Remote Traffic Selectors:
10.20.20.50-10.20.20.50
    any protocol
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Aggregate Statistics
--------------------
Bytes Processed  : 0                    Packets Processed: 0
Crypto Errors    : 0                    Replay Errors    : 0
SA Errors        : 0                    Policy Errors    : 0
-------------------------------------------------------------------------------
IPsec-SA : 1, Outbound (index 1)
-------------------------------------------------------------------------------
SPI              : 3433111520
Auth Algorithm   : Sha1                 Encr Algorithm   : Aes128
Installed        : 05/04/2016 17:36:20  Lifetime         : 3600
Local Traffic Selectors:
10.9.9.9-10.9.9.9
    any protocol
Remote Traffic Selectors:
10.20.20.50-10.20.20.50
    any protocol
Aggregate Statistics
--------------------
Bytes Processed  : 0                    Packets Processed: 0
Crypto Errors    : 0                    Replay Errors    : 0
SA Errors        : 0                    Policy Errors    : 0
===============================================================================
Fragmentation Statistics
===============================================================================
Encapsulation Overhead                : 73
Pre-Encapsulation
    Fragmentation Count               : 0
    Last Fragmented Packet Size       : 0
Post-Encapsulation
    Fragmentation Count               : 0
    Last Fragmented Packet Size       : 0
===============================================================================
===============================================================================
```

6.19 certificate-profile

certificate-profile

Syntax

certificate-profile

Context

[Tree] (show>app-assure>group certificate-profile)

Full Context

show application-assurance group certificate-profile

Description

This command displays certificate profile information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

6.20 cflowd

cflowd

Syntax

cflowd

Context

[Tree] (show cflowd)

Full Context

show cflowd

Description

This command displays cflowd information.

Platforms

All

cflowd

Syntax

cflowd

Context

[Tree] (show>app-assure cflowd)

Full Context

show application-assurance cflowd

Description

This command configures the context to display cflowd template field information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

cflowd

Syntax

cflowd

Context

[Tree] (show>app-assure>group cflowd)

Full Context

show application-assurance group cflowd

Description

Commands in this context display cflowd output.

Platforms

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

cflowd

Syntax

cflowd

Context

[Tree] (clear cflowd)

Full Context

clear cflowd

Description

This command clears the raw and aggregation flow caches which are sending flow data to the configured collectors. This action will trigger all the flows to be discarded. The cache restarts flow data collection from a fresh state. This command also clears global stats collector stats listed in the cflowd **show** commands.

Platforms

All

cflowd

Syntax

cflowd

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump cflowd)

Full Context

tools dump cflowd

Description

Commands in this context dump Cflowd information.

Platforms

All

cflowd

Syntax

cflowd

Context

[Tree] (tools>perform cflowd)

Full Context

tools perform cflowd

Description

Commands in this context perform Cflowd operations.

Platforms

All

cflowd

Syntax

cflowd

Context

[Tree] (clear>app-assure>group cflowd)

Full Context

clear application-assurance group cflowd

Description

This command clears cflowd application assurance statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

6.21 cfm-stack-table

cfm-stack-table

Syntax

cfm-stack-table [**all-ports**] [**level** *level*] [**direction** { **up** | **down**}] [**primary-vlan-enabled** *vlan-id*]

cfm-stack-table [{**all-sdps** | **all-virtuals**}] [**level** *level*] [**direction** { **up** | **down**}] [**primary-vlan-enabled** *vlan-id*]

cfm-stack-table facility [{**all-ports** | **all-port-meps** | **all-lags** | **all-lag-meps** | **all-tunnel-meps** | **all-router-interfaces**}] [**level** *level*] [**direction** { **up** | **down**}]

cfm-stack-table facility collect-lmm-stats

cfm-stack-table facility lag *lag-id* [**tunnel** *tunnel-id*] [**level** *level*] [**direction** { **up** | **down**]

cfm-stack-table facility port *port-id* [**tunnel** *tunnel-id*] [**level** *level*] [**direction** {**up** | **down**}]

cfm-stack-table facility router-interface *interface-name* [**level** *level*] [**direction** { **up** | **down**]

cfm-stack-table port *port-id* [**vlan** *qtag*[*.qtag*]] [**level** *level*] [**direction** {**up** | **down**}] [**primary-vlan-enabled** *vlan-id*]

cfm-stack-table sdp *sdp-id*[*:vc-id*] [**level** *level*] [**direction** {**up** | **down**}] [**primary-vlan-enabled** *vlan-id*]

cfm-stack-table virtual *service-id* [**level** *level*]

Context

[Tree] (show>eth-cfm cfm-stack-table)

Full Context

show eth-cfm cfm-stack-table

Description

This command displays stack-table information. This stack-table is used to display the various management points MEPs and MIPs that are configured on the system. These can be service-based or facility-based. The various options allow the operator to be specific. If no parameters are included then the entire stack-table is displayed.

Parameters

port *port-id*

Displays the bridge port or aggregated port on which MEPs or MHFs are configured.

Values	*port-id*	*slot*/*mda*/*port*[.channel]	
		lag-id	lag-*id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	lag	keyword
	id	1 to 800
eth-sat-id	esat-<id>/<slot>/[u]<port>	
	esat	keyword
	id	1 to 20
	u	keyword for up-link port

vlan *vlan-id*

Displays the associated VLAN ID.

Values 1 or 4094 or all

level

Displays the MD level of the maintenance point.

Values 0 to 7

collect-lmm-stats

Displays facility MEPs on which LMM collection is enabled.

direction up | down

Displays the direction in which the MP faces on the bridge port.

facility

Displays the CFM stack table information for facility MEPs. The base command displays all the facility MEPs. Options may be included in order to further parse the table for specific facility MEP information.

sdp *sdp-id*[:*vc-id*]

Displays CFM stack table information for the specified SDP.

Values sdp-id: 1 to 32767

vc-id: 1 to 4294967295

virtual *service-id*

Displays CFM stack table information for the specified SDP.

Values service-id: 1..2148278386]

svc-name: up to 64 characters

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of stack table information. Table 75: Output fields: ETH-CFM CFM stack table describes the output content.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show eth-cfm cfm-stack-table
===============================================================================
CFM Stack Table Defect Legend:
R = Rdi, M = MacStatus, C = RemoteCCM, E = ErrorCCM, X = XconCCM
A = AisRx, L = CSF LOS Rx, F = CSF AIS/FDI rx, r = CSF RDI rx
G = receiving grace PDU (MCC-ED or VSM) from at least one peer

===============================================================================
CFM SAP Stack Table
===============================================================================
Sap                Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
1/1/4:1001           3 D         13         13 1002 b6:1c:01:01:00:04 ------- -
    13
    13

1/1/9:100            2 U         12       1000  928 00:00:01:01:09:28 ------- -
    12
    vpls-100-1

1/1/10:100           2 U         12       1000 1028 00:00:01:01:10:28 ------- -
    12
    vpls-100-1

===============================================================================

===============================================================================
CFM Ethernet Tunnel Stack Table
===============================================================================
Eth-tunnel         Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM Ethernet Ring Stack Table
===============================================================================
Eth-ring           Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM Facility Port Stack Table
===============================================================================
Port     Tunnel    Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
1/1/4     0          0 D         10   11400115    2 00:00:00:00:00:28 ------- -
    10
    11400115

1/1/6     0          0 D         10   11600117    2 00:00:00:00:00:28 ------- -
    10
    11600117
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================

===============================================================================
CFM Facility LAG Stack Table
===============================================================================
Lag      Tunnel    Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
 name
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM Facility Tunnel Stack Table
===============================================================================
Port/Lag Tunnel    Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM Facility Interface Stack Table
===============================================================================
Interface          Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM SAP Primary VLAN Stack Table
===============================================================================
Sap
  Primary VlanId   Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
1/1/4:cp-1
      60             3 D         13         13 1001 b6:1c:01:01:00:04 --C---- -
    13
    13

===============================================================================

===============================================================================
CFM SDP Stack Table
===============================================================================
Sdp                Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM SDP Primary VLAN Stack Table
===============================================================================
Sdp
  Primary VlanId   Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM Virtual Stack Table
===============================================================================
Service            Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```

Table 75: Output fields: ETH-CFM CFM stack table

Label	Description
Sap	Displays associated SAP IDs.
Sdp	Displays the SDP binding for the bridge.
Level Dir	Displays the MD level of the maintenance point.
Md-index	Displays the maintenance domain (MD) index.
Ma-index	Displays the maintenance association (MA) index.
Mep-id	Displays the integer that is unique among all the MEPs in the same MA.
Mac-address	Displays the MAC address of the MP.
md-admin-name	Displays the administrative MD name.
ma-admin-name	Displays the administrative MA name.

6.22 change-key

change-key

Syntax

change-key authentication *authentication-protocol old-authentication-key new-authentication-key*

change-key authentication *authentication-protocol* **privacy** *privacy-protocol old-privacy-key new-privacy-key*

Context

[Tree] (tools>perform>system>mgmt-itf>snmp change-key)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform system management-interface snmp change-key

Description

This command generates KeyChange strings to change SNMPv3 authentication or privacy keys. The SNMP engine ID is not needed because localized keys are required as input. The KeyChange algorithm uses a random string, which generates a different output each time the command is executed.

Parameters

authentication

Generates a KeyChange string for an authentication key.

authentication-protocol

Specifies the SNMPv3 authentication protocol.

Values **hmac-md5-96** — Specifies use of the HMAC-MD5-96 authentication protocol.

hmac-sha1-96 — Specifies use of the HMAC-SHA-96 authentication protocol.

hmac-sha2-224 — Specifies use of the HMAC-SHA-224 authentication protocol.

hmac-sha2-256 — Specifies use of the HMAC-SHA-256 authentication protocol.

hmac-sha2-384 — Specifies use of the HMAC-SHA-384 authentication protocol.

hmac-sha-512 — Specifies use of the HMAC-SHA-512 authentication protocol.

old-authentication-key

Specifies the old localized authentication key.

new-authentication-key

Specifies the new localized authentication key.

privacy

Keyword to generate a KeyChange string for a privacy key.

privacy-protocol

Specifies the SNMPv3 privacy protocol.

Values **cbc-des** — Specifies the use of the CBC-DES privacy protocol.

cfb128-aes-128 — Specifies the use of the CFB128-AES-128 privacy protocol.

cfb128-aes-192 — Specifies the use of the CFB128-AES-192 privacy protocol.

cfb128-aes-256 — Specifies the use of the CFB128-AES-256 privacy protocol.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

old-privacy-key

Specifies the old localized privacy key.

new-privacy-key

Specifies the new localized privacy key.

Platforms

All

Output

The following output is an example of a generated KeyChange string.

Output Example

```
A:ALA-1# tools perform system management-interface snmp change-key authentication hmac-sha1-96
 5c9ccb02cb2066f226e9d41b428c63ba801a3319
6caf2644ebb8141876a455ba14e58d5c61d8cb16
KeyChange string :
 8feb0fa890f3607aa0986e7f0a71d3d889da1d3f1f07933770e50639c0770cca4dc0519637796240
```

6.23 channel

channel

Syntax

channel [**router** *router-instance* | **vpls** *service-id* | **service-name** *service-name*] [fp *slot-number*[*/fp-number*]] [**group** *ip-address* [**source** *ip-address*]] [**path** *path-type*] [**detail**]

Context

[Tree] (show>mcast-management channel)

Full Context

show mcast-management channel

Description

This command displays multicast path management channel related information.

Parameters

service-id

Specifies an existing VPLS service ID.

Values 1 to 214748364

service-name

A string up to 64 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

slot-number

Displays information for the specified card slot.

fp-number

Specifies an FP.

Values 1 to 8

ip-address

ipv4-address in the form *a.b.c.d*

path-type

Specifies the path type.

Values primary, secondary

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of multicast management channel information.

Output Example

```
*A:PE# show mcast-management channel
===============================================================================
Multicast Channels
===============================================================================
Legend :  D - Dynamic  E - Explicit
===============================================================================
Source Address                              Slot/Fp   Current-Bw  Path      D/E
 Group Address                                         Highest-Bw  Plane
-------------------------------------------------------------------------------
10.0.0.29                                   5/1       3930        Primary    D
 233.252.0.1                                           3973        17
===============================================================================
Multicast Channels : 1
===============================================================================
*A:PE# show mcast-management channel detail
===============================================================================
Multicast Channels
===============================================================================
-------------------------------------------------------------------------------
Source Address     : 10.0.0.29
Group Address      : 233.252.0.1
-------------------------------------------------------------------------------
Slot/Complex       : 5/1               Current Bw         : 3918 kbps
Dynamic/Explicit   : Dynamic           Current Path       : Primary
Oper Admin Bw      : 0 kbps            Current Plane      : 17
Ing last highest   : 3973              Preference         : 0
Black-hole rate    : None              Ing sec highest    : 3970
Time remaining     : 20 seconds         Blackhole          : No
===============================================================================
Multicast Channels : 1
===============================================================================
*A:PE#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

channel

Syntax

channel [**service** *service-id*] [**interface** *ip-int-name*] [**address** *mcast-address*] [**source** *ip-address*] [**detail**]

Context

[Tree] (show>video>perfect-stream channel)

Full Context

show video perfect-stream channel

Description

This command displays video channel information.

Parameters

service *service-id*

Displays video channel information pertaining to the specified service ID.

Values service-id: 1 to 2148278381
svc-name: A string up to 64 characters
router-name: Base, management, vpls-management

Default Base

interface *ip-int-name*

Displays video channel information pertaining to the specified interface.

address *mcast-address*

Displays video channel information pertaining to the specified multicast channel address.

source *ip-address*

Displays video channel information pertaining to the source IP address.

detail

The output displays detailed video channel information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

channel

Syntax

channel [**service** *service-id*] [**interface** *ip-int-name*] [**address** *mcast-address*] [**source** *ip-address*] [**summary** | **detail**] [**pid** | **config** | [**analyzer** [**interval** *time-interval*]]]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>video channel)

Full Context

show video channel

Description

This command displays video channel information.

Parameters

service *service-id*

Displays video channel information pertaining to the specified service ID.

Values service-id: 1 to 214748364
svc-name: A string up to 64 characters
router-name: Base, management, vpls-management

Default Base

interface *ip-int-name*

Displays video channel information pertaining to the specified interface.

address *mcast-address*

Displays video channel information pertaining to the specified multicast channel address.

source *ip-address*

Displays video channel information pertaining to the source IP address.

summary

The output displays summarized video channel information.

detail

The output displays detailed video channel information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

Output

The following output is an example of this command.

Output Example

```
*A:SR-12/Dut-C# show video channel analyzer
===============================================================================
Video channel analyzer summary
===============================================================================
  Channel number : 1
-------------------------------------------------------------------------------
Service Id       : 300                 Interface Name   : video-300
Group Address    : 192.0.2.6           Source Address   : 10.20.13.2
MDI Delay Factor : 7                   MDI Loss Rate    :        0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Good Secs        : 54
-------------------------------------------------------------------------------
  Channel number : 2
-------------------------------------------------------------------------------
Service Id       : 300                 Interface Name   : video-300
Group Address    : 192.0.2.6           Source Address   : 192.168.2.1
MDI Delay Factor : 6                   MDI Loss Rate    :        0
Good Secs        : 54
-------------------------------------------------------------------------------
  Channel number : 3
-------------------------------------------------------------------------------
Service Id       : 300                 Interface Name   : video-300
Group Address    : 192.0.2.7           Source Address   : 10.20.13.3
MDI Delay Factor : 7                   MDI Loss Rate    :        0
Good Secs        : 54
-------------------------------------------------------------------------------
Number of channels : 3
===============================================================================
*A:SR-12/Dut-C#

*A:SR-12/Dut-C# show video channel analyzer address 192.0.2.6 source 10.20.13.2 interface
 "video-300" detail
===============================================================================
Video channel analyzer detail
===============================================================================
  Channel number : 1
-------------------------------------------------------------------------------
Service Id       : 300                 Interface Name   : video-300
Group Address    : 192.0.2.6           Source Address   : 10.20.13.2
MDI Delay Factor : 8                   MDI Loss Rate    :        0
Good Secs        : 80

===============================================================================
GOP Stats
===============================================================================
                    Min                 Max                 Avg
-------------------------------------------------------------------------------
GOP Length          40                  78                  48
Frames/Sec          39                  55                  53
===============================================================================
Frame Stats
===============================================================================
                    I-Frame             P-Frame             B-Frame
-------------------------------------------------------------------------------
Good                19                  986                 0
Bad                 0                   0                   0
===============================================================================
Error Stats
===============================================================================
                    POA Events          QoS Events          TNC Events
-------------------------------------------------------------------------------
PAT Rep             0                   0                   0
PMT Rep             0                   0                   0
PCR Rep             0                   0                   0
PAT Syntax Err      -                   -                   0
PMT Syntax Err      -                   -                   0
Sync Byte Err       -                   0                   -
Sync Loss           0                   -                   -
Unref PID           -                   -                   0
Traffic Loss        0                   -                   -
-------------------------------------------------------------------------------
Overall             0                   0                   0
-------------------------------------------------------------------------------
Reoccuring events only increment counter once every second
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Number of channels : 1
===============================================================================
*A:SR-12/Dut-C#

*A:SR-12/Dut-C# show video channel pid
===============================================================================
Video Channel PID
===============================================================================
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 0                    PID Type         : pat
MPEG Stream Type : 0                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 0

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 2                    PID Type         : audio
MPEG Stream Type : 4                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 126336

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 32                   PID Type         : video
MPEG Stream Type : 27                   Is PCR PID       : Yes
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 1952192

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 33                   PID Type         : pmt
MPEG Stream Type : 0                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 0

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 308                  PID Type         : audio
MPEG Stream Type : 4                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 126336

Number of pids for this channel: 5
-------------------------------------------------------------------------------
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 192.168.2.1
PID              : 0                    PID Type         : pat
MPEG Stream Type : 0                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 0

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 192.168.2.1
PID              : 2                    PID Type         : audio
MPEG Stream Type : 4                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 126336

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 192.168.2.1
PID              : 32                   PID Type         : video
MPEG Stream Type : 27                   Is PCR PID       : No
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 1949184

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 192.168.2.1
PID              : 33                   PID Type         : pmt
MPEG Stream Type : 0                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 0

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 192.168.2.1
PID              : 308                  PID Type         : audio
MPEG Stream Type : 4                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 136864
===============================================================================
*A:SR-12/Dut-C#

*A:SR-12/Dut-C# show video channel pid interface "video-300" source 10.20.13.3 address
 192.0.2.5
===============================================================================
Video Channel PID
===============================================================================
No Matching Entries
===============================================================================

*A:SR-12/Dut-C# show video channel config
===============================================================================
Video channel config
===============================================================================
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
Analyzer State   : Enabled              Cc Error         : Disabled
PAT Rep Err      : Enabled              TNC PAT Rep      : 200
QOS PAT Rep      : 400                  POA PAT Rep      : 600
PAT Syntax       : Enabled              PCR Rep Err      : Enabled
TNC PCR Rep      : 200                  QOS PCR Rep      : 400
POA PCR Rep      : 600                  Vid PID Absent   : 1000
PID PMT Unref    : Enabled              PMT Rep Err Secs : Enabled
TNC PMT Rep      : 400                  QOS PMT Rep      : 800
POA PMT Rep      : 2000                 PMT Syntax       : Enabled
SCTE35 Err Secs  : Disabled             TEI Err Secs     : Disabled
TS Sync Loss     : Enabled              Non-Vid Pid Abse*: 1000
Alarm Sev        : tnc

-------------------------------------------------------------------------------
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 192.168.2.1
Analyzer State   : Enabled              Cc Error         : Disabled
PAT Rep Err      : Enabled              TNC PAT Rep      : 200
QOS PAT Rep      : 400                  POA PAT Rep      : 600
PAT Syntax       : Enabled              PCR Rep Err      : Enabled
TNC PCR Rep      : 200                  QOS PCR Rep      : 400
POA PCR Rep      : 600                  Vid PID Absent   : 1000
PID PMT Unref    : Enabled              PMT Rep Err Secs : Enabled
TNC PMT Rep      : 400                  QOS PMT Rep      : 800
POA PMT Rep      : 2000                 PMT Syntax       : Enabled
SCTE35 Err Secs  : Disabled             TEI Err Secs     : Disabled
TS Sync Loss     : Enabled              Non-Vid Pid Abse*: 1000
Alarm Sev        : tnc
-------------------------------------------------------------------------------
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.7            Source Address   : 10.20.13.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Analyzer State   : Enabled              Cc Error         : Disabled
PAT Rep Err      : Enabled              TNC PAT Rep      : 200
QOS PAT Rep      : 400                  POA PAT Rep      : 600
PAT Syntax       : Enabled              PCR Rep Err      : Enabled
TNC PCR Rep      : 200                  QOS PCR Rep      : 400
POA PCR Rep      : 600                  Vid PID Absent   : 1000
PID PMT Unref    : Enabled              PMT Rep Err Secs : Enabled
TNC PMT Rep      : 400                  QOS PMT Rep      : 800
POA PMT Rep      : 2000                 PMT Syntax       : Enabled
SCTE35 Err Secs  : Disabled             TEI Err Secs     : Disabled
TS Sync Loss     : Enabled              Non-Vid Pid Abse*: 1000
Alarm Sev        : tnc

-------------------------------------------------------------------------------
Number of channels : 3
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:SR-12/Dut-C#

*A:SR-12/Dut-C# show video channel config interface "video-300"
===============================================================================
Video channel config
===============================================================================
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.3
Analyzer State   : Enabled              Cc Error         : Disabled
PAT Rep Err      : Enabled              TNC PAT Rep      : 200
QOS PAT Rep      : 400                  POA PAT Rep      : 600
PAT Syntax       : Enabled              PCR Rep Err      : Enabled
TNC PCR Rep      : 200                  QOS PCR Rep      : 400
POA PCR Rep      : 600                  Vid PID Absent   : 1000
PID PMT Unref    : Enabled              PMT Rep Err Secs : Enabled
TNC PMT Rep      : 400                  QOS PMT Rep      : 800
POA PMT Rep      : 2000                 PMT Syntax       : Enabled
SCTE35 Err Secs  : Disabled             TEI Err Secs     : Disabled
TS Sync Loss     : Enabled              Non-Vid Pid Abse*: 1000
Alarm Sev        : tnc

-------------------------------------------------------------------------------
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 192.168.2.1
Analyzer State   : Enabled              Cc Error         : Disabled
PAT Rep Err      : Enabled              TNC PAT Rep      : 200
QOS PAT Rep      : 400                  POA PAT Rep      : 600
PAT Syntax       : Enabled              PCR Rep Err      : Enabled
TNC PCR Rep      : 200                  QOS PCR Rep      : 400
POA PCR Rep      : 600                  Vid PID Absent   : 1000
PID PMT Unref    : Enabled              PMT Rep Err Secs : Enabled
TNC PMT Rep      : 400                  QOS PMT Rep      : 800
POA PMT Rep      : 2000                 PMT Syntax       : Enabled
SCTE35 Err Secs  : Disabled             TEI Err Secs     : Disabled
TS Sync Loss     : Enabled              Non-Vid Pid Abse*: 1000
Alarm Sev        : tnc

-------------------------------------------------------------------------------
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.7            Source Address   : 10.20.13.3
Analyzer State   : Enabled              Cc Error         : Disabled
PAT Rep Err      : Enabled              TNC PAT Rep      : 200
QOS PAT Rep      : 400                  POA PAT Rep      : 600
PAT Syntax       : Enabled              PCR Rep Err      : Enabled
TNC PCR Rep      : 200                  QOS PCR Rep      : 400
POA PCR Rep      : 600                  Vid PID Absent   : 1000
PID PMT Unref    : Enabled              PMT Rep Err Secs : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
TNC PMT Rep      : 400                  QOS PMT Rep      : 800
POA PMT Rep      : 2000                 PMT Syntax       : Enabled
SCTE35 Err Secs  : Disabled             TEI Err Secs     : Disabled
TS Sync Loss     : Enabled              Non-Vid Pid Abse*: 1000
Alarm Sev        : tnc

-------------------------------------------------------------------------------
Number of channels : 3
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:SR-12/Dut-C#

*A:SR-12/Dut-C# show video channel pid
===============================================================================
Video Channel PID
===============================================================================
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 0                    PID Type         : pat
MPEG Stream Type : 0                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 16                   PID Bitrate      : 0

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 2                    PID Type         : audio
MPEG Stream Type : 4                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 126336

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 32                   PID Type         : video
MPEG Stream Type : 27                   Is PCR PID       : Yes
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 1941664

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 33                   PID Type         : pmt
MPEG Stream Type : 0                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 16                   PID Bitrate      : 0

===============================================================================
*A:SR-12/Dut-C#

*A:SR-12/Dut-C# show video channel pid interface "video-300" source 10.20.13.2 address
 192.0.2.6
===============================================================================
Video Channel PID
===============================================================================
Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 0                    PID Type         : pat
MPEG Stream Type : 0                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 16                   PID Bitrate      : 0

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 2                    PID Type         : audio
MPEG Stream Type : 4                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Absent Err Secs  : 0                    PID Bitrate      : 136864

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 32                   PID Type         : video
MPEG Stream Type : 27                   Is PCR PID       : Yes
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 1931136

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 33                   PID Type         : pmt
MPEG Stream Type : 0                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 16                   PID Bitrate      : 0

Service Id       : 300                  Interface Name   : video-300
Group Address    : 192.0.2.6            Source Address   : 10.20.13.2
PID              : 308                  PID Type         : audio
MPEG Stream Type : 4                    Is PCR PID       : No
Cc Err Secs      : 0                    TEI Err Secs     : 0
Absent Err Secs  : 0                    PID Bitrate      : 136864

Number of pids for this channel: 5
-------------------------------------------------------------------------------
Number of channels  : 1
===============================================================================
*A:SR-12/Dut-C#
```

channel

Syntax

channel all [**rt-client**] [**rt-server**] [**fcc-server**] [**ad-insert**]

channel *grp-address* [**source** *srcAddr*] [**rt-client**] [**rt-server**] [**fcc-server**] [**ad-insert**]

Context

[Tree] (clear>video>statistics>id channel)

Full Context

clear video statistics id channel

Description

This command clears video statistics for a particular channel.

Parameters

all

Clears statistics for all channels.

rt-client

Clears all RET client related statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rt-server

Clears all RET server related statistics.

fcc-server

Clears all FCC server related statistics.

ad-insert

Clears all ad insert related statistics.

grp-address

Clears statistics for the specified channel group address.

source *srcAddr*

Clears statistics for the specified source address.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

6.24 charging-filter

charging-filter

Syntax

charging-filter {*charging-filter-id* **| non-zero}**

Context

[Tree] (show>app-assure>group>policy charging-filter)

Full Context

show application-assurance group policy charging-filter

Description

This command displays information about the charging filter.

Parameters

charging-filter-id

Specifies the ID of an existing charging filter entry.

Values 1 to 65535

non-zero

Specifies to show all non-zero count entries.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of the charging filter information, and Table 76: Output fields: AA group policy charging filter describes the fields.

```
show application-assurance group 1:0 policy charging-filter 1
```

Output Example

```
============================================================
Charging Filter Entry 1
============================================================
Description         : "Charging-filter entry for WhatsApp Video"
Admin State         : in-service
Charging Group      : "cgVideo100"
Hits                : 0 flows

Match :
    Application     : eq "Whats App"
    Flow Attribute  : flow-attribute video confidence gte 100
============================================================
```

Table 76: Output fields: AA group policy charging filter

Label	Description
Charging Filter Entry	The charging filter
Description	The description of the charging filter
Admin State	The administrative state of the filter
Charging Group	The charging group
Hits	The number of hits
Application	The matched application
Flow Attribute	The flow attribute used by the match criteria

6.25 charging-group

charging-group

Syntax

charging-group

charging-group *charging-group-name*

Context

[Tree] (show>app-assure>group>policy charging-group)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance group policy charging-group

Description

This command displays application-assurance policy application information.

Parameters

charging-group-name

Specifies the application name, up to 32 characters.

Platforms

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

charging-group

Syntax

charging-group [*charging-group-name*] **count** [**detail**]

charging-group count top *granularity* [**max-count** *max-count*]

Context

[Tree] (show>app-assure>group>aa-sub charging-group)

Full Context

show application-assurance group aa-sub charging-group

Description

This command displays application-assurance group charging group information.

Parameters

charging-group-name

Specifies an existing charging group.

count

Displays the counters for the charging group.

detail

Displays detailed information.

top

Displays counters sorted by granularity.

granularity

Specifies the granularity of the search.

Values octets, packets, flows

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

max-count

Specifies the maximum flows to display.

Values 1 to 4294967295

Platforms

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

charging-group

Syntax

charging-group [*charging-group-name*] **count**

Context

[Tree] (show>app-assure>group>aa-sub>um charging-group)

Full Context

show application-assurance group aa-sub usage-monitor charging-group

Description

This command displays usage monitor statistics for the charging group.

Parameters

charging-group-name

Specifies the charging group name, up to 32 characters.

count

Displays counters for the charging group.

Platforms

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

charging-group

Syntax

charging-group [*charging-group-name*] **count** [**detail**]

Context

[Tree] (tools>dump>app-assure>group>aa-sub charging-group)

Full Context

tools dump application-assurance group aa-sub charging-group

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays per-subscriber per-charging-group statistics.

Platforms

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

6.26 chassis

chassis

Syntax

chassis [**environment**] [**ccm**] [**power-supply**] [*chassis-id*]

chassis class *chassis-class*

chassis detail [**class** *chassis-class*]

Context

[Tree] (show chassis)

Full Context

show chassis

Description

This command displays general status information about the chassis.

Parameters

chassis-id

Specifies the ID of the chassis.

chassis-class

Displays information related to the chassis of the specified class.

Values router or eth-sat

environment

Displays environmental status information about the chassis.

Default Displays all chassis information.

power-supply

Displays the status of the power supply in the chassis.

Default Displays all chassis information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

detail

Displays detailed information for all chassis in the system.

ccm

Displays chassis control module information for platforms that support CCMs.

Platforms

All

Output

The following outputs are examples of chassis information, and Table 77: Output fields: chassis describes the output fields.

- Output example: show chassis (showing 7750 SR)
- Output example: show chassis environment
- Output example: show chassis power-supply (showing 7750 SR-1)
- Output example: show chassis ccm
- Output example: show chassis (showing 7950 XRS)
- Output example: show chassis detail (showing 7950 XRS)
- Output example: show chassis (showing 7750 SR with Ethernet satellites configured)
- Output example: show chassis (showing the state of the Ethernet satellite compact flash)

Output example: show chassis (showing 7750 SR)

```
A:PE-1# show chassis
===============================================================================
System Information
===============================================================================
  Name                              : PE-1
  Type                              : 7750 SR-12
  Chassis Topology                  : Standalone
  Location                          : (Not Specified)
  Coordinates                       : (Not Specified)
  CLLI code                         :
  Number of slots                   : 12
  Oper number of slots              : 12
  Num of faceplate ports/connectors : 97
  Num of physical ports             : 97
  Critical LED state                : Off
  Major LED state                   : Off
  Minor LED state                   : Off
  Over Temperature state            : OK
  Base MAC address                  : 10:e8:78:b8:21:47
  Admin chassis mode                : d
  Oper chassis mode                 : d
  Fabric Speed                      : 10 Gig
  FP Generations                    : FP3
  System Profile                    : none
===============================================================================
Chassis Summary
===============================================================================
Chassis   Role               Status
-------------------------------------------------------------------------------
1         Standalone         up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Output example: show chassis environment

```
A:SR-12# show chassis environment
 ===============================================================================
 Chassis 1 Detail
 ===============================================================================
 Environment Information
   Number of fan trays : 3
   Number of fans : 6
   Fan tray number : 1
     Speed : 44 %
     Status : up
   Fan tray number : 2
     Speed : 44 %
     Status : up
   Fan tray number : 3
     Speed : 44 %
     Status : up
 ===============================================================================
```

Output example: show chassis power-supply (showing 7750 SR-1)

```
A:ALA-4# show chassis power-supply
===============================================================================
Chassis 1 Detail
===============================================================================
Power Supply Information
  Number of power supplies          : 1

  Power supply number               : 1
    Power supply type               : dc multiple
    Power supply model              : pem
    Status1                         : present
    Input voltage 1                 : 53.81 Volts
    Status2                         : failed
    Input voltage 2                 : 0.00 Volts
===============================================================================
```

Output example: show chassis ccm

```
A:7750-3# show chassis ccm
===============================================================================
Chassis Information
===============================================================================
Chassis Control Module (CCM) Information
    CCM number                    : 1
    Equipped                      : yes
    Type                          : ccm-xp

Hardware Data
    Part number                   : Sim Part#
    CLEI code                     : Sim CLEI
    Serial number                 : ccm-0
    Manufacture date              : 01012003
    Manufacturing string          : Sim MfgString ccm-0
    Manufacturing deviations      : Sim MfgDeviation ccm-0
    Administrative state          : up
    Operational state             : up
    Temperature                   : 32C
    Temperature threshold         : 75C
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Time of last boot             : N/A
    Current alarm state           : alarm cleared
===============================================================================
```

Output example: show chassis (showing 7950 XRS)

```
*A:PE-1# show chassis
===============================================================================
System Information
===============================================================================
  Name                              : PE-1
  Type                              : 7950 XRS-20
  Chassis Topology                  : Standalone
  Location                          : (Not Specified)
  Coordinates                       : (Not Specified)
  CLLI code                         :
  Number of slots                   : 24
  Oper number of slots              : 12
  Num of faceplate ports/connectors : 314
  Num of physical ports             : 314
  Critical LED state                : Off
  Major LED state                   : Off
  Minor LED state                   : Amber
  Over Temperature state            : OK
  Base MAC address                  : 24:af:4a:a3:ac:c5
  FP Generations                    : FP3
  System Profile                    : none
===============================================================================
Chassis Summary
===============================================================================
Chassis   Role               Status
-------------------------------------------------------------------------------
1         Standalone         up
===============================================================================
```

Output example: show chassis detail (showing 7950 XRS)

```
*A:PE-1# show chassis detail
===============================================================================
System Information
===============================================================================
  Name                              : PE-1
  Type                              : 7950 XRS-20
  Chassis Topology                  : Standalone
  Location                          : (Not Specified)
  Coordinates                       : (Not Specified)
  CLLI code                         :
  Number of slots                   : 24
  Oper number of slots              : 12
  Num of faceplate ports/connectors : 314
  Num of physical ports             : 314
  Critical LED state                : Off
  Major LED state                   : Off
  Minor LED state                   : Amber
  Over Temperature state            : OK
  Base MAC address                  : 24:af:4a:a3:ac:c5
  FP Generations                    : FP3
  System Profile                    : none
===============================================================================
Chassis 1 Detail
===============================================================================
  Chassis Status                    : up
  Chassis Role                      : Standalone
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Hardware Data
    Part number                    :
    CLEI code                      :
    Serial number                  : AME4-14
    Manufacture date               :
    Manufacturing deviations       : (Not Specified)
    Manufacturing assembly number  :
    Time of last boot              : 2017/10/23 12:29:41
    Current alarm state            : alarm active
-------------------------------------------------------------------------------
Environment Information
  Number of fan trays              : 2
  Number of fans                   : 16

  Fan tray number                  : 1
    Speed                          : 38 %
    Status                         : up
    Hardware Data
      Part number                  : 3HE07119AARB01
      CLEI code                    : IPUCA9U1AA
      Serial number                : NS131062838
      Manufacture date             : 03212013
      Manufacturing deviations     : (Not Specified)
      Manufacturing assembly number : 82-0354-03
      Administrative state         : up
      Operational state            : up
      Time of last boot            : 2017/10/23 12:27:47
      Current alarm state          : alarm cleared
      Firmware revision status     : acceptable
    Hardware Resources (Power-Zone 1)
      Voltage
        Minimum                    :    53.00 Volts  (10/23/2017 12:30:28)
        Current                    :    53.00 Volts
        Peak                       :    54.00 Volts  (10/23/2017 12:29:48)
      Wattage
        Minimum                    :   106.00 Watts  (10/23/2017 12:30:28)
        Current                    :   159.00 Watts
        Peak                       :   324.00 Watts  (10/23/2017 12:29:48)
        Max Required               :   900.00 Watts
      Amperage
        Minimum                    :     2.00 Amps   (10/23/2017 12:29:56)
        Current                    :     3.00 Amps
        Peak                       :     6.00 Amps   (10/23/2017 12:29:48)

  Fan tray number                  : 2
    Speed                          : 38 %
    Status                         : up
   Hardware Data
      Part number                  : 3HE07119AARB01
      CLEI code                    : IPUCA9U1AA
      Serial number                : NS152062365
      Manufacture date             : 05232015
      Manufacturing deviations     : (Not Specified)
      Manufacturing assembly number : 82-0354-03
      Administrative state         : up
      Operational state            : up
      Time of last boot            : 2017/10/23 12:27:25
      Current alarm state          : alarm cleared
     Firmware revision status     : acceptable
    Hardware Resources (Power-Zone 1)
      Voltage
        Minimum                    :    52.00 Volts  (10/23/2017 12:32:01)
        Current                    :    52.00 Volts
        Peak                       :    54.00 Volts  (10/23/2017 12:29:54)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      Wattage
        Minimum                    :   106.00 Watts  (10/23/2017 12:30:05)
        Current                    :   156.00 Watts
        Peak                       :   371.00 Watts  (10/23/2017 12:29:51)
        Max Required               :   900.00 Watts
      Amperage
        Minimum                    :     2.00 Amps   (10/23/2017 12:29:54)
        Current                    :     3.00 Amps
        Peak                       :     7.00 Amps   (10/23/2017 12:29:51)
-------------------------------------------------------------------------------
Power Management Information
  Power Management Mode            : basic
  Power Safety Level               : 100%
  Power Safety Alert               : 0 watts
  Number of PEQs                   : 12

  PEQ number                       : 1
    PEQ Equipped Type              : apeq-dc-2000
    PEQ Provisioned Type           : (Not Specified)
    Power-Zone                     : 1
    Status                         : up
    Input Feed Status              : input B down
    Input Power Mode               : N/A
    Hardware Data
      Part number                  : 3HE07114AARA01
      CLEI code                    : IPUPAJHUAA
      Serial number                : NS1250G0116
      Manufacture date             : 12202012
      Manufacturing deviations     : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state         : up
      Operational state            : unprovisioned
      Time of last boot            : 2017/10/23 12:27:33
      Current alarm state          : alarm active
      Firmware revision status     : acceptable

  PEQ number                       : 2
    PEQ Equipped Type              : apeq-dc-2000
    PEQ Provisioned Type           : (Not Specified)
    Power-Zone                     : 1
    Status                         : up
    Input Feed Status              : input B down
    Input Power Mode               : N/A
    Hardware Data
      Part number                  : 3HE07114AARA01
      CLEI code                    : IPUPAJHUAA
      Serial number                : NS1249G0022
      Manufacture date             : 12202012
      Manufacturing deviations     : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state         : up
      Operational state            : unprovisioned
      Time of last boot            : 2017/10/23 12:27:26
      Current alarm state          : alarm active
      Firmware revision status     : acceptable

  PEQ number                       : 3
    PEQ Equipped Type              : apeq-dc-2000
    PEQ Provisioned Type           : (Not Specified)
    Power-Zone                     : 1
    Status                         : up
    Input Feed Status              : input B down
    Input Power Mode               : N/A
    Hardware Data
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1250G0141
    Manufacture date              : 12202012
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : unprovisioned
    Time of last boot             : 2017/10/23 12:27:31
    Current alarm state           : alarm active
    Firmware revision status      : acceptable

PEQ number                        : 4
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : (Not Specified)
  Power-Zone                      : 1
  Status                          : up
  Input Feed Status               : input B down
  Input Power Mode                : N/A
  Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1249G0201
    Manufacture date              : 12202012
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : unprovisioned
    Time of last boot             : 2017/10/23 12:27:26
    Current alarm state           : alarm active
    Firmware revision status      : acceptable

PEQ number                        : 5
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : (Not Specified)
  Power-Zone                      : 1
 Status                          : up
  Input Feed Status               : input B down
  Input Power Mode                : N/A
  Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1250G0123
    Manufacture date              : 12202012
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : unprovisioned
    Time of last boot             : 2017/10/23 12:27:32
    Current alarm state           : alarm active
    Firmware revision status      : acceptable

PEQ number                        : 6
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : (Not Specified)
  Power-Zone                      : 1
  Status                          : up
  Input Feed Status               : input B down
  Input Power Mode                : N/A
  Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1250G0061
    Manufacture date              : 12182012
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : unprovisioned
    Time of last boot             : 2017/10/23 12:27:34
    Current alarm state           : alarm active
    Firmware revision status      : acceptable

PEQ number                        : 7
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : (Not Specified)
  Power-Zone                      : 1
  Status                          : up
  Input Feed Status               : input B down
  Input Power Mode                : N/A
  Hardware Data
    Part number                   : 3HE07114AARB01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS13226A310
    Manufacture date              : 06042013
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 82-0532-02
    Administrative state          : up
    Operational state             : unprovisioned
    Time of last boot             : 2017/10/23 12:27:33
    Current alarm state           : alarm active
    Firmware revision status      : acceptable

PEQ number                        : 8
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : (Not Specified)
  Power-Zone                      : 1
  Status                          : up
  Input Feed Status               : input B down
  Input Power Mode                : N/A
 Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1250G0152
    Manufacture date              : 12202012
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : unprovisioned
    Time of last boot             : 2017/10/23 12:27:29
    Current alarm state           : alarm active
    Firmware revision status      : acceptable

PEQ number                        : 9
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : (Not Specified)
  Power-Zone                      : 1
  Status                          : up
  Input Feed Status               : input B down
  Input Power Mode                : N/A
  Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1250G0122
    Manufacture date              : 12202012
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : unprovisioned
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      Time of last boot             : 2017/10/23 12:27:28
      Current alarm state           : alarm active
      Firmware revision status      : acceptable

  PEQ number                        : 10
    PEQ Equipped Type               : apeq-dc-2000
    PEQ Provisioned Type            : (Not Specified)
    Power-Zone                      : 1
    Status                          : up
    Input Feed Status               : input B down
    Input Power Mode                : N/A
    Hardware Data
      Part number                   : 3HE07114AARA01
      CLEI code                     : IPUPAJHUAA
      Serial number                 : NS1250G0146
      Manufacture date              : 12202012
     Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state          : up
      Operational state             : unprovisioned
      Time of last boot             : 2017/10/23 12:27:25
      Current alarm state           : alarm active
      Firmware revision status      : acceptable

  PEQ number                        : 11
    PEQ Equipped Type               : apeq-dc-2000
    PEQ Provisioned Type            : (Not Specified)
    Power-Zone                      : 1
    Status                          : up
    Input Feed Status               : input B down
    Input Power Mode                : N/A
    Hardware Data
      Part number                   : 3HE07114AARA01
      CLEI code                     : IPUPAJHUAA
      Serial number                 : NS1249G0202
      Manufacture date              : 12202012
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state          : up
      Operational state             : unprovisioned
      Time of last boot             : 2017/10/23 12:27:30
      Current alarm state           : alarm active
      Firmware revision status      : acceptable

  PEQ number                        : 12
    PEQ Equipped Type               : apeq-dc-2000
    PEQ Provisioned Type            : (Not Specified)
    Power-Zone                      : 1
    Status                          : up
    Input Feed Status               : input B down
    Input Power Mode                : N/A
    Hardware Data
      Part number                   : 3HE07114AARA01
      CLEI code                     : IPUPAJHUAA
      Serial number                 : NS1250G0115
      Manufacture date              : 12202012
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state          : up
      Operational state             : unprovisioned
      Time of last boot             : 2017/10/23 12:27:29
      Current alarm state           : alarm active
      Firmware revision status      : acceptable
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Chassis Control Module (CCM) Information

  CCM Slot                          : A
    Equipped                        : yes
    Hardware Data
      Part number                   : 82-0263-03
      CLEI code                     :
      Serial number                 : AQUA03-30
      Manufacture date              :
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number :
      Administrative state          : up
      Operational state             : up
      Temperature                   : 45C
      Temperature threshold         : 75C
      Time of last boot             : N/A
      Current alarm state           : alarm cleared
    Hardware Resources (Power-Zone 1)
      Voltage
        Minimum                     :    51.67 Volts  (10/23/2017 12:31:59)
        Current                     :    51.67 Volts
        Peak                        :    52.68 Volts  (10/23/2017 12:29:52)
      Wattage
        Minimum                     :    21.29 Watts  (10/23/2017 12:30:20)
        Current                     :    21.98 Watts
        Peak                        :    22.66 Watts  (10/23/2017 12:29:50)
        Max Required                :    22.00 Watts
      Amperage
        Minimum                     :     0.41 Amps   (10/23/2017 12:30:20)
        Current                     :     0.43 Amps
        Peak                        :     0.43 Amps   (10/23/2017 12:29:50)

  CCM Slot                          : B
    Equipped                        : yes
    Hardware Data
      Part number                   : 82-0263-03
      CLEI code                     :
      Serial number                 : AQUA03-10
      Manufacture date              :
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number :
      Administrative state          : up
      Operational state             : up
      Temperature                   : 44C
      Temperature threshold         : 75C
      Time of last boot             : N/A
      Current alarm state           : alarm cleared
    Hardware Resources (Power-Zone 1)
      Voltage
        Minimum                     :    51.63 Volts  (10/23/2017 12:32:00)
        Current                     :    51.63 Volts
        Peak                        :    52.59 Volts  (10/23/2017 12:30:14)
      Wattage
        Minimum                     :    22.66 Watts  (10/23/2017 12:30:40)
        Current                     :    23.35 Watts
        Peak                        :    23.35 Watts  (10/23/2017 12:30:14)
        Max Required                :    22.00 Watts
      Amperage
        Minimum                     :     0.45 Amps   (10/23/2017 12:30:14)
        Current                     :     0.46 Amps
        Peak                        :     0.46 Amps   (10/23/2017 12:31:32)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: show chassis (showing 7750 SR with Ethernet satellites configured)

```
*A:PE-1# show chassis
===============================================================================
System Information
===============================================================================
  Name                              : PE-1
  Type                              : 7750 SR-12
  Chassis Topology                  : Standalone
  Location                          : (Not Specified)
  Coordinates                       : (Not Specified)
  CLLI code                         :
  Number of slots                   : 12
  Oper number of slots              : 12
  Num of faceplate ports/connectors : 165
  Num of physical ports             : 165
  Critical LED state                : Off
  Major LED state                   : Off
  Minor LED state                   : Off
  Over Temperature state            : OK
  Base MAC address                  : 10:e8:78:b8:21:47
  Admin chassis mode                : d
  Oper chassis mode                 : d
  Fabric Speed                      : 10 Gig
  FP Generations                    : FP3
  System Profile                    : none
===============================================================================
Chassis Summary
===============================================================================
Chassis   Role                Status
-------------------------------------------------------------------------------
1         Standalone          up
esat-1    Ethernet Satellite  up
===============================================================================
```

Output example: show chassis (showing the state of the Ethernet satellite compact flash)

```
A:node-2# show chassis "esat-6"
===============================================================================
Chassis esat-6 Detail
===============================================================================
  Chassis Status                    : up
  Chassis Role                      : Ethernet Satellite
  Hardware Data
    Part number                     : 3HE10076ABRC01
    CLEI code                       : IPMB900HRA
    Serial number                   : NS1935C1681
    Manufacture date                : 08312019
    Manufacturing deviations        : (Not Specified)
    Manufacturing assembly number   :
    Temperature                     : 53C
    Time of last boot               : 2024/06/19 13:20:57
    Current alarm state             : alarm cleared
-------------------------------------------------------------------------------
Environment Information

  Number of fan trays               : 1

  Fan tray number                   : 1
    Speed                           : 49 %
    Status                          : up
-------------------------------------------------------------------------------
Power Supply Information
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Number of power supplies          : 2

  Power supply number               : 1
    Power supply type               : ac single
    Status                          : up
    AC power                        : within range
    Hardware Data
      Part number                   :
      CLEI code                     :
      Serial number                 :

  Power supply number               : 2
    Power supply type               : none
    Status                          : not equipped
    Hardware Data
      Part number                   :
      CLEI code                     :
      Serial number                 :
-------------------------------------------------------------------------------
Flash Information

  Flash                             : cf1
    Administrative State            : up
    Operational state               : up
    Serial number                   : AA00000000124358
    Firmware revision               : 1100
    Model number                    : Flash 1
    Size                            : 1,964 MB
    Free space                      : 1,897 MB
    Percent Used                    : 3 %

  Flash                             : cf2
    Administrative State            : up
    Operational state               : up
    Serial number                   : 246CT505S1063SC00645
    Firmware revision               : V2.23
    Model number                    : SILICONSYSTEMS INC 256MB
    Size                            : 253,932 KB
    Free space                      : 0 Bytes
    Percent Used                    : 100 %
===============================================================================
```

Table 77: Output fields: chassis

Label	Description
Name	The system name for the router
Type	The router model number
Chassis Topology	The inter-chassis topology mode in which the system is operating: • Standalone – indicates that the system is comprised of a single physical router chassis • Extended (7950 XRS-40) on a 7950 XRS based system – indicates that two router chassis are connected together in a "back-to-back” topology with no additional switch fabric chassis. An extended chassis topology is comprised of two 7950 XRS-20 chassis and is also known as an 7950 XRS-40 system.
Chassis Status	The status of the chassis

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Chassis role	The chassis roles: Standalone – specifies the value for all non-7950 XRS SR OS systems and for 7950 XRS-20 standalone systems 7950 XRS-40 Master 7950 XRS-40 Extension
Location	The system location for the device
Coordinates	A user-configurable string that indicates the Global Positioning System (GPS) co-ordinates for the location of the chassis For example: • N 45 58 23, W 34 56 12 • N37 37' 00 latitude, W122 22' 00 longitude • N36*39.246' W121*40.121'
CLLI Code	The Common Language Location Identifier (CLLI) that uniquely identifies the geographic location of places and certain functional categories of equipment unique to the telecommunications industry
Number of slots	The number of slots in the 7450 ESS and 7750 SR chassis that are available for plug-in cards. The total number includes the IOM or CCM slot or slots and the CPM slots.
Number of ports	The total number of ports currently installed in this chassis. This count does not include the Ethernet ports on the CPMs or CCMs that are used for management access.
Oper Number of Slots	The number of slots in the 7950 XRS chassis that are available for XCM cards and CPM cards operating as the active or standby CPM. The operational number of slots can reach to 24 when the chassis topology is extended.
Critical LED state	The current state of the Critical LED in this chassis
Major LED state	The current state of the Major LED in this chassis
Minor LED state	The current state of the Minor LED in this chassis
Base MAC address	The base chassis Ethernet MAC address
FP Generations	Identifies the FP generations for cards in the system
System Profile	The scaling profile in use by the system
Over Temperature state	Indicates if there is currently an over temperature condition (OK = not currently over temp)
Admin chassis mode	The configured chassis mode (chassis mode D)
Oper chassis mode	The current chassis mode

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Part number	The part number of the particular hardware assembly. In the **show chassis** output, the first section of Hardware Data output is for the chassis midplane.
CLEI code	The Common Language Equipment Code Identifier (CLEI) code of the particular hardware assembly
Serial number	The serial number of the particular hardware assembly
Manufacture date	The manufacture date of the particular hardware assembly
Manufacturing string	The factory inputted manufacturing text string for the particular hardware assembly
Manufacturing deviations	Additional manufacturing data
Manufacturing assembly number	Additional manufacturing data
Time of last boot	The date and time the most recent boot occurred
Current alarm state	The alarm conditions for the specific board
Number of fan trays	The total number of fan trays installed in this chassis
Number of fans	The total number of fans installed in this chassis
Fan tray number	The ID for each fan tray installed in the chassis
Fan tray type	The type of fan tray: • Chassis – standard fan tray • PCM – dedicated to cooling PCMs in the 7950 XRS-20e Universal chassis
Operational status	The current status of the fan tray
Speed	The speed of the fans as a percentage
Status	The current status of the particular hardware assembly (up, down, or not equipped)
Power Supply Information	
Number of power supplies	The number of power supplies in the chassis
Power supply number	The ID for each power supply installed in the chassis
Power supply type	The basic type of the power supply
Status	The power supply status
DC power	Indicates if the DC power is over the safe range
Over temp	Indicates if the power supply is over the safe temperature range
Power supply model	The model of the power supply

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Input voltage	The input voltage for the specific power supply or power module. This field is only displayed for a subset of platforms.
CCM Slot	The identifier of the CCM (A or B)
Equipped	Indicates if the CCM is detected as physically present
Temperature	The current temperature detected by the particular hardware assembly
Temperature threshold	The temperature at which the particular hardware assembly considers an over temperature condition to exist
Part number	The CCM part number
CLEI code	The code used to identify the router
Serial number	The CCM serial number. Not user modifiable.
Manufacture date	The chassis manufacture date. Not user modifiable.
Manufacturing string	The factory-inputted manufacturing text string. Not user modifiable.
Administrative state	The administrative state of the card: • Up — The card is administratively up • Down — The card is administratively down
Operational state	The operational state of the card: • Up — The card is operationally up • Down — The card is operationally down
Temperature	The internal chassis temperature
Temperature threshold	The value above which the internal temperature must rise to indicate that the temperature is critical
Time of last boot	The date and time the most recent boot occurred
Current alarm state	The alarm conditions for the CCM
Flash Information	
Flash	The compact flash (CF) name
Administrative State	The administrative state of the CF: • Up — The CF is administratively up • Down — The CF is administratively down
Operational state	The operational state of the CF: • Up — The CF is operationally up

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• Down — The CF is operationally down
Serial number	The serial number of the CF
Firmware revision	The firmware revision
Model number	The model number of the CF
Size	The size of the CF
Free space	The free space available on the CF
Percent used	The percentage of the CF that has been used

chassis

Syntax

chassis [*phys-chassis-id*]

Context

[Tree] (tools>perform chassis)

Full Context

tools perform chassis

Description

The following command performs chassis maintenance operations.

Parameters

phys-chassis-id

The identifier of the physical chassis for the tools perform context.

Values 1

Platforms

All

chassis

Syntax

chassis

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context
[Tree] (clear chassis)

Full Context
clear chassis

Description
Commands in this context clear data for various pieces of equipment that sit in a chassis.

Platforms
7750 SR-s

chassis

Syntax
chassis

Context
[Tree] (show>mcast-mgmt chassis)

Full Context
show mcast-management chassis

Description
This command displays multicast path management chassis information.

Platforms
7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

6.27 check-bp-eprom

check-bp-eprom

Syntax
check-bp-eprom

Context
[Tree] (tools>perform>chassis check-bp-eprom)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform chassis check-bp-eprom

Description

This command checks the chassis BP EPROM. The function reads the EPROM and is corrected with one of the following:

- for each SEEP that is found to be acceptable or can be corrected:

  "BP eprom X: ok” with X = seep number

- for each SEEP that is found to be unacceptable and cannot be corrected:

  "BP eprom X: not ok”

Platforms

All

6.28 class-forwarding-policy

class-forwarding-policy

Syntax

class-forwarding-policy [*policy-name*]

Context

[Tree] (show>router>mpls class-forwarding-policy)

Full Context

show router mpls class-forwarding-policy

Description

This command displays the mapping of the Forwarding Classes (FCs) to the set IDs as well as the default set ID of the CBF policy. It also shows the number of MPLS LSPs that reference this CBF policy.

Parameters

policy-name

Specifies the name of the class-forwarding-policy, up to 256 characters and composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of class forwarding policy information.

Output Example

```
*A:Dut-B>show>router# show router mpls class-forwarding-policy "policy1"
===============================================================================
MPLS Class Forwarding Policy Table
===============================================================================
Policy Name                     Default  Forwarding Class Set-id  Ref
                                Set-Id   be l2 af l1 h2 ef h1 nc  Count
-------------------------------------------------------------------------------
policy1                           3      1  1  2  2  3  3  4  4   50
-------------------------------------------------------------------------------
No. of Forwarding Policies: 1
===============================================================================
```

6.29 classic-lsn-sub

classic-lsn-sub

Syntax

classic-lsn-sub *router-instance* **ip-prefix** *ip-prefix/length*

classic-lsn-sub *router-instance* **ip-prefix** *ip-prefix/length* **subscriber-string**

Context

[Tree] (clear>nat classic-lsn-sub)

Full Context

clear nat classic-lsn-sub

Description

This command clears NAT mappings for classic LSN subscribers.

Parameters

router-instance

Specifies the router instance, up to 32 characters.

ip-prefix/length

Specifies the IP prefix and length.

Values ip-prefix: a.b.c.d (host bits must be 0)length: 0 to 32

subscriber-string

Clears subscriber string information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

6.30 clear

clear

Syntax

clear *aps-id* {**protect** | **working**} [**number** *number*]

Context

[Tree] (tools>perform>aps clear)

Full Context

tools perform aps clear

Description

This command removes all Automated Protection Switching (APS) operational commands.

Parameters

aps-id

This option clears a specific APS on un-bundled SONET/SDH ports.

Values

aps-id	aps-*group-id*	
	aps	keyword
	group-id	1 to 128

protect

This command clears a physical port that is acting as the protection circuit for the APS group.

working

This command clears a physical port that is acting as the working circuit for this APS group.

number

Specifies the APS channel number.

Values 1, 2

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

clear

Syntax

clear *ring-index*

Context

[Tree] (tools>perform>eth-ring clear)

Full Context

tools perform eth-ring clear

Description

The clear command, at the Ethernet Ring Node, is used for the following operations:

- Clearing an active local administrative command, such as a Forced Switch or Manual Switch
- Triggering reversion before the WTR or WTB timer expires in case of revertive operation
- Triggering reversion in case of non-reactive operation

Parameters

ring-index

Specifies an Ethernet Ring index.

Values 1 to 128

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

clear

Syntax

clear id *tunnel-id*

clear *lsp-name*

Context

[Tree] (tools>perform>router>mpls>tp-tunnel clear)

Full Context

tools perform router mpls tp-tunnel clear

Description

This command clears all the MPLS-TP linear protection operational commands for the specified LSP that are currently active.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

tunnel-id

Specifies the tunnel number of the MPLS-TP LSP.

Values 1 to 61440

lsp-name

Specifies the name of the MPLS-TP LSP, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

clear

Syntax

clear

Context

[Tree] (clear)

Full Context

clear

Description

Commands in this context are used to clear specific statistics, reset specific hardware assemblies (for example, cards), and delete temporary operational state data (for example, contents of a log in memory).

Platforms

All

6.31 clear-arp

clear-arp

Syntax

clear-arp [**ip** *ipv4-address*]

Context

[Tree] (tools>perform>wlan-gw>lanext>bd clear-arp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform wlan-gw lanext bd clear-arp

Description

This command clears all ARP table entries for the specified HLE BD or a specific entry if an IPv4 address is specified.

Parameters

ipv4-address

Specifies the IPv4 address of the ARP table entry to be cleared.

Platforms

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

6.32 clear-force

clear-force

Syntax

clear-force all-mc

clear-force lag-id *lag-id* [**sub-group** *sub-group-id*]

clear-force peer-mc *ip-address*

Context

[Tree] (tools>perform>lag clear-force)

Full Context

tools perform lag clear-force

Description

This command clears forced status.

Parameters

all-mc

Specifies all MC-LAGs.

lag-id

Specifies the LAG ID.

Values 1 to 800

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sub-group-id

Specifies the subscriber group ID.

Values 1 to 16

ip-address

Specifies the peer MC IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d, where x: [0 to FFFF]H and d: [0 to 255]D

Platforms

All

6.33 clear-history

clear-history

Syntax

clear-history

Context

[Tree] (tools>perform>system>nsp-proxy clear-history)

Full Context

tools perform system nsp-proxy clear-history

Description

This command clears the NSP proxy history.

Platforms

VSR-NRC

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.34 clear-lockout-annexb

clear-lockout-annexb

Syntax

clear-lockout-annexb *aps-id*

Context

[Tree] (tools>perform>aps clear-lockout-annexb)

Full Context

tools perform aps clear-lockout-annexb

Description

This command clears lockout of the Annex B APS group.

Parameters

aps-id

Specifies an APS ID.

Values

aps-id	aps-*group-id*	
	aps	keyword
	group-id	1 to 128

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

6.35 clear-mac

clear-mac

Syntax

clear-mac [**mac** *ieee-address*]

Context

[Tree] (tools>perform>wlan-gw>lanext>bd clear-mac)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform wlan-gw lanext bd clear-mac

Description

This command clears all MAC table entries for the specified HLE BD or a specific entry if a MAC address is specified.

Parameters

ieee-address

Specifies the MAC address of the MAC table entry to be cleared.

Platforms

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

6.36 clear-neighbor

clear-neighbor

Syntax

clear-neighbor [**ip6** *ipv6-address*]

Context

[Tree] (tools>perform>wlan-gw>lanext>bd clear-neighbor)

Full Context

tools perform wlan-gw lanext bd clear-neighbor

Description

This command clears all neighbor table entries for the specified HLE BD or a specific entry if an IPv6 address is specified.

Parameters

ipv6-address

Specifies the IPv6 address of the neighbor table entry to be cleared.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.37 cli

cli

Syntax

cli

Context

[Tree] (show>log cli)

Full Context

show log cli

Description

Commands in this context display log information specific to CLI users (classic CLI or MD-CLI).

Platforms

All

6.38 cli-session-group

cli-session-group

Syntax

cli-session-group *session-group-name*

Context

[Tree] (show>system>security cli-session-group)

Full Context

show system security cli-session-group

Description

This command displays the user profiles of this CLI session group and the session group details.

Parameters

session-group-name

Specifies a session group, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

6.39 client

client

Syntax

client all

client client-address *ip-address*

Context

[Tree] (show>test-oam>twamp client)

Full Context

show test-oam twamp client

Description

This command displays TWAMP client information.

Parameters

ip-address

Specifies the IPv4 or IPv6 address of a client.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

all

Displays all TWAMP client information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of TWAMP client information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show test-oam twamp client all
===============================================================================
Test Session information for Client 6.6.6.6
===============================================================================
Index        : 1     State        : Active
SID          : 16 byte hex field
Src Address  : SourceIP            Src UDP Port : port
Dst Address  : DestIP            Dst UDP Port : port
-------------------------------------------------------------------------------
Index        : 2     State        : Active
SID          : 16 byte hex field
Src Address  : SourceIP            Src UDP Port : port
Dst Address  : DestIP            Dst UDP Port : port
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Sessions: 2
===============================================================================
===============================================================================
Test Session information for Client 10.10.10.10
===============================================================================
Index        : 1     State        : Active
SID          : 16 byte hex field
Src Address  : SourceIP            Src UDP Port : port
Dst Address  : DestIP            Dst UDP Port : port
-------------------------------------------------------------------------------
Index        : 2     State        : Active
SID          : 16 byte hex field
Src Address  : SourceIP            Src UDP Port : port
Dst Address  : DestIP            Dst UDP Port : port
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Index        : 3     State        : Active
SID          : 16 byte hex field
Src Address  : SourceIP            Src UDP Port : port
Dst Address  : DestIP            Dst UDP Port : port
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Sessions: 3
===============================================================================
Test Session information for Client 1234:5678:90ab:cdef:1234:5678:90ab:cdef
===============================================================================
Index        : 1     State        : Active
SID          : 16 byte hex field
Src Address  : SourceIP            Src UDP Port : port
Dst Address  : DestIP            Dst UDP Port : port
-------------------------------------------------------------------------------
Number of Sessions: 1
===============================================================================

show test-oam twamp client 6.6.6.6
===============================================================================
Test Session information for Client 6.6.6.6
===============================================================================
Index        : 1     State        : Active
SID          : 16 byte hex field
Src Address  : SourceIP            Src UDP Port : port
Dst Address  : DestIP            Dst UDP Port : port
-------------------------------------------------------------------------------
Index        : 2     State        : Active
SID          : 16 byte hex field
Src Address  : SourceIP            Src UDP Port : port
Dst Address  : DestIP            Dst UDP Port : port
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Sessions: 2
===============================================================================
```

6.40 client-db

client-db

Syntax

client-db

client-db *db-name* **association**

client-db *db-name* **client** *client-index*

client-db *db-name*

Context

[Tree] (show>ipsec client-db)

Full Context

show ipsec client-db

Description

This commands displays information for client databases. Using this command without any parameters will list all configured client database.

Parameters

db-name

Species to list all IPsec gateways that use the specified client database.

association

Displays information for which this client database is associated.

client *client-index*

Specifies the client index or client name of client entry in the client database.

Platforms

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

Output

The following output is an example of the **show client-db** command.

Output Example

```
show ipsec client-db
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPsec Client Database
===============================================================================
Name                              Admin State   Match List
-------------------------------------------------------------------------------
test                              Up            idi peer-ip-prefix
-------------------------------------------------------------------------------
No. of entries: 1
===============================================================================
show ipsec client-db "test"
===============================================================================
IPsec Client Database "test"
===============================================================================
Description: (Not Specified)
Match List : idi peer-ip-prefix
Admin State: Up
-------------------------------------------------------------------------------
Database Client List
-------------------------------------------------------------------------------
Index     Name                                    Admin State
-------------------------------------------------------------------------------
1         client-1                                Up
2         client-2                                Up
-------------------------------------------------------------------------------
No. of entries: 2
-------------------------------------------------------------------------------
===============================================================================
```

client-db

Syntax

client-db *db-name* **lookup peer-ip** *peer-ip-address*

client-db *db-name* **lookup idi string-type** {**asn1dn** | **fqdn** | **rfc822**} **string-value** *string-value* [**peer-ip** *peer-ip-address*]

client-db *db-name* **lookup idi address** *idi-ip-address* [**peer-ip** *peer-ip-address*]

Context

[Tree] (tools>perform>ipsec client-db)

Full Context

tools perform ipsec client-db

Description

This command performs a lookup in the specified client-db by using specified input and displays the matching result.

Output Example

```
tools perform ipsec client-db "test" lookup idi string-type rfc822 string-
value client-1@examplebm.com peer-ip  10.10.10.100
Result              :  Ok
Database            :  test
Criterion - Ike Idi :  RFC822 "client-1@examplebm.com"
Criterion - Peer IP :  10.10.10.100
Matched Record      :  1 "client-1"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Elapsed Time (us)   :  2
```

Parameters

db-name

Specifies the name of the client-db.

peer-ip *peer-ip-address*

Specifies the peer's tunnel IP address as input, either v4 or v6.

string-type

Specifies the peer's IDi as input.

Values asn1dn, fqdn, rfc822

idi-ip-address

Specifies the peer's IDi of address type as input, either v4 or v6

string-value *string-value*

Specifies the value of FQDN or RFC822 IDi.

Platforms

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

6.41 client-known-hosts

client-known-hosts

Syntax

client-known-hosts [*ip-address*|*dns-name*]

Context

[Tree] (show>system>ssh client-known-hosts)

Full Context

show system ssh client-known-hosts

Description

This command displays SSH known-host public keys information.

The output includes dynamically learned and statically configured keys.

Parameters

ip-address*|*dns-name

Displays known-host public keys for the specified SSH host.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 128 chars max

Platforms

All

Output

The following output is an example of SSH known-host public key information, and Table 78: Output fields: SSH known-host public keys describes the output fields.

Output Example

```
A:DUT-A# show system ssh client-known-hosts
===============================================================================
SSH Known Hosts Public Keys
===============================================================================
Hostname      : 10.1.1.1
Key-Type      : ecdsa-sha2-nistp256
Key-Value     : AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBBGlVBGrGXfx
            LI3vKPu6AdZCy+7WKHkFvSFqV8MYYbhctxpO2UlzbgxTq6TLQlVMOhbcU8BRxeI
            R3VfCBgbfGy1c=
Source        : dynamic_list
-------------------------------------------------------------------------------
Hostname      : 10.12.1.2
Key-Type      : ssh-rsa
Key-Value     : AAAAB3NzaC1yc2EAAAADAQABAAABAQDT+wP92xA2UbEHAxLa6Dw3QxQPv7cUhDM
            xgasqWgAqYBKLIP+WMkmg8evxQXWngkqIqCLjCIgsOlxxYY7Re5MJS33B6xxVIH
            7ORnEVeTCWLPFEZas3z7MmXda3KQTT8G73JyRYVA8HThyZLbZ2mDSbABzTe9eLI
            8g1iJuGbqSuAHsKbhkc559yxy0CVhuIHuzw4bnUPYYukcY3nE/
            ucOL6IA4YI9CFoBV6TtVZptE3mqKQWh56VyXN6rAIMTrSMkYFPEhPCrgRplqiFJ
            aKKzlLjdpU1eRfLOUONS3SZFi8cih/gCO7Axa+fxL6TYUDp/
            83Zb76yAcV10oypLzcPfkJ
Source        : dynamic_list
-------------------------------------------------------------------------------
Hostname      : 10.13.1.3
Key-Type      : ssh-rsa
Key-Value     : AAAAB3NzaC1yc2EAAAADAQABAAABAQCocuG/
            UHeqmgD9lZPEvRdHPPcLNeS0IdaMUQe9JcVnBU82XKznP4cQU0VgyQd5UGtWBLF
            iC9oKlCVyHOKjFOBESYt2pQDb/
            3HbpoFgUp3LZNYrehNfhbw2BRnOU7JxbT9Tv+4keDwcLRIzrsxAFcxFOym+2K8L
            o8AIKCNXnHjBkn02bXMzau11FofxsvZFGfYGGVG5iC6WN5gf4+zLyy5p1okVPq5
            K/qw8bQHPgvkG1svemuEwkCSfp1wPGmmj8SNgeolYmH7we9xQvmqoF/F/
            ghUIXn30PQqeoRS7n8uQf0CQGAkyknO5poMgpqlD/
            1AWv1LGbilseA4xumRB2Yn9
Source        : dynamic_list
-------------------------------------------------------------------------------
Number of public keys : 3
===============================================================================
```

Table 78: Output fields: SSH known-host public keys

Label	Description
Hostname	The IP address or DNS name of the SSH host
Key-Type	The public key type of the known-host entry
Key-Value	The public key value of the known-host entry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Source	dynamic_list — Indicates the key was learned dynamically configuration — Indicates the key was configured statically
Number of public keys	The number of known-host public keys displayed

client-known-hosts

Syntax

client-known-hosts

Context

[Tree] (tools>perform>system>ssh client-known-hosts)

Full Context

tools perform system ssh client-known-hosts

Description

Commands in this context remove dynamically learned SSH client known-host public keys.

Known-host keys are stored per user. Use these commands to delete a dynamic entry when an SSH server presents a new host key for a host that is already in the known-host list. SR OS drops the SSH connection until the existing dynamic entry is removed.

Platforms

All

6.42 client-tls-profile

client-tls-profile

Syntax

client-tls-profile [*client-tls-profile*]

client-tls-profile *client-tls-profile* **association**

Context

[Tree] (show>system>security>tls client-tls-profile)

Full Context

show system security tls client-tls-profile

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays TLS client profile information

Parameters

client-tls-profile

Specifies the client TLS profile, up to 32 characters.

Platforms

All

Output

The following output is an example of TLS client profile information.

Output Example

```
*A:Dut-C> show system security tls client-tls-profile
===============================================================================
Client Profile Information
===============================================================================
Name                                            AdminState     OperState
-------------------------------------------------------------------------------
ctp                                             up             up
ctp-alt1                                        up             up
ctp-alt2                                        up             up
===============================================================================


*A:Dut-C> show system security tls client-tls-profile "ctp"
===============================================================================
Client Profile Entry "ctp"
===============================================================================
Cipher List Name             : cl_all
Trust Anchor Profile Name    : tap
===============================================================================
```

6.43 clock-recovery

clock-recovery

Syntax

clock-recovery

Context

[Tree] (clear>system>ptp clock-recovery)

Full Context

clear system ptp clock-recovery

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command resets the PTP recovery algorithm.

The algorithms involved in PTP frequency and time recovery are reset to the initial conditions. This command clears any previous history and can be used to ensure a consistent starting state for a test or can be used to clear any unexpected behaviour in the algorithm.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.44 coa

coa

Syntax

coa [**nas-port-id** *attr-string*] [**framed-ip-addr** *ip-address*] [**alc-ipv6-addr** *ipv6-address*] [**delegated-ipv6-pfx** *ipv6-prefix*[/*ipv6-prefix-length*]] [**framed-ipv6-pfx** *ipv6-prefix* [/*ipv6-prefix-length*]] [**alc-serv-id** *serv-id*] [**acct-session-id** *attr-string*] [**alc-subscr-id** *attr-string*] [**alc-brg-id** *attr-string*] [**user-name** *attr-string*] [**alc-client-hw-addr** *mac-address*] [**attr** *attribute* [*attribute*]] [**attr-from-file** *file-url*] [**from-server** *attr-string*] [**router-or-service** *attr-string*] [**debug**]

Context

[Tree] (tools>perform>subscr-mgmt coa)

Full Context

tools perform subscriber-mgmt coa

Description

This command triggers a Change of Authorization (CoA) without a RADIUS authentication policy.

This command can be used to spoof a CoA from a configured server for purposes such as testing CoA python scripts. However, spoofing a CoA from a RADIUS server requires the configuration of a RADIUS authentication policy.

Parameters

nas-port-id *attr-string*

Specifies the physical access circuit of the NAS up to 253 characters.

ip-address

Specifies the IPv4 host address.

Values *ipv4-address*: a.b.c.d

ipv6-address

Specifies the IPv6 host address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

ipv6-prefix[/ipv6-prefix-length]

Specifies the IPv6 PD host prefix.

Values

ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
ipv6-prefix-length	[0 to 128]

ipv6-prefix[/ipv6-prefix-length]

Specifies the IPv6 SLAAC host prefix.

Values

ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
ipv6-prefix-length	[0 to 128]

serv-id

Specifies the service ID of the LNS subscriber.

Values 0 to 4294967295

acct-session-id *attr-string*

Specifies the subscriber accounting session ID up to 22 characters.

alc-subscr-id *attr-string*

Specifies the subscriber ID up to 32 characters.

alc-brg-id *attr-string*

Specifies the BRG ID to a maximum of 32 characters.

user-name *attr-string*

Specifies the string matching RADIUS VSA [1] username associated to the host(s), up to 32 characters.

mac-address

Specifies the subscriber host MAC address in the form: xx:xx:xx:xx:xx:xx.

attribute

Specifies the attributes (RADIUS VSAs) for override. The VSA must be specified in number format. For example, VSA Alc-Subsc-Prof-Str=”1M-prof” is expressed as 6527.12 ="1M-prof”. Up to five attributes can be specified within this command.

For more information on VSAs, refer to the *7750 SR and VSR RADIUS Attributes Reference Guide*.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values

<type>=<value>

<type>:<tag>=<value>

<vendor>,<type>=<value>

e, <type>,<exttyp>=<value> (type=[241| 242| 243| 244])

le,<type>,<exttyp>=<value> (type=[245| 246])

evs,<type>,<vendor>,<vendor-type>=<value>

levs,<type>,<vendor>,<vendor-type>=<value>

file-url

Specifies the file URL where the VSAs are located.

Values

local-url	[*cflash-id/*] [*file-path*] (up to 200 characters including the cflash-id directory length of up to 99 characters each)
remote-url	[{**ftp**://| **tftp**://}*login*:*pswd@remote-locn/*][*file-path*] (up to 255 characters with the directory length of up to 99 characters each)
remote-locn	[*hostname* | *ipv4-address* | *ipv6-address*]
ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x [-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D
	interface - Specifies the link local addresses, up to 32 characters
cflash-id	cf1: | cf1-A: | cf1-B: | cf2 :| cf2-A: | cf2-B: | cf3: | cf3-A: | cf3-B:

attr-string

Specifies the RADIUS server name that is configured under the router or VPRN service context, up to 32 characters.

attr-string

Specifies the router or VPRN service instance where the RADIUS server is configured, up to 32 characters.

debug

Displays the debug message associated with the CoA command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of subscriber management CoA tools information.

Output Example

```
Node# tools perform subscriber-mgmt coa alc-subscr-id subscriber-01 attr 6527,13=new-sla-prof
 debug
===============================================================================
Inject Change-of-Authorization
===============================================================================
SUCCESS: got ACK
  Change of Authorization(43) id 0 len 50 from 0.0.0.0:3799 vrid 1
    VSA [26] 8 Nokia (6527)
      SUBSC ID STR [11] 6 subscriber-01
    VSA [26] 10 Nokia (6527)
      SLA PROF STR [13] 8 new-sla-prof
  Hex Packet Dump:
  1a 0e 00 00 19 7f 0b 08 77 69 66 69 2d 31 1a 10 00 00 19 7f 0d 0a 73 6c 61
  2d 70 72 6f 66
  Change of Authorization Ack(44) 0.0.0.0:3799 id 0 len 20 vrid 1
  Hex Packet Dump:
```

6.45 coa-statistics

coa-statistics

Syntax

coa-statistics

Context

[Tree] (clear>subscr-mgmt>authentication coa-statistics)

Full Context

clear subscriber-mgmt authentication coa-statistics

Description

This command clears RADIUS CoA statistics.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.46 collect-lmm-fc-stats

collect-lmm-fc-stats

Syntax

collect-lmm-fc-stats [{**sap** {*sap-id* | **all**} | **sdp** {*sdp-id* | **all**} | **interface** {*interface-name* | **all**}}]

Context

[Tree] (show>eth-cfm collect-lmm-fc-stats)

Full Context

show eth-cfm collect-lmm-fc-stats

Description

This command displays the entities that are configured with per-FC LMM counters, and whether those counters are counting in-profile packets only or all countable packets.

Each entity may have up to eight individual FC-based counters. Each FC includes a positional index value (1 to 8) under the FC that is counting. A "P" indicates that the index is only counting in-profile traffic.

When no display filters are applied, this command displays all entities and the individual FC counters. Optional filters help to reduce the output that is visible to the operator.

Parameters

sap-id

Specifies a SAP entity for which to display active individual FC counters.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id*:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-conn-prof-id]	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
	esat-*id*/*slot*/*port*	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	pxc-*id*.*sub-port*	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
ccag-id	**ccag**-*id*.*path-id*[*cc-type*]:*cc-id*	
	ccag	keyword
	id	1 to 8
	path-id	a | b
	cc-type	.sap-net | .net-sap
	cc-id	1 to 4094
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id*	
	lag	keyword
	id	1 to 800
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 10239
qtag1	* | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094

sdp-id

Specifies an SDP entity for which to display active individual FC counters.

Values *sdp-id* — 1 to 32767

vc-id — 1 to 4294967295

© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

interface-name

Specifies an interface entity for which to display active individual FC counters, up to 32 characters maximum.

all

Keyword to display all SAP, SDP, and interface entities, and the associated active individual FC counters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output example shows information about entities that are configured with per-FC counters.

Output Example

```
A:node-2# show eth-cfm collect-lmm-fc-stats
===============================================================================
The FC to priority bit mapping for collect-lmm-fc-stats is as follows:
NC = 7, H1 = 6, EF = 5, H2 = 4, L1 = 3, AF = 2, L2 = 1, BE = 0

The number below each FC column indicates which counter index PDUs matching
that FC will be counted in. Entries with a "P" beside the number indicate
that only in-profile traffic is being counted. Entries without a "P" are not
profile aware and count all PDUs associated with that FC.

===============================================================================
ETH-CFM SAPs Configured to Collect Per-FC LMM Statistics
===============================================================================
Sap                 SvcId       BE L2 AF L1 H2 EF H1 NC
-------------------------------------------------------------------------------
1/1/1:100           2147483647  1  2P 3  4  5        8P
-------------------------------------------------------------------------------
No. of SAPs: 1
===============================================================================

===============================================================================
ETH-CFM SDPs Configured to Collect Per-FC LMM Statistics
===============================================================================
SdpId               SvcId       BE L2 AF L1 H2 EF H1 NC
-------------------------------------------------------------------------------
500:500             2147483647  1  2     4P 5P 6
-------------------------------------------------------------------------------
No. of SDPs: 1
===============================================================================

===============================================================================
ETH-CFM Facility Interface MEPs Configured to Collect Per-FC LMM Statistics
===============================================================================
Interface          Md-index   Ma-index  MepId  BE L2 AF L1 H2 EF H1 NC
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of Facility Interface MEPs: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.47 collect-lmm-stats

collect-lmm-stats

Syntax

collect-lmm-stats

Context

[Tree] (show>eth-cfm collect-lmm-stats)

Full Context

show eth-cfm collect-lmm-stats

Description

This command displays the entities that are configured with a single LMM counter using the format of the ETH-CFM stack table.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of LMM counter information.

Output Example

```
show eth-cfm collect-lmm-stats

=======================================================
ETH-CFM SAPs Configured to Collect LMM Statistics
=======================================================
SapId                                       SvcId
-------------------------------------------------------
-------------------------------------------------------
No. of SAPs: 0
=======================================================

===============================================================================
ETH-CFM SDPs Configured to Collect LMM Statistics
===============================================================================
SdpId              SvcId       Type    Far End
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of SDPs: 0
===============================================================================

===============================================================================
CFM Stack Table Defect Legend:
R = Rdi, M = MacStatus, C = RemoteCCM, E = ErrorCCM, X = XconCCM
A = AisRx, L = CSF LOS Rx, F = CSF AIS/FDI rx, r = CSF RDI rx
G = receiving grace PDU (MCC-ED or VSM) from at least one peer
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
CFM Facility Port Stack Table
===============================================================================
Port     Tunnel    Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM Facility LAG Stack Table
===============================================================================
Lag      Tunnel    Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
 name
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM Facility Tunnel Stack Table
===============================================================================
Port/Lag Tunnel    Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM Facility Interface Stack Table
===============================================================================
Interface          Lvl Dir Md-index   Ma-index  MepId  Mac-address     Defect G
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```

collect-lmm-stats

Syntax

collect-lmm-stats [*sdp-id*[:*vc-id*]]

Context

[Tree] (show>service>sdp-using>eth-cfm collect-lmm-stats)

Full Context

show service sdp-using eth-cfm collect-lmm-stats

Description

This command displays SDP bindings which are configured to collect statistics for LMM tests.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sdp-id[:vc-id]

Specifies the SDP ID and virtual circuit ID on the SDP ID.

Values sdp-id: 1 to 32767
vc-id: 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.48 collector

collector

Syntax

collector [**detail**]

Context

[Tree] (show>app-assure>group>cflowd collector)

Full Context

show application-assurance group cflowd collector

Description

Commands in this context display cflowd output.

Parameters

detail

Displays detailed information.

Platforms

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

Output

The following output is an example of the **collector** command information.

Output Example

```
A:ALU-A# show application-assurance group 1 cflowd collector
===============================================================================
Application Assurance Cflowd Collectors for group 1
===============================================================================
Host Address        Port  Version   Admin     Oper      Recs Sent
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
192.168.7.7         2055    10       up        up        0
192.168.7.8         2055    10       up        up        0
-------------------------------------------------------------------------------
Collectors : 2
-------------------------------------------------------------------------------
A:ALU-A#

A:ALU-A# show application-assurance group 1 cflowd collector detail
===============================================================================
Application Assurance Cflowd Collectors for group 1
===============================================================================
Address                     : 192.168.7.7
Port                        : 2055
Description                 : AA Collector 1
Version                     : 10
Admin State                 : up
Oper State                  : up
Records Sent                : 0
Last Changed                : 07/27/2009 13:36:50

Address                     : 192.168.7.8
Port                        : 2055
Description                 : AA Collector 2
Version                     : 10
Admin State                 : up
Oper State                  : up
Records Sent                : 0
Last Changed                : 07/27/2009 13:37:10
===============================================================================
A:ALU-A#
```

collector

Syntax

collector *collector-id*

Context

[Tree] (show>app-assure>group>cflowd>dir-exp collector)

Full Context

show application-assurance group cflowd direct-export collector

Description

Commands in this context display cflowd direct-export collector output.

Parameters

collector-id

Specifies the ID of the cflowd direct export collector.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of the **collector** command information.

Output Example

```
A:Sim# show application-assurance group 1 cflowd direct-export collector 1
===============================================================================
Application Assurance Group 1 Cflowd Direct-Export Collector 1
===============================================================================
Collector Status : Inactive
VLAN Id          : N/A
Cflowd Version   : 10
Admin State      : down
Description      : (Not Specified)
-------------------------------------------------------------------------------
Host Address                Port      Admin   Oper        Records Sent
-------------------------------------------------------------------------------
192.168.2.1                 4739      DOWN    DOWN        0
192.168.2.2                 4739      down    down        0
-------------------------------------------------------------------------------
No. of Cflowd Direct Export Collector Addresses: 2
===============================================================================
Application Assurance Group 1 Cflowd Collectors
Collector Status            : Active
===============================================================================
Address      : 192.168.2.1
Port         : 4739
Description  :
Version      : 10
Admin State  : down
Oper State   : down
Records Sent : 5400
Last Changed : 08/12/2015 19:12:28
Address      : 192.168.2.2
Port         : 4739
Description  :
Version      : 10
Admin State  : down
Oper State   : down
Records Sent : 5400
Last Changed : 08/12/2015 19:12:35
===============================================================================
             status [isa <slot/mda>] cflowd
```

collector

Syntax

collector [*ip-address*[**:***port*]] [**detail**]

Context

[Tree] (show>cflowd collector)

Full Context

show cflowd collector

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays administrative and operational status of data collector configuration.

Parameters

ip-address

Displays information only about the specified collector IP address.

Default all collectors

:*port*

Displays information only about the collector on the specified UDP port.

Default all UDP ports

Values 1 to 65535

detail

Displays details about either all collectors or the specified collector.

Platforms

All

Output

The following output is an example of cflowd collector information, and Table 79: Output fields: cflowd collector describes the output fields.

```
A:node-2# show cflowd collector

===============================================================================
Cflowd Collectors
===============================================================================
Host Address    Port  Version   AS Type   Admin   Oper            Sent
-------------------------------------------------------------------------------
138.120.135.103 2055  v5        peer      up      up              1380 records
138.120.135.103 9555  v8        origin    up      up                90 records
138.120.135.103 9996  v9          -       up      up                 0 packets
138.120.214.224 2055  v5        origin    up      up              1380 records
-------------------------------------------------------------------------------
Collectors : 4
===============================================================================
```

Table 79: Output fields: cflowd collector

Label	Description
Host Address	The IP address of a remote cflowd collector host to receive the exported cflowd data
Port	The UDP port number on the remote cflowd collector host to receive the exported cflowd data
AS Type	The style of AS reporting used in the exported flow data

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	origin — reflects the endpoints of the AS path which the flow is following
	peer — reflects the AS of the previous and next hops for the flow
Version	Specifies the configured version for the associated collector
Admin	The desired administrative state for this cflowd remote collector host
Oper	The current operational status of this cflowd remote collector host
Recs Sent	The number of cflowd records that have been transmitted to this remote collector host
Collectors	The total number of collectors using this IP address

The following output is an example of cflowd collector information, and Table 80: Output fields: cflowd collector detail describes the output fields.

Output Example

```
A:node-2# show cflowd collector detail
===============================================================================
Cflowd Collectors  (detail)
===============================================================================
Address                      : 138.120.135.103
Port                         : 2055
Description                  : Test v5 Collector
Version                      : 5
AS Type                      : peer
Admin State                  : up
Oper State                   : up
Records Sent                 : 1260
Last Changed                 : 09/03/2009 17:24:04
Last Pkt Sent                : 09/03/2009 18:07:10
-------------------------------------------------------------------------------
                                            Sent          Open       Errors
-------------------------------------------------------------------------------
                                              42             0            0
===============================================================================
Address                      : 138.120.135.103
Port                         : 9555
Router                       : management
Description                  : Test v8 Collector
Version                      : 8
AS Type                      : origin
Admin State                  : up
Oper State                   : up
Records Sent                 : 82
Last Changed                 : 09/03/2009 17:24:04
Last Pkt Sent                : 09/03/2009 18:06:41
-------------------------------------------------------------------------------
Aggregation Type              Status           Sent          Open       Errors
-------------------------------------------------------------------------------
as-matrix                    Disabled            0             0            0
protocol-port                Disabled            0             0            0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
source-prefix                Enabled           21            0            0
destination-prefix           Enabled           21            0            0
source-destination-prefix    Disabled           0            0            0
raw                          Disabled           0            0            0
===============================================================================
Address                      : 138.120.135.103
Port                         : 9996
Description                  : Test v9 Collector
Version                      : 9
Admin State                  : up
Oper State                   : up
Packets Sent                 : 51
Last Changed                 : 09/03/2009 17:24:04
Last Pkt Sent                : 09/03/2009 18:07:10
Template Set                 : Basic

-------------------------------------------------------------------------------
Traffic Type                   Sent                Open              Errors
 Template Sent
-------------------------------------------------------------------------------
IPv4                             51                  1                   0
 09/03/2009 18:07:29

MPLS                             0                   0                   0
 No template sent

IPv6                             0                   0                   0
 No template sent

L2                               0                   0                   0
 No template sent

IE315                            0                   0                   0
 No template sent


===============================================================================
```

Table 80: Output fields: cflowd collector detail

Label	Description
Address	The IP address of a remote cflowd collector host to receive the exported cflowd data
Port	The UDP port number on the remote cflowd collector host to receive the exported cflowd data
Router	The router
Description	A user-provided descriptive string for this cflowd remote collector host
Version	The version of the flow data sent to the collector
AS Type	The style of AS reporting used in the exported flow data
	origin — reflects the endpoints of the AS path which the flow is following

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	peer — reflects the AS of the previous and next hops for the flow
Admin State	The desired administrative state for this cflowd remote collector host
Oper State	The current operational status of this cflowd remote collector host
Records Sent	The number of cflowd records that have been transmitted to this remote collector host
Last Changed	The time when this row entry was last changed
Last Pkt Sent	The time when the last cflowd packet was sent to this remote collector host
Aggregation Type	The bit mask which specifies the aggregation schemes used to aggregate multiple individual flows into an aggregated flow for export to this remote host collector
	none — no data will be exported for this remote collector host
	raw — flow data is exported without aggregation in version 5 format
	All other aggregation types use version 8 format to export the flow data to this remote host collector
Collectors	The total number of collectors using this IP address
Status	The status of the aggregation type
Sent	The number of packets with flow date sent to the associated collector
Open	This counter shows the number of partially filled packets which have some flow data but are not yet filled or have been timed out (60 seconds maximum)
Errors	This counter increments when there was an error during exporting of the collector packet; the most common reason will be a UDP unreachable destination for the configured collector
Packets sent	The number of packets sent
Template set	The template set sent to the collector when using cflowd version 9 or version 10. basic – basic flow data is sent mpls-ip – extended flow data is sent, which includes IP and MPLS flow information

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	l2-ip – extended flow data is sent, which includes Layer 2 (Ethernet) and IP flow information. This template is only applicable for version 10 IPFIX collectors. mpls-transport – flow statistics for MPLS traffic using only the outer transport label, EXP bit value, and ingress interface as the flow identifier. This template enables the collection of flow statistics on a core router to develop LSP usage statistics.
Traffic Type	The traffic type
Template sent	The time and date at which the template is sent

6.49 commit-history

commit-history

Syntax

commit-history

commit-history [*keyword*] [**commit-id** *number*]

Context

[Tree] (show>system>management-interface commit-history)

Full Context

show system management-interface commit-history

Description

This command displays the history of configuration changes that were committed in model-driven interfaces. A separate history of the last commits is maintained for each configuration region (bof, configure, debug, and LI). Each commit is uniquely identified by a numerical sequential incrementing commit ID assigned by the system.

When a gNMI, NETCONF, or MD-CLI Set request starts a commit transaction, an entry, including the persist ID and rollback duration, displays in the router commit history. When the system confirms the commit, the commit history displays the confirmation or, if the commit is not confirmed and the rollback duration expires, the commit history displays a rollback entry.

Note:
This command is not available in the classic CLI.

Parameters

keyword

Specifies the configuration region to display.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values bof, configure, debug, li

Default configure

number

Specifies the commit history ID to display.

Values 1 to 4294967295

Platforms

All

Output

The following output is an example of commit history information, and Table 81: Output fields: commit history describes the commit history output fields.

Output Example

```
A:admin@node-2# show system management-interface commit-history
===============================================================================
Commit History
===============================================================================
Total Commits : 6

6
  Committed 2024-05-24T20:37:09.1+00:00 by system (System) from Console
  Log       "Confirmed commit timeout, automatic rollback of commit ID 5."
  Location  "Configuration is not saved to startup."
5
  Committed 2024-05-24T20:31:06.4+00:00 by admin (gNMI) from 200::
  Log       "Confirmed commit (persist ID 123), rollback in 10 minutes."
  Location  "Configuration is not saved to startup."
4
  Committed 2022-02-01T11:13:38.7-05:00 by admin (NETCONF) from 10.1.236.68
  Comment   "Fourth commit with NETCONF."
  Location  "cf3:\config.cfg"
3
  Committed 2022-02-01T11:01:03.8-05:00 by admin (MD-CLI) from 10.1.145.205
  Comment   "Third commit with the MD-CLI."
  Location  "cf3:\config.cfg.1"
2
  Committed 2022-02-01T11:00:47.7-05:00 by admin (MD-CLI) from 10.1.145.205
  Comment   "Second commit with the MD-CLI."
  Location  "cf3:\config.cfg.2"
1
  Committed 2022-02-01T10:56:01.3-05:00 by system (MD-CLI) from Console
  Log       "System booted version B-22.2.R1."
  Location  "Configuration is not saved to startup."
```

Table 81: Output fields: commit history

Label	Description
Commit ID	Displays the commit ID.
Committed	Displays the date and time when the commit completed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
By	Displays the user and interface type that committed.
From	Displays the origin of the commit operation.
Comment	Displays the comment added by the user.
Log	Displays the log added by the system.
Increment	Displays the incremental saved configuration file location.
Location	Displays the complete saved configuration file location.

6.50 community

community

Syntax

community *community-string*

Context

[Tree] (show>system>security>snmp community)

Full Context

show system security snmp community

Description

This command lists SNMP communities and characteristics. Including the *community-name* parameter modifies the output to include all details for the specified community, including the source IP address list and validation failure counters.

Platforms

All

Output

The following output is an example of SNMP community information.

Table 82: Output fields: community describes the community output fields.

Output Example

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Note:
The system-created communities that begin with "cli-" are only used for internal CLI management purposes and are not exposed to external SNMP access.

```
A:ALA-1# show system security snmp community
===============================================================================
Communities
===============================================================================
community           access  view                version   group name
-------------------------------------------------------------------------------
cli-li-readwrite    n/a     li-view             v2c       cli-li-readwrite
cli-readonly        r       iso                 v2c       cli-readonly
cli-readwrite       rw      iso                 v2c       cli-readwrite
my-private1         rw      iso                 v1 v2c    snmp-rwa
my-public2          r       no-security         v1 v2c    snmp-ro
test-123            rwa     n/a                 v2c       snmp-trap
-------------------------------------------------------------------------------
No. of Communities: 6
===============================================================================
A:ALA-1#


A:ALA-1# show system security snmp community "my-public2"
===============================================================================
Communities
===============================================================================
community           access  view                    version   group name
                            src-access-list                   authFailures
-------------------------------------------------------------------------------
my-public2          r       no-security             v1 v2c    snmp-ro
                            my-list1                          5
===============================================================================
A:ALA-1#
```

Table 82: Output fields: community

Label	Description
Community	Displays the community string name for SNMPv1 and SNMPv2c access only.
Access	Displays access information. r — The community string allows read-only access. rw — The community string allows read-write access. rwa — The community string allows read-write access. mgmt — The unique SNMP community string assigned to the management router. vpls-mgmt — The unique SNMP community string assigned for vpls management.
View	Displays the view name.
Version	Displays the SNMP version.
Group Name	Displays the access group name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
src-access-list	Displays the name of the list of source IP addresses that are allowed to use the community, as configured using the **community** configuration command.
authFailures	Displays the number of SNMP requests that have failed validation using this **community**.
No of Communities	Displays the total number of configured community strings.

community

Syntax

community *comm-id* {**detail** | **longer**}

community *comm-id*

community *comm-id* **hunt**

Context

[Tree] (show>router>bgp>routes community)

Full Context

show router bgp routes community

Description

This command displays BGP routes with routes with a community value matching the specified value.

community is a parameter of the **show router bgp routes** command. Depending on the parameters that are used to issue the command, the output can display a narrower or wider set of routes, including routes belonging to other address families. See the **show router bgp routes** command description for syntax variants, parameter descriptions and values, and output examples.

Parameters

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

– {*target* | *origin*}:*ext-asnum*:*comm-val*
– **bandwidth**:*asnum*:*val-in-mbps*
– **ext:4300**:*ovstate*
– **ex \t**:*value1*:*value2*
– **flowspec-set**:*ext-asnum*:*group-id*

where:

– *target* — route target
– *origin* — route origin
– *ip-address* — a.b.c.d
– *ext-comm-val* — 0 to 4294967295
– *ext-asnum* — 0 to 4294967295
– **bandwidth** — bandwidth
– *val-in-mbps* — 0 to 16777215
– **ext** — extended
– **ext:4300** — origin verification
– *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
– *value1* — 0000 to FFFF
– *value2* — 0 to FFFFFFFFFFFF
– **flowspec-set —** flow-spec set
– *group-id* — 0 to 16383

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

hunt

Displays entries for the specified route.

Platforms

All

6.51 completed

completed

Syntax

completed [*script-policy-name*] [**owner** *owner-name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>system>script-control>script-policy completed)

Full Context

clear system script-control script-policy completed

Description

This command clears completed script run history entries.

Parameters

script-policy-name

Specifies to only clear history entries for the specified script-policy. 32 characters maximum.

owner-name

Specifies to only clear history entries for script-policies with the specified owner. 32 characters maximum.

Default TiMOS CLI

Platforms

All

6.52 comprehensive

comprehensive

Syntax

comprehensive fields

Context

[Tree] (show>app-assure>cflowd comprehensive)

Full Context

show application-assurance cflowd comprehensive

Description

This command displays the fields in the AA cflowd comprehensive template.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of AA cflowd comprehensive template fields, and Table 83: Output fields: AA cflowd comprehensive describes the output fields.

Output Example

```
show application-assurance cflowd comprehensive fields

===============================================================================
Fields for Application Assurance cflowd comprehensive template
===============================================================================
Name                            ID     Len Mode  Dy Description
-------------------------------------------------------------------------------
aaApp                           32770  32  MRVL  *  AA Application
aaAppGrp                        32771  32  MRVL  *  AA Application Group
aaChargingGrp                   32888  32  MRVL  *  AA Charging Group
aaProt                          32769  32  MRVL  *  AA Protocol
aaSubTetheringState             32896  1   MRVL  *  AA subscriber tethering
                                                    state
aaSubType                       32780  1   MRVL  .  AA Subscriber Type
aaSystemName                    32970  32  -R--  *  system name
anlCongestionState              32874  1   MRVL  *  access network location
                                                    congestion state
anlTopology                     32873  16  MRVL  *  access network location
                                                    topology
anlType                         32872  1   MRVL  *  access network location
                                                    type
apn                             32876  33  MRV-  *  access point name
apnExtended                     32928  64  MRV-  *  extended access point name
bsid                            32883  12  MRV-  *  base station id
cellId                          32886  4   MRV-  *  cell id
cellIdExt                       32971  5   -R--  *  cell id or 5G NR CGI
chargeId                        32877  4   MRV-  *  charging group id
chargeVolumeIpBytes             32943  8   MR--  *  Charging volume bytes
chargingChar                    32901  2   MRV-  *  3GPP charging
                                                    characteristic
chargingRatingGrp               32921  4   M---  *  online/offline charging
                                                    rating group
chargingServiceId               32929  4   M---  *  online/offline charging
                                                    service-id
customerId                      32902  4   M---  *  Customer identifier
destinationIPv4Address          12     4   MRVL  .  Destination IPv4 address
destinationIPv6Address          28     16  MRVL  .  Destination IPv6 address
destinationTransportPort        11     2   MRVL  .  Destination transport port
deviceId                        32865  2   MRVL  *  device ID
deviceMfgId                     32866  2   MRVL  *  device manufacturer ID
deviceOsId                      32867  2   MRVL  *  device operating system ID
deviceOsVer1                    32869  1   MRVL  *  device operating system
                                                    version number 1
deviceOsVer2                    32870  1   MRVL  *  device operating system
                                                    version number 2
deviceOsVer3                    32871  1   MRVL  *  device operating system
                                                    version number 3
dnsAnswerName                   32952  64  MR--  *  DNS answer name
dnsState                        32954  1   MR--  *  DNS state
dnsTid                          32955  2   MR--  *  DNS TID
dnsType                         32953  2   MR--  *  DNS type
droppedOctetTotalCount          134    8   MRVL  .  Dropped octet total count
droppedPacketTotalCount         135    8   MRVL  .  Dropped packet total count
flowActiveBytes                 32946  8   MR--  *  Flow active bytes
flowActiveTime                  32945  4   MR--  *  Flow active time
flowAttr_abr_service            32890  1   MRVL  *  flow attribute: abr
                                                    service
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
flowAttr_audio                   32891  1   MRVL  *  flow attribute: audio
flowAttr_download                32893  1   MRVL  *  flow attribute: download
flowAttr_encrypted               32892  1   MRVL  *  flow attribute: encrypted
flowAttr_esni                    32907  1   MRVL  *  flow attribute: encrypted
                                                     SNI
flowAttr_realtime_communication  32895  1   MRVL  *  flow attribute: real time
                                                     communication
flowAttr_upload                  32894  1   MRVL  *  flow attribute: upload
flowAttr_video                   32889  1   MRVL  *  flow attribute: video
flowAverageBitrate               32956  4   MRVL  *  average flow throughput
flowEndReason                    136    1   -R--  *  Reason for flow
                                                     termination
flowPeakBitrate                  32958  4   MRVL  *  peak flow throughput
hostName                         32864  64  MRVL  *  host name
hostNameExtended                 32920  101 MRVL  *  host name extended
httpContentLength                32939  4   MRVL  *  HTTP Content Length
httpContentType                  32938  64  MRVL  *  HTTP Content Type
httpReferer                      32933  64  MRVL  *  HTTP Referer
httpReplyCode                    32937  2   MRVL  *  HTTP Reply Code
httpRequestMethod                32936  7   MRVL  *  HTTP Request Method
httpUri                          32931  227 MRVL  *  HTTP URI
httpUriLength                    32932  2   MRVL  *  HTTP URI Length
httpUserAgent                    32934  64  MRVL  *  HTTP User Agent
httpUserAgentLength              32935  2   MRVL  *  HTTP User Agent Length
imei                             32897  8   MRV-  *  International Mobile
                                                     Equipment Identity
imei-aes-128                     32916  32  MRV-  *  imei AES-128 encrypted
imei-aes-256                     32919  32  MRV-  *  imei AES-256 encrypted
imei-sha-1                       32910  20  MRV-  *  imei SHA-1 hashed
imei-sha-256                     32913  32  MRV-  *  imei SHA-256 hashed
imsi                             32879  8   MRV-  *  international mobile
                                                     subscriber identity
imsi-aes-128                     32915  16  MRV-  *  imsi AES-128 encrypted
imsi-aes-256                     32918  16  MRV-  *  imsi AES-256 encrypted
imsi-sha-1                       32909  20  MRV-  *  imsi SHA-1 hashed
imsi-sha-256                     32912  32  MRV-  *  imsi SHA-256 hashed
interfaceName                    82     32  MRVL  .  Interface name
ipFamily                         32868  1   MRVL  *  IP Family
ipTTL                            192    1   MRVL  *  IP packet time to live
mcc                              32899  2   MRV-  *  Mobile country code
mmeAmfAddr                       32949  16  MR--  *  SGSN MME IP Address
mnc                              32878  2   MRV-  *  mobile network code
msisdn                           32880  8   MRV-  *  mobile station
                                                     international subscriber
                                                     directory number
msisdn-aes-128                   32914  16  MRV-  *  msisdn AES-128 encrypted
msisdn-aes-256                   32917  16  MRV-  *  msisdn AES-256 encrypted
msisdn-sha-1                     32908  20  MRV-  *  msisdn SHA-1 hashed
msisdn-sha-256                   32911  32  MRV-  *  msisdn SHA-256 hashed
multiDevice                      32930  2   MRVL  *  multi-device detection
                                                     tracked device
observationPointId               138    4   MRVL  .  Observation point Id
octetTotalCount                  85     8   MRVL  .  Octet total count
packetTotalCount                 86     8   MRVL  .  Packet total count
pgw-ggsnAddr                     32882  16  MRV-  *  public data network
                                                     gateway
plmnid                           32903  4   MRV-  *  Public land mobile
                                                     network identifier
policyActionRuleUnitName         32926  33  M---  *  policy action rule unit
                                                     name
policyChargingRuleUnitName       32925  33  M---  *  policy charging rule unit
                                                     name
policyRuleBaseName               32922  81  M---  *  policy rule base name
policyRuleName                   32923  81  MR--  *  policy rule name
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
policyRuleUnitName               32924  33  M---  *  policy rule unit name
postIpPrecedence                 257    1   MRVL  *  Post IP precedence
pra-id                           32940  4   M---  *  presence reporting area ID
protocolIdentifier               4      1   MRVL  .  Protocol Identifier
qci                              32927  4   MR--  *  3gpp QCI
ratType                          32884  2   MRV-  *  radio access technology
                                                     type
regionId                         32885  2   MRV-  *  region id
regionIdExt                      32972  3   -R--  *  region id or 5G TAC
roamingStatus                    32898  1   M---  *  Roaming status
sessionDirection                 32781  1   MRVL  .  Session Direction
sessionDurationMilliseconds      32862  4   MRVL  *  session duration
sessionEndMilliseconds           32969  8   -R--  *  session end time in
                                                     milliseconds
sessionEndSeconds                32875  4   MRVL  *  session end time
sessionStartMilliseconds         32968  8   -R--  *  session start time in
                                                     milliseconds
sessionStartSeconds              32863  4   MRVL  *  session start time
sgw-sgsnAddr                     32881  16  M---  *  serving gateway
sliceId                          32951  4   MR--  *  Slice ID
sourceIPv4Address                8      4   MRVL  .  Source IPv4 address
sourceIPv6Address                27     16  MRVL  .  Source IPv6 address
sourceTransportPort              7      2   MRVL  .  Source transport port
tcpMaximumSegmentSize            32966  2   MRVL  *  maximum TCP segment size
tcpRetransmittedBytes            32778  8   MRVL  *  TCP Retransmitted Bytes
tcpRetransmittedPackets          32779  8   MRVL  *  TCP Retransmitted Packets
tcpRoundTripTimeAvg              32964  2   MRVL  *  average TCP round trip
                                                     time in milliseconds
tcpRoundTripTimeMax              32962  2   MRVL  *  maximum TCP round trip
                                                     time in milliseconds
tcpRoundTripTimeMin              32960  2   MRVL  *  minimum TCP round trip
                                                     time in milliseconds
tcpSessionEstDelay               32772  4   MRVL  *  TCP Session Establishment
                                                     Delay
timeZone                         32887  2   M---  *  time zone
tlsCname                         32950  64  MR--  *  TLS cname
uli                              32900  18  MRV-  *  User location information
wireless-device-os-id            32941  1   MRV-  *  wireless device operating
                                                     system ID
wireless-device-type-id          32942  1   MRV-  *  wireless device type ID
-------------------------------------------------------------------------------
Legend :
  Mode (aa-sub-scale mode)   M mobile-gateway
                             R residential
                             V vpn
                             L lightweight-internet
  Dy (dynamic field)         . always included in this record type
                             * can be dynamically included in this record type
===============================================================================
```

Table 83: Output fields: AA cflowd comprehensive

Label	Description
Name	Displays the name of the template field.
ID	Displays the ID of the template field.
Len	Displays the string length of the template field.
Mode	Displays the mode:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• M — mobile gateway • R — residential • V — VPN • L — lightweight Internet
Dy	Displays whether the field is dynamic: • . — always included in this record type • * — can be dynamically included in this record type
Description	Displays the description of the template field.

6.53 config

config

Syntax

config

Context

[Tree] (show config)

Full Context

show config

Description

Note: This command is no longer supported and will be removed in a future release.

Platforms

All

6.54 configuration-mode

configuration-mode

Syntax

configuration-mode {**mixed** | **model-driven**} **check** [**li** | **configure**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>perform>system>management-interface configuration-mode)

Full Context

tools perform system management-interface configuration-mode

Description

This command checks if the configuration meets the prerequisite reference requirements to change the management interface configuration mode. Incompatible configuration commands are displayed with an error reason if the prerequisite is not met. This command does not check if the configuration has commands that are unsupported in model-driven interfaces.

Parameters

mixed

Specifies to check mixed management interface configuration mode.

model-driven

Specifies to check model-driven management interface configuration mode.

li

Specifies to only check the li configuration region.

configure

Specifies to only check the configure configuration region.

Platforms

All

6.55 configuration-sessions

configuration-sessions

Syntax

configuration-sessions

Context

[Tree] (show>system>management-interface configuration-sessions)

Full Context

show system management-interface configuration-sessions

Description

This command displays configuration sessions information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of configuration session information. Table 84: Output fields: configuration sessions describes the output fields.

Output Example

```
(pr)[]
A:admin@node-1# show system management-interface configuration-sessions
================================================================================
Session ID  Region                Datastore                    Lock State
   Username                       Session Mode                 Idle Time
   Session Type                   From
--------------------------------------------------------------------------------
#65         configure             Candidate                    Unlocked
   admin                          Private                      0d 00:00:00
   MD-CLI                         192.168.0.10
 66         configure             Candidate                    Unlocked
   admin                          Private                      0d 00:05:41
   MD-CLI                         192.168.0.10
 67         configure             Candidate                    Unlocked
   admin                          Private                      0d 00:05:08
   MD-CLI                         192.168.0.10
 68         configure             Candidate                    Unlocked
   admin                          Read-Only                    0d 00:02:25
   MD-CLI (2)                     192.168.0.10
 69         configure             Candidate, Running           Locked
   admin                          Exclusive                    0d 00:01:54
   MD-CLI                         192.168.0.10
--------------------------------------------------------------------------------
Number of sessions: 5
'#' indicates the current active session
'(n)' indicates the number of internal sessions
================================================================================
```

Table 84: Output fields: configuration sessions

Label	Description
Session ID	The session ID.
Region	The region or scope that the datastore belongs to.
Datastore	Datastores that can be locked. For example: Running and Candidate.
Lock State	Locked — Indicates the session is in a locked state. Unlocked — Indicates the session is in an unlocked state.
Username	The name of the user.
Session Mode	Exclusive — An exclusive session. Global — A shared session. Private — A private session.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Private Exclusive — A private exclusive session. Read-Only — A read-only session.
Idle Time	The idle time of the session.
Session Type	NETCONF — Indicates a NETCONF session is running. MD-CLI — Indicates an MD-CLI session is running. gRPC — Indicates a gRPC session is running. SNMP — Indicates an SNMP session is running. Classic CLI — Indicates a classic CLI session is running. System — Indicates a system session is running.
From	The originating IP address, CRON, or EHS.

6.56 connection-profile-vlan

connection-profile-vlan

Syntax

connection-profile-vlan [*conn-prof-id*]

Context

[Tree] (show connection-profile-vlan)

Full Context

show connection-profile-vlan

Description

This command displays information about the connection-profiles (VLAN) in the system. When a specific connection profile is shown, the vlan-ranges that it contains are displayed.

Parameters

conn-prof-id

Specifies the VLAN connection profile ID.

Values 1 to 8000

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of connection profile VLAN information.

Output Example

```
*A:Dut# show connection-profile-vlan
===============================================================================
Connection Profile Vlan Summary Information
===============================================================================
CP Index                                Number of Members
-------------------------------------------------------------------------------
1                                       2
===============================================================================
*A:Dut# show connection-profile-vlan 1
===============================================================================
Connection Profile 1 Information
===============================================================================
Description : (Not Specified)
Last Change : 12/01/2015 16:50:34
===============================================================================
Connection Profile Vlan Eth Information
===============================================================================
Range Start         Range End                     Last Change
-------------------------------------------------------------------------------
5                   100                           12/01/2015 16:50:34
150                 300                           12/01/2015 16:50:34
===============================================================================
```

6.57 connections

connections

Syntax

connections

Context

[Tree] (show>li>x-interfaces connections)

Full Context

show li x-interfaces connections

Description

This command displays the connections between the X1, X2, and X3 interfaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

connections

Syntax

connections [**detail**] [**address** *ip-address*] [**port** *port-number*]

Context

[Tree] (show>system connections)

Full Context

show system connections

Description

This command displays UDP and TCP connection information.

If no command line options are specified, a summary of the TCP and UDP connections displays.

Entries in the output with a vRtrID of 4095 and a local address of 127.x.x.x are internal connections serving internal SR OS purposes, and are not used for external protocols.

Parameters

ip-address

Displays only the connection information for the specified IP address.

Values

ipv4-address:	a.b.c.d (host bits must be 0)	
ipv6-address:	x:x:x:x:x:x:x:x[-interface]	
	x:x:x:x:x:x:d.d.d.d[-interface]	
	where	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
	interface:	up to 32 characters, mandatory for link local addresses

port-number

Displays only the connection information for the specified port number.

Values 0 to 65535

detail

Appends TCP statistics to the display output.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of system connections information, and Table 85: Output fields: system connections describes the output fields.

Output Example

```
A:ALA-12# show system connections
===============================================================================
Connections
===============================================================================
Prot RecvQ   TxmtQ   Local Address                                       State
                MSS  Remote Address                                         vRtrID
-------------------------------------------------------------------------------
TCP        0       0 0.0.0.0.21                                          LISTEN
               1024  0.0.0.0.0                                                0
TCP        0       0 0.0.0.0.22                                          LISTEN
               1024  0.0.0.0.0                                                0
TCP        0       0 0.0.0.0.23                                          LISTEN
               1024  0.0.0.0.0                                                0
TCP        0       0 0.0.0.0.830                                         LISTEN
               1024  0.0.0.0.0                                                0
TCP        0       0 0.0.0.0.6068                                        LISTEN
               1024  0.0.0.0.0                                                0
TCP        0       0 0.0.0.0.47806                                       LISTEN
               1024  0.0.0.0.0                                                0
TCP        0       0 ::.21                                               LISTEN
               1024  ::.0                                                     0
TCP        0       0 ::.22                                               LISTEN
               1024  ::.0                                                     0
TCP        0       0 ::.830                                              LISTEN
               1024  ::.0                                                     0
TCP        0       0 ::.47806                                            LISTEN
               1024  ::.0                                                     0
TCP        0       0 192.168.0.11.21                                     LISTEN
               1024  0.0.0.0.0                                              4095
TCP        0       0 192.168.0.11.21059                                  LISTEN
               1024  0.0.0.0.0                                              4095
TCP        0       0 172.31.129.98.22                                    LISTEN
               1024  0.0.0.0.0                                              4095
TCP        0       0 172.31.129.98.23                                    ESTABLISH
               1024  192.168.140.149.59042                                  4095
TCP        0    1149 172.31.129.98.23                                    ESTABLISH
               1024  192.168.140.244.58579                                  4095
TCP        0       0 172.31.129.98.830                                   LISTEN
               1024  0.0.0.0.0                                              4095
TCP        0       0 2001:db8::8779:8163.22                              LISTEN
               1024  ::.0                                                   4095
TCP        0       0 2001:db8::8779:8163.830                             LISTEN
               1024  ::.0                                                   4095
UDP        0       0 0.0.0.0.67                                           ---
                     0.0.0.0.0                                                0
UDP        0       0 0.0.0.0.68                                           ---
                     0.0.0.0.0                                                0
UDP        0       0 0.0.0.0.123                                          ---
                     0.0.0.0.0                                                0
UDP        0       0 0.0.0.0.319                                          ---
                     0.0.0.0.0                                                0
UDP        0       0 0.0.0.0.320                                          ---
                     0.0.0.0.0                                                0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
UDP        0       0 0.0.0.0.514                                         ---
                     0.0.0.0                                                0
UDP        0       0 0.0.0.0.50055                                       ---
                     0.0.0.0                                                0
UDP        0       0 ::.123                                              ---
                     ::.0                                                   0
UDP        0       0 ::.50056                                            ---
                     ::.0                                                   0
UDP        0       0 0.0.0.0.1025                                        ---
                     0.0.0.0                                                1
UDP        0       0 0.0.0.0.123                                         ---
                     0.0.0.0                                             4095
UDP        0       0 0.0.0.0.49152
-------------------------------------------------------------------------------
No. of Connections: 18
===============================================================================
A:ALA-12#
```

Output Example: detail

```
A:ALA-12# show system connections detail
-------------------------------------------------------------------------------
 TCP Statistics
-------------------------------------------------------------------------------
packets sent                                : 659635
data packets                                : 338982 (7435146 bytes)
data packet retransmitted                   : 73 (1368 bytes)
ack-only packets                            : 320548 (140960 delayed)
URG only packet                             : 0
window probe packet                         : 0
window update packet                        : 0
control packets                             : 32
packets received                            : 658893
acks                                        : 338738 for (7435123 bytes)
duplicate acks                              : 23
ack for unsent data                         : 0
packets received in-sequence                : 334705 (5568368 bytes)
completely duplicate packet                 : 2 (36 bytes)
packet with some dup. data                  : 0 (0 bytes)
out-of-order packets                        : 20 (0 bytes)
packet of data after window                 : 0 (0 bytes)
window probe                                : 0
window update packet                        : 3
packets received after close                : 0
discarded for bad checksum                  : 0
discarded for bad header offset field       : 0
discarded because packet too short          : 0
connection request                          : 4
connection accept                           : 24
connections established (including accepts) : 27
connections closed                          : 26 (including 2 drops)
embryonic connections dropped               : 0
segments updated rtt                        : 338742 (of 338747 attempts)
retransmit timeouts                         : 75
connections dropped by rexmit timeout       : 0
persist timeouts                            : 0
keepalive timeouts                          : 26
keepalive probes sent                       : 0
connections dropped by keepalive            : 1
pcb cache lookups failed                    : 0
connections dropped by bad md5 digest       : 0
connections dropped by enhanced auth        : 0
path mtu discovery backoff                  : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
A:ALA-12#
```

Table 85: Output fields: system connections

Label	Description
Proto	The socket protocol, either TCP or UDP.
RecvQ	The number of input packets received by the protocol.
TxmtQ	The number of output packets sent by the application.
Local Address	The local address of the socket. The socket port is separated by a period.
Remote Address	The remote address of the socket. The socket port is separated by a period.
State	Listen — The protocol state is in the listen mode. Established — The protocol state is established. vRtrID — The virtual router identifier. • vRtrID 0 — listens for connections in all routing instances including the Base and management VRFs. • vRtrID 1 — Base routing instance • vRtrID 4095 — management routing instance MSS — The TCP maximum segment size.

6.58 connectivity-association

connectivity-association

Syntax

connectivity-association [*ca-name*] [**detail**]

connectivity-association [**detail**] **type** {**anysec** | **macsec**}

Context

[Tree] (show>macsec connectivity-association)

Full Context

show macsec connectivity-association

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays MACsec specific CA information.

Parameters

ca-name

Displays MACsec information for the specified CA name, up to 256 characters in length.

detail

Displays MACsec CA detailed information.

anysec

Displays ANYsec CA information.

macsec

Displays MACsec CA information.

Platforms

All

Output

See the following output examples:

- Output Example: show macsec connectivity-association
- Output Fields: show macsec connectivity-association
- Output Example: show macsec connectivity-association <ca-name>
- Output Fields: show macsec connectivity-association <ca-name>
- Output Example: show macsec connectivity-association <ca-name> detail
- Output example: show macsec connectivity-association type anysec detail
- Output example: show macsec connectivity-association type macsec detail

Output Example: show macsec connectivity-association

```
A:Dut-C# show macsec connectivity-association
===============================================================================
ca-name            : dut_B_C_128_01
ca-name            : dut_B_C_256_01
ca-name            : dut_B_C_128_xpn_01
ca-name            : dut_B_C_256_xpn_01
ca-name            : to_Juniper_1_1_2__1
ca-name            : abcdefghijklmnoprstuvxyz@!
===============================================================================
```

Output Fields: show macsec connectivity-association

Table 86: Output fields: MACsec connectivity association describes the output fields for the **show macsec connectivity-association** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 86: Output fields: MACsec connectivity association

Label	Description
ca-name	Specifies the CA name.

Output Example: show macsec connectivity-association <ca-name>

```
A:Dut-C# show macsec connectivity-association "abcdefghijklmnoprstuvxyz@!"
===============================================================================
Connectivity Association "abcdefghijklmnoprstuvxyz@!"
===============================================================================
Admin State        : Up
Description        : alsfjalsfjafja;lsjflasjflasjfl
Replay Protection  : Disabled
Replay Window Size : 333
Macsec Encrypt     : Enabled
Clear Tag Mode     : dual-tag
Cipher Suite       : gcm-aes-256
Encryption Offset  : 30
Assigned ports     : 2/1/9 2/1/10
-------------------------------------------------------------------------------
Static Cak
-------------------------------------------------------------------------------
MKA Key Server Priority      : 16
Active Pre-Shared-Key Index  : 1
Active Pre-Shared-Key CKN    : aabbccddeeff00112233445566778899
===============================================================================
```

Output Fields: show macsec connectivity-association <ca-name>

Table 87: Output fields: MACsec connectivity association name describes the output fields for the **show macsec connectivity-association <ca-name>** command.

Table 87: Output fields: MACsec connectivity association name

Label	Description
Admin State	Up — The CA is administratively up. Down — The CA is administratively down. If port <x/y/z> ethernet>macsec is shutdown, the admin state will be down. Otherwise, the admin state is up.
Description	Specifies a user description for this CA.
Replay Protection	Enabled — Replay Protection is enabled. Disabled — Replay Protection is disabled. If replay protection is enabled for this CA, the out of window packet will be discarded.
Replay Window Size	Specifies the size, in packets, of the replay window.
Macsec Encrypt	Enabled — MACsec is enabled. Disabled — MACsec is disabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Clear Tag Mode	Specifies the clear tag mode: single-tag, dual-tag.
Cipher Suite	Specifies the cipher suite used for encrypting the SAK: gcm-aes-128, gcm-aes-256, gcm-aes-xpn-128, gcm-aes-xpn-256.
Encryption Offset	Specifies the encryption offset configured on this node: 0, 30, 50.
Assigned ports	Specifies all ports that contain this CA.
MKA Key Server Priority	Specifies the MKA key server priority: 0-255 (default 16).
Active Pre-Shared Key Index	Specifies the active pre-shared key index: 1-2 (default 1).
Active Pre-Shared Key CKN	Specifies the active PSK CAK name.

Output Example: show macsec connectivity-association <ca-name> detail

```
A:Dut-C# show macsec connectivity-association "abcdefghijklmnoprstuvxyz@!" detail
===============================================================================
Connectivity Association "abcdefghijklmnoprstuvxyz@!"
===============================================================================
Admin State        : Up
Description        : alsfjalsfjafja;lsjflasjflasjfl
Replay Protection  : Disabled
Replay Window Size : 333
Macsec Encrypt     : Enabled
Clear Tag Mode     : dual-tag
Cipher Suite       : gcm-aes-256
Encryption Offset  : 30
Assigned ports     : 2/1/9 2/1/10
-------------------------------------------------------------------------------
Static Cak
-------------------------------------------------------------------------------
MKA Key Server Priority      : 16
Active Pre-Shared-Key Index  : 1
Active Pre-Shared-Key CKN    : aabbccddeeff00112233445566778899
===============================================================================
```

Output example: show macsec connectivity-association type anysec detail

```
# show macsec connectivity-association type anysec detail

===============================================================================
Connectivity Association "test"
===============================================================================
Admin State        : Up
Description        : (Not Specified)
Cipher Suite       : gcm-aes-128
Encryption Offset  : 0
Encryption Group   : EG-1

-------------------------------------------------------------------------------
Static Cak
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MKA Key Server Priority      : 255
Active Pre-Shared-Key Index  : 2
Hello Interval               : 2
Active Pre-Shared-Key CKN    : 11223344556677889900aabbccddeeff
Encryption Type              : aes-128-cmac
===============================================================================
```

Table 88: Output fields: MACsec connectivity association type ANYsec detail

Label	Description
Encryption Group	Specifies the encryption group for this CA

Output example: show macsec connectivity-association type macsec detail

```
*A:Dut-AS# show macsec connectivity-association type macsec detail

===============================================================================
Connectivity Association "test"
===============================================================================
Admin State        : Down
Description        : (Not Specified)
Delay Protection   : Disabled
Replay Protection  : Disabled
Replay Window Size : 0
Macsec Encrypt     : Enabled
Clear Tag Mode     : none
Cipher Suite       : gcm-aes-128
Encryption Offset  : 0
Assigned ports     : None

-------------------------------------------------------------------------------
Static Cak
-------------------------------------------------------------------------------
MKA Key Server Priority      : 16
Active Pre-Shared-Key Index  : 1
Hello Interval               : 2
Active Pre-Shared-Key CKN    :
Encryption Type              :
===============================================================================
```

6.59 convergence

convergence

Syntax

convergence [*family*]

Context

[Tree] (show>router>bgp convergence)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bgp convergence

Description

This command displays information about how the router reconverged its routing state after the last restart of BGP.

Parameters

family

Specifies an address family for which to display BGP route convergence information.

Values ipv4, ipv6, vpn-ipv4, vpn-ipv6, label-ipv4, label-ipv6

Platforms

All

Output

Table 89: Output fields: BGP convergence describes the BGP convergence output fields.

Use the following command to display BGP route convergence information for routes of all address families.

```
show router bgp convergence
```

Output Example

```
===============================================================================
BGP IPv4 Convergence
===============================================================================
Min wait advertise timer                    : 30
Established peers at min wait timer expiry  : 0
Current established peers                   : 0
First session established time              : 00h00m00s
Last session established time               : 00h00m00s
Max Wait advertise timer                    : 90
Converged peers                             : 0
Converged state                             : converged
Converged time                              : 00h01m22s
===============================================================================

===============================================================================
BGP VPN-IPv4 Convergence
===============================================================================
Min wait advertise timer                    : 30
Established peers at min wait timer expiry  : 1
Current established peers                   : 1
First session established time              : 00h00m52s
Last session established time               : 00h00m52s
Max Wait advertise timer                    : 90
Converged peers                             : 0
Converged state                             : timeout
Converged time                              : N/A
===============================================================================

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
BGP IPv6 Convergence
===============================================================================
Min wait advertise timer                    : 30
Established peers at min wait timer expiry  : 0
Current established peers                   : 0
First session established time              : 00h00m00s
Last session established time               : 00h00m00s
Max Wait advertise timer                    : 90
Converged peers                             : 0
Converged state                             : converged
Converged time                              : 00h01m22s
===============================================================================

===============================================================================
BGP VPN-IPv6 Convergence
===============================================================================
Min wait advertise timer                    : 30
Established peers at min wait timer expiry  : 0
Current established peers                   : 0
First session established time              : 00h00m00s
Last session established time               : 00h00m00s
Max Wait advertise timer                    : 90
Converged peers                             : 0
Converged state                             : converged
Converged time                              : 00h01m22s
===============================================================================

===============================================================================
BGP LABEL-IPv4 Convergence
===============================================================================
Min wait advertise timer                    : 30
Established peers at min wait timer expiry  : 0
Current established peers                   : 0
First session established time              : 00h00m00s
Last session established time               : 00h00m00s
Max Wait advertise timer                    : 90
Converged peers                             : 0
Converged state                             : converged
Converged time                              : 00h01m22s
===============================================================================

===============================================================================
BGP LABEL-IPv6 Convergence
===============================================================================
Min wait advertise timer                    : 30
Established peers at min wait timer expiry  : 0
Current established peers                   : 0
First session established time              : 00h00m00s
Last session established time               : 00h00m00s
Max Wait advertise timer                    : 90
Converged peers                             : 0
Converged state                             : converged
Converged time                              : 00h01m22s
===============================================================================
```

Use the following command to display BGP route convergence information for IPv4 VPN routes.

```
show router bgp convergence vpn-ipv4
```

Output Example

```
===============================================================================
BGP VPN-IPv4 Convergence
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Min wait advertise timer                   : 30
Established peers at min wait timer expiry  : 1
Current established peers                  : 1
First session established time             : 00h00m52s
Last session established time              : 00h00m52s
Max Wait advertise timer                   : 90
Converged peers                            : 0
Converged state                            : timeout
Converged time                             : N/A
===============================================================================
```

Table 89: Output fields: BGP convergence

Label	Description
Min wait advertise timer	The operational value of **min-wait-to-advertise** (0 if the feature is disabled) Use the **min-wait-to-advertise** command in the **configure router bgp convergence** context to configure the minimum amount of time BGP waits after the first session is established, following a BGP-instance restart, before it advertises any routes in a specific set of address families.
Established peers at min wait timer expiry	The number of address-family peers that were established when the **min-wait-to-advertise** command timer value expired (N/A if the feature is disabled)
Current established peers	The current number of address family peers that are in the established state
First session established time	The time, relative to BGP instance restart at time T=0, when the first address family session was established. This stops being tracked when the **min-wait-to-advertise** timer expires.
Last session established time	The time, relative to BGP instance restart at time T=0, when the last address-family session was established.
Max Wait advertise timer	The operational value of the **max-wait-to-advertise** command for the address family (0 if the feature is disabled) Use the **max-wait-to-advertise** command in the **configure router bgp convergence family** context to configure the maximum amount of time BGP waits after the first session is established, following a BGP-instance restart, before it advertises the routes of a specific address family to BGP peers.
Converged peers	The number of address-family converged peers. This is the number of BGP neighbors that have, up to now, sent an EOR marker for the address family. N/A if the feature is disabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Converged state	The convergence state of the address family: waiting, started, partial, timeout or converged. N/A if the feature is disabled. Waiting is when no peers have reconnected yet. The waiting to start transition occurs when the first session comes up. The started to partial transition occurs when at least one address-family peer has sent the EOR marker. The partial to converged transition occurs when all address-family peers that have been up continuously since the **min-wait-to-advertise** timer expired have sent the EOR marker. The partial to timeout transition occurs when the **max-wait-to-advertise** timer expires and not all address family peers that have been up continuously since the **min-wait-to-advertise** timer expired have sent the EOR marker.
Converged time	The convergence time of the address family after the last restart, relative to BGP instance restart at time T=0. N/A is displayed if the convergence state is waiting, started, partial, or timeout.

6.60 count

count

Syntax

count [**detail**]

Context

[Tree] (show>app-assure>group>aa-sub count)

Full Context

show application-assurance group aa-sub count

Description

This command displays per-subscriber app-group application and protocol statistics.

Parameters

detail

Displays detailed information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of the **count** command.

Output Example

```
A:ALU>show>app-assure>group>aa-sub# count
===============================================================================
Application-Assurance Subscriber TestSubscriberName
Application Group, Application and Protocol Statistics
===============================================================================
Application Group                Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
Database                           0% 0               0             0
File Transfer                      0% 27243           169           22
Games                              0% 0               0             0
Infrastructure                     0% 71494           555           515
Instant Messaging                  0% 4947792         25587         411
Local Content                      0% 923             8             2
Mail                               0% 53729           318           22
Mail Server                        0% 0               0             0
MultiMedia                         0% 31670667        33087         142
NNTP                               0% 0               0             0
Peer to Peer                      .45% 11096224       16339         2431
Premium Partner                    0% 0               0             0
Remote Connectivity                0% 15321           171           2
Server                             0% 0               0             0
Suspect                           72% 1012            11            11
Tunneling                          0% 19659289        33535         164
Unknown                            0% 1945164         6317          287
Web                                0% 29538078        34873         1022
Web Server                         0% 0               0             0
===============================================================================
Application                      Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
HTTP_Local                         0% 923             8             2
===============================================================================
Protocol                         Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
dns                              1.8% 40010           277           277
===============================================================================
A:ALU>show>app-assure>group>aa-sub#


A:ALU>show>app-assure>group>aa-sub# count detail
===============================================================================
Application-Assurance Subscriber TestSubscriberName
Application Group, Application and Protocol Statistics
===============================================================================
    Subscriber                       Application Group:
Type                     Octets            Packets         Flows
-------------------------------------------------------------------------------
    TestSubscriberName               Instant Messaging:
Admitted from subscriber: 2558576          12720           229
Denied from subscriber:   0                0               0
Active flows from subscriber:                              0
Admitted to subscriber:   2389216          12867           182
Denied to subscriber:     0                0               0
Active flows to subscriber:                                0
Total flow duration:      2912 seconds
Terminated flows:                                          411
Short Duration flows:                                      387
Medium Duration flows:                                     22
Long Duration flows:                                       2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 ...
    TestSubscriberName               Web:
Admitted from subscriber: 2343429          22806          511
Denied from subscriber:   0                0              0
Active flows from subscriber:                             1
Admitted to subscriber:   56359191         40528          511
Denied to subscriber:     0                0              0
Active flows to subscriber:                               1
Total flow duration:      4783 seconds
Terminated flows:                                         1020
Short Duration flows:                                     989
Medium Duration flows:                                    31
Long Duration flows:                                      0
===============================================================================
    Subscriber                       Application:
Type                     Octets            Packets         Flows
-------------------------------------------------------------------------------
    TestSubscriberName               HTTP_Local:
Admitted from subscriber: 0                0              0
Denied from subscriber:   0                0              0
Active flows from subscriber:                             0
Admitted to subscriber:   0                0              0
Denied to subscriber:     0                0              0
Active flows to subscriber:                               0
Total flow duration:      0 seconds
Terminated flows:                                         0
Short Duration flows:                                     0
Medium Duration flows:                                    0
Long Duration flows:                                      0
===============================================================================
    Subscriber                       Protocol:
Type                     Octets            Packets         Flows
-------------------------------------------------------------------------------
    TestSubscriberName               dns:
Admitted from subscriber: 0                0              0
Denied from subscriber:   0                0              0
Active flows from subscriber:                             0
Admitted to subscriber:   0                0              0
Denied to subscriber:     0                0              0
Active flows to subscriber:                               0
Total flow duration:      0 seconds
Terminated flows:                                         0
Short Duration flows:                                     0
Medium Duration flows:                                    0
Long Duration flows:                                      0
===============================================================================
A:ALU>show>app-assure>group>aa-sub#
```

count

Syntax

count

Context

[Tree] (show>app-assure>group>aa-sub>um count)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance group aa-sub usage-monitor count

Description

This command displays usage monitor counters.

Platforms

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

6.61 counters

counters

Syntax

counters

Context

[Tree] (clear>service>statistics>id counters)

Full Context

clear service statistics id counters

Description

This command clears all traffic queue counters associated with the service ID.

Platforms

All

counters

Syntax

counters

Context

[Tree] (show>snmp counters)

Full Context

show snmp counters

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays SNMP counters information. SNMP counters will continue to increase even when SNMP is shut down. Some internal modules communicate using SNMP packets.

Platforms

All

Output

The following output is an example of SNMP counter information.

Table 90: Output fields: counters describes the SNMP counters output fields.

Output Example

```
A:ALA-1# show snmp counters
===============================================================================
SNMP counters:
===============================================================================
  in packets :  463
-------------------------------------------------------------------------------
    in gets     : 93
    in getnexts : 0
    in sets     : 370

  out packets   : 463
-------------------------------------------------------------------------------
    out get responses :  463
    out traps         :  0

  variables requested :  33
  variables set       :  497
===============================================================================
A:ALA-1#
```

Table 90: Output fields: counters

Label	Description
in packets	Displays the total number of messages delivered to SNMP from the transport service.
in gets	Displays the number of SNMP get request PDUs accepted and processed by SNMP.
in getnexts	Displays the number of SNMP get next PDUs accepted and processed by SNMP.
in sets	Displays the number of SNMP set request PDUs accepted and processed by SNMP.
out packets	Displays the total number of SNMP messages passed from SNMP to the transport service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
out get responses	Displays the number of SNMP get response PDUs generated by SNMP.
out traps	Displays the number of SNMP Trap PDUs generated by SNMP.
variables requested	Displays the number of MIB objects requested by SNMP.
variables set	Displays the number of MIB objects set by SNMP as the result of receiving valid SNMP set request PDUs.

counters

Syntax

counters

Context

[Tree] (show>snmp>streaming counters)

Full Context

show snmp streaming counters

Description

This command displays counters information for the proprietary SNMP streaming protocol.

Platforms

All

Output

The following output is an example of SNMP streaming counters information.

Table 91: Output fields: streaming counters describes the SNMP streaming counters output fields.

Output Example

```
*A:Dut-B# show snmp streaming counters
===============================================================================
STREAMING counters:
===============================================================================
    in getTables   : 772
    in getManys    : 26
-------------------------------------------------------------------------------
    out responses  : 848
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 91: Output fields: streaming counters

Label	Description
in getTables	Displays the number of GetTable request packets received.
in getManys	Displays the number of GetMany request packets received.
out responses	Displays the number of response packets sent.

6.62 cpm

cpm

Syntax

cpm

Context

[Tree] (tools>dump>filter>resources cpm)

Full Context

tools dump filter resources cpm

Description

This command displays information about filter resource utilization on the CPM, consumption by filter-using services such as OpenFlow, and the filters that use the most resources.

Platforms

All

Output

The following output is an example of filter resource utilization information.

Output Example

```
*A:Dut-C>tools>dump>filter>resources># cpm

===============================================================================
Number of ACL filters defined on CPM
===============================================================================
Owner                     MAC             IP           IPv6          Total
-------------------------------------------------------------------------------
Configuration               0              7              0              7
Host Common                 0              2              0              2
Openflow                    0              2              1              3
-------------------------------------------------------------------------------
Total                       0             14              4             18
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Available filters (except openflow): 16369
Available openflow filters:          16381

===============================================================================
Number of ACL filter entries / subentries defined on CPM
===============================================================================
Inserted by                              MAC       IP     IPv6          Total
-------------------------------------------------------------------------------
User configuration                         0       21        1             22
                                           0       21        1             22
Radius                                     0        0        0              0
                                           0        0        0              0
Credit Control                             0        0        0              0
                                           0        0        0              0
Embedded                                   0        0        0              0
                                           0        0        0              0
Radius shared host                         0        2        0              2
                                           0        2        0              2
Openflow                                   0        0        0              0
                                           0        0        0              0
PCC-Rule                                   0        0        0              0
                                           0        0        0              0
Other                                      0        0        0              0
                                           0        0        0              0
-------------------------------------------------------------------------------
Total                                      0       23        1             24
                                           0       23        1             24
===============================================================================
Available subentries (except openflow): 262120
Available openflow subentries:          262144

===============================================================================
Filters utilizing most resources (ordered by CPM entries)
===============================================================================
Type Id                                Entries     Subentries   TCAM entries
                                                                (per FlexPath)
-------------------------------------------------------------------------------
No Mac filters found
-------------------------------------------------------------------------------
Ip   100                                     5              5              5
Ip   65535                                   5              5              5
Ip   1                                       4              4              4
Ip   5:23                                    2              2              2
Ip   6:24                                    2              2              2
-------------------------------------------------------------------------------
Ipv6 fSpec-0                                 0              0              0
Ipv6 fSpec-2345                              0              0              0
Ipv6 _tmnx_ofs_system:1                      0              0              0
No more Ipv6 filters
===============================================================================

===============================================================================
Filters utilizing most resources (ordered by CPM subentries)
===============================================================================
Type Id                                Entries     Subentries   TCAM entries
                                                                (per FlexPath)
-------------------------------------------------------------------------------
No Mac filters found
-------------------------------------------------------------------------------
Ip   100                                     5              5              5
Ip   65535                                   5              5              5
Ip   1                                       4              4              4
Ip   5:23                                    2              2              2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ip   6:24                                    2             2             2
-------------------------------------------------------------------------------
Ipv6 fSpec-0                                 0             0             0
Ipv6 fSpec-2345                              0             0             0
Ipv6 _tmnx_ofs_system:1                      0             0             0
No more Ipv6 filters
===============================================================================
```

6.63 cpm-filter

cpm-filter

Syntax

cpm-filter

Context

[Tree] (clear cpm-filter)

Full Context

clear cpm-filter

Description

Commands in this context clear the CPM filter.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

cpm-filter

Syntax

cpm-filter

Context

[Tree] (show>system>security cpm-filter)

Full Context

show system security cpm-filter

Description

This command displays CPM filters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

cpm-filter

Syntax

cpm-filter

Context

[Tree] (monitor cpm-filter)

Full Context

monitor cpm-filter

Description

This command displays monitor command output for CPM filters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

6.64 cpm-http-redirect

cpm-http-redirect

Syntax

cpm-http-redirect

Context

[Tree] (tools>dump>system cpm-http-redirect)

Full Context

tools dump system cpm-http-redirect

Description

Commands in this context display system-level CPM HTTP redirect information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.65 cpm-queue

cpm-queue

Syntax

cpm-queue *queue-id*

Context

[Tree] (show>system>security cpm-queue)

Full Context

show system security cpm-queue

Description

This command displays CPM queues.

Parameters

queue-id

Specifies an integer value that identifies a CPM queue.

Values 0, 33 to 2000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of CPM IPv6 filter information.

Table 92: Output fields: CPM IPv6 filter describes CPM queue output fields.

Output Example

```
A:ALA-35# show system security cpm-queue 1001
===============================================================================
CPM Queue Entry
===============================================================================
Queue Id           : 1001
-------------------------------------------------------------------------------
Queue Parameters :
-------------------------------------------------------------------------------
PIR                : 10000000          CIR               : 1000000
CBS                : 4096              MBS               : 8192
===============================================================================
A:ALA-35#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 92: Output fields: CPM IPv6 filter

Label	Description
PIR	Displays the administrative Peak Information Rate (PIR) for the queue.
CIR	Displays the amount of bandwidth committed to the queue.
CBS	Displays the amount of buffer drawn from the reserved buffer portion of the queue's buffer pool.
MBS	Displays the maximum queue depth to which a queue can grow.

cpm-queue

Syntax

cpm-queue *queue-id*

Context

[Tree] (clear cpm-queue)

Full Context

clear cpm-queue

Description

This command clears CPM queue information.

Parameters

queue-id

Specifies the CPM queue ID.

Values 33 to 2000

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.66 cpu

cpu

Syntax

cpu [**sample-period** *seconds*]

Context

[Tree] (show>system cpu)

Full Context

show system cpu

Description

This command displays CPU utilization per task over a sample period.

Parameters

seconds

Specifies the number of seconds over which to sample CPU task utilization.

Values 1 to 300

Default 1

Platforms

All

Output

The following output is an example of CPU information, and Table 93: Output fields: system CPU describes the output fields.

Output Example

```
*A:cses-E11# show system cpu sample-period 2
===============================================================================
CPU Utilization (Sample period: 2 seconds)
===============================================================================
Name                                    CPU Time       CPU Usage        Capacity
                                          (uSec)                          Usage
-------------------------------------------------------------------------------
BFD                                           10          ~0.00%          ~0.00%
BGP                                            0           0.00%           0.00%
CFLOWD                                        61          ~0.00%          ~0.00%
Cards & Ports                              8,332           0.41%           0.08%
DHCP Server                                   79          ~0.00%          ~0.00%
ICC                                          408           0.02%           0.01%
IGMP/MLD                                   1,768           0.08%           0.08%
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IOM                                    17,197           0.85%           0.31%
IP Stack                                4,080           0.20%           0.09%
IS-IS                                   1,213           0.06%           0.06%
ISA                                     2,496           0.12%           0.07%
LDP                                         0           0.00%           0.00%
Logging                                    32          ~0.00%          ~0.00%
MPLS/RSVP                               2,380           0.11%           0.08%
MSDP                                        0           0.00%           0.00%
Management                              5,969           0.29%           0.15%
OAM                                       907           0.04%           0.02%
OSPF                                       25          ~0.00%          ~0.00%
PIM                                     5,600           0.27%           0.27%
RIP                                         0           0.00%           0.00%
RTM/Policies                                0           0.00%           0.00%
Redundancy                              3,635           0.18%           0.13%
SIM                                     1,462           0.07%           0.04%
SNMP Daemon                                 0           0.00%           0.00%
Services                                2,241           0.11%           0.05%
Stats                                       0           0.00%           0.00%
Subscriber Mgmt                         2,129           0.10%           0.04%
System                                  8,802           0.43%           0.17%
Traffic Eng                                 0           0.00%           0.00%
VRRP                                      697           0.03%           0.02%
WEB Redirect                              125          ~0.00%          ~0.00%
-------------------------------------------------------------------------------
Total                                2,014,761         100.00%
   Idle                              1,945,113          96.54%
   Usage                                69,648           3.45%
Busiest Core Utilization                69,648           3.45%
===============================================================================
*A:cses-E11#


*A:ALA-1# show card 4 cpu

===============================================================================
Card 4 CPU Utilization (Sample period: 1 second)
===============================================================================
Name                                  CPU Time       CPU Usage        Capacity
                                        (uSec)                          Usage
-------------------------------------------------------------------------------
HQoS Algorithm                             70          ~0.00%          ~0.00%
HQoS Statistics                           124          ~0.00%           0.83%
IOM                                    15,904           0.79%           0.94%
-------------------------------------------------------------------------------
Total                                2,003,678         100.00%
   Idle                              1,987,580          99.19%
   Usage                                16,098           0.80%
Busiest Core Utilization                 8,192           0.81%
===============================================================================
```

Table 93: Output fields: system CPU

Label	Description
CPU Utilization	The total amount of CPU time.
Name	The process or protocol name.
CPU Time (uSec)	The CPU time each process or protocol has used in the specified time.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
CPU Usage	The sum of CPU usage of all the processes and protocols.
Capacity Usage	The level the specified service is being utilized. When this number hits 100%, this part of the system is busied out. There may be extra CPU cycles still left for other processes, but this service is running at capacity. This column does not reflect the true CPU utilization value; that data is still available in the **CPU Usage** column. This column is the **busiest** task in each group, where **busiest** is defined as either actually running or blocked attempting to acquire a lock.
Idle	The current CPU utilization for the system.
Usage	The overall percentage of CPU idleness over the specified sample time.
Busiest Core Utilization	The utilization percentage of the busiest processor core over the specified sample time. On single core CPUs, this is the overall system utilization percentage over the specified sample time.

6.67 cpu-protection

cpu-protection

Syntax

cpu-protection

Context

[Tree] (show>system>security cpu-protection)

Full Context

show system security cpu-protection

Description

Commands in this context display CPU protection information.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

Output

The following output is an example of ETH CFM monitoring.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show system security cpu-protection eth-cfm-monitoring
===============================================================================
SAP's where the protection policy Eth-CFM rate limit is exceeded
===============================================================================
SAP-Id                                      Service-Id    Plcy
-------------------------------------------------------------------------------
1/1/1                                       3             100
-------------------------------------------------------------------------------
1 SAP('s) found
===============================================================================
===============================================================================
SDP's where the protection policy Eth-CFM rate limit is exceeded
===============================================================================
SDP-Id            Service-Id    Plcy
-------------------------------------------------------------------------------
1:3               3             100
-------------------------------------------------------------------------------
1 SDP('s) found
===============================================================================

show system security cpu-protection eth-cfm-monitoring service-id 3 sap-id 1/1/1
 ===============================================================================
Flows exceeding the Eth-CFM monitoring rate limit
===============================================================================
Service-Id : 3
SAP-Id     : 1/1/1
Plcy       : 100
-------------------------------------------------------------------------------
Limit  MAC-Address        Level  OpCode
  First-Time            Last-Time             Violation-Periods
-------------------------------------------------------------------------------
0      8c:8c:8c:8c:8c:8c  1      18
  03/21/2009 23:32:29   03/21/2009 23:34:39   4000000019
61234  8d:8d:8d:8d:8d:8d  2      19
  03/21/2009 23:32:39   03/21/2009 23:34:59   4000000020
61234  Aggregated         3      20
  03/21/2009 23:32:49   03/21/2009 23:35:19   4000000021
61234  8f:8f:8f:8f:8f:8f  4      21
  03/21/2009 23:32:59   03/21/2009 23:35:39   4000000022
61234  90:90:90:90:90:90  5      22
  03/21/2009 23:33:09   03/21/2009 23:35:59   4000000023
61234  91:91:91:91:91:91  6      23
  03/21/2009 23:33:19   03/21/2009 23:36:19   4000000024
61234  92:92:92:92:92:92  7      24
  03/21/2009 23:33:29   03/21/2009 23:36:39   4000000025
max    Aggregated         0      25
  03/21/2009 23:33:39   03/21/2009 23:36:59   4000000026
0      94:94:94:94:94:94  1      26
  03/21/2009 23:33:49   03/21/2009 23:37:19   4000000027
-------------------------------------------------------------------------------
9 flows(s) found
===============================================================================


show system security cpu-protection eth-cfm-monitoring service-id 3 sdp-id 1:3
===============================================================================
Flows exceeding the Eth-CFM monitoring rate limit
===============================================================================
Service-Id : 3
SDP-Id     : 1:3
Plcy       : 100
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Limit  MAC-Address        Level  OpCode
  First-Time            Last-Time             Violation-Periods
-------------------------------------------------------------------------------
0      8c:8c:8c:8c:8c:8c  1      18
  03/21/2009 23:32:29   03/21/2009 23:34:39   3000000019
61234  8d:8d:8d:8d:8d:8d  2      19
  03/21/2009 23:32:39   03/21/2009 23:34:59   3000000020
61234  Aggregated         3      20
  03/21/2009 23:32:49   03/21/2009 23:35:19   3000000021
61234  8f:8f:8f:8f:8f:8f  4      21
  03/21/2009 23:32:59   03/21/2009 23:35:39   3000000022
61234  90:90:90:90:90:90  5      22
  03/21/2009 23:33:09   03/21/2009 23:35:59   3000000023
61234  91:91:91:91:91:91  6      23
  03/21/2009 23:33:19   03/21/2009 23:36:19   3000000024
61234  92:92:92:92:92:92  7      24
  03/21/2009 23:33:29   03/21/2009 23:36:39   3000000025
max    Aggregated         0      25
  03/21/2009 23:33:39   03/21/2009 23:36:59   3000000026
0      94:94:94:94:94:94  1      26
  03/21/2009 23:33:49   03/21/2009 23:37:19   3000000027
-------------------------------------------------------------------------------
9 flow(s) found
===============================================================================


show system security cpu-protection excessive-sources service-id 3 sdp-id 1:3
===============================================================================
Sources exceeding the per-source rate limit
===============================================================================
Service-Id : 3
SDP-Id     : 1:3
Plcy       : 100
Limit      : 65534
-------------------------------------------------------------------------------
MAC-Address       First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
00:00:00:00:00:01 03/22/2009 00:41:59 03/22/2009 01:53:39 3000000043
00:00:00:00:00:02 03/22/2009 00:43:39 03/22/2009 01:56:59 3000000044
00:00:00:00:00:03 03/22/2009 00:45:19 03/22/2009 02:00:19 3000000045
00:00:00:00:00:04 03/22/2009 00:46:59 03/22/2009 02:03:39 3000000046
00:00:00:00:00:05 03/22/2009 00:48:39 03/22/2009 02:06:59 3000000047
-------------------------------------------------------------------------------
5 source(s) found
===============================================================================


show system security cpu-protection violators sdp
===============================================================================
SDP's where the protection policy overall rate limit is violated
===============================================================================
SDP-Id           Service-Id
  Plcy Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
1:1              3
  100  61234 05/01/2010 01:43:53 06/27/2010 22:37:20 3000000007
1:2              3
  255  max   05/01/2010 01:43:55 06/27/2010 22:37:23 3000000008
1:3              3
  100  61234 05/01/2010 01:43:57 06/27/2010 22:37:26 3000000009
1:4              3
  255  max   05/01/2010 01:43:59 06/27/2010 22:37:29 3000000010
1:5              3
  100  61234 05/01/2010 01:44:01 06/27/2010 22:37:32 3000000011
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
5 SDP('s) found
===============================================================================


show system security cpu-protection excessive-sources
===============================================================================
SAP's where the protection policy per-source rate limit is exceeded
===============================================================================
SAP-Id                                    Service-Id
  Plcy Limit
-------------------------------------------------------------------------------
1/1/1                                     3
  100  65534
-------------------------------------------------------------------------------
1 SAP('s) found
===============================================================================
SDP's where the protection policy per-source rate limit is exceeded
===============================================================================
SDP-Id            Service-Id    Plcy    Limit
-------------------------------------------------------------------------------
1:3               3             100     65534
1:4               3             255     max
1:5               3             100     65534
-------------------------------------------------------------------------------
3 SDP('s) found
===============================================================================


show system security cpu-protection policy association
===============================================================================
Associations for CPU Protection policy 100
===============================================================================
Description : (Not Specified)
SAP associations
-------------------------------------------------------------------------------
Service Id  : 3                         Type   : VPLS
  SAP 1/1/1                                     mac-monitoring
  SAP 1/1/2                                     eth-cfm-monitoring aggr car
  SAP 1/1/3                                     eth-cfm-monitoring
  SAP 1/1/4
-------------------------------------------------------------------------------
Number of SAP's : 4
SDP associations
-------------------------------------------------------------------------------
Service Id  : 3                         Type   : VPLS
  SDP 1:1               eth-cfm-monitoring aggr car
  SDP 1:3               eth-cfm-monitoring aggr
  SDP 1:5               mac-monitoring
  SDP 17407:4123456789   eth-cfm-monitoring car
-------------------------------------------------------------------------------
Number of SDP's : 4
Interface associations
-------------------------------------------------------------------------------
  None
Managed SAP associations
-------------------------------------------------------------------------------
  None
Video-Interface associations
-------------------------------------------------------------------------------
  None
===============================================================================
Associations for CPU Protection policy 254
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description : Default (Modifiable) CPU-Protection Policy assigned to Access
              Interfaces
SAP associations
-------------------------------------------------------------------------------
  None
SDP associations
-------------------------------------------------------------------------------
  None
Interface associations
-------------------------------------------------------------------------------
Router-Name : Base
  ies6If
Router-Name : vprn7
  vprn If
-------------------------------------------------------------------------------
Number of interfaces : 2
Managed SAP associations
-------------------------------------------------------------------------------
  None
Video-Interface associations
-------------------------------------------------------------------------------
  None
===============================================================================
Associations for CPU Protection policy 255
===============================================================================
Description : Default (Modifiable) CPU-Protection Policy assigned to Network
              Interfaces

SAP associations
-------------------------------------------------------------------------------
  None
SDP associations
-------------------------------------------------------------------------------
Service Id  : 3                         Type   : VPLS
  SDP 1:2
  SDP 1:4               eth-cfm-monitoring
Service Id  : 6                         Type   : IES
  SDP 1:6
Service Id  : 7                         Type   : VPRN
  SDP 1:7
Service Id  : 9                         Type   : Epipe
  SDP 1:9
Service Id  : 300                       Type   : VPLS
  SDP 1:300
-------------------------------------------------------------------------------
Number of SDP's : 6
Interface associations
-------------------------------------------------------------------------------
Router-Name : Base
  system
-------------------------------------------------------------------------------
Number of interfaces : 1
Managed SAP associations
-------------------------------------------------------------------------------
  None
Video-Interface associations
-------------------------------------------------------------------------------
  None
===============================================================================


show system security cpu-protection policy 100 association
===============================================================================
Associations for CPU Protection policy 100
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Description : (Not Specified)

SAP associations
-------------------------------------------------------------------------------
Service Id  : 3                        Type   : VPLS
  SAP 1/1/1                                    mac-monitoring
  SAP 1/1/2                                    eth-cfm-monitoring aggr car
  SAP 1/1/3                                    eth-cfm-monitoring
  SAP 1/1/4
-------------------------------------------------------------------------------
Number of SAP's : 4
SDP associations
-------------------------------------------------------------------------------
Service Id  : 3                        Type   : VPLS
  SDP 1:1               eth-cfm-monitoring aggr car
  SDP 1:3               eth-cfm-monitoring aggr
  SDP 1:5               mac-monitoring
  SDP 17407:4123456789  eth-cfm-monitoring car
-------------------------------------------------------------------------------
Number of SDP's : 4
Interface associations
-------------------------------------------------------------------------------
  None
Managed SAP associations
-------------------------------------------------------------------------------
  None
Video-Interface associations
-------------------------------------------------------------------------------
  None
===============================================================================
A:bksim130#


show system security cpu-protection violators
 ===============================================================================
Ports where a rate limit is violated
===============================================================================
Port-Id
  Type Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
No ports found
===============================================================================
Interfaces where the protection policy overall rate limit is violated
===============================================================================
Interface-Name                                Router-Name
  Plcy Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
No interfaces found
===============================================================================
SAP's where the protection policy overall rate limit is violated
===============================================================================
SAP-Id                                        Service-Id
  Plcy Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
1/1/1                                         3
  100  61234 05/01/2010 01:43:41 06/27/2010 22:37:02 3000000001
-------------------------------------------------------------------------------
1 SAP('s) found
===============================================================================
SDP's where the protection policy overall rate limit is violated
===============================================================================
SDP-Id          Service-Id
  Plcy Limit First-Time          Last-Time           Violation-Periods
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1:1             3
  100  61234 05/01/2010 01:43:41 06/27/2010 22:37:02 3000000001
1:2             3
  255  max   05/01/2010 01:43:43 06/27/2010 22:37:05 3000000002
1:3             3
  100  61234 05/01/2010 01:43:45 06/27/2010 22:37:08 3000000003
1:4             3
  255  max   05/01/2010 01:43:47 06/27/2010 22:37:11 3000000004
1:5             3
  100  61234 05/01/2010 01:43:49 06/27/2010 22:37:14 3000000005
-------------------------------------------------------------------------------
5 SDP('s) found
===============================================================================
Video clients where the protection policy per-source rate limit is violated
===============================================================================
Client IP Address  Video-Interface                Service-Id
  Plcy Limit First-Time          Last-Time          Violation-Periods
-------------------------------------------------------------------------------
No clients found
===============================================================================
```

cpu-protection

Syntax

cpu-protection

Context

[Tree] (clear cpu-protection)

Full Context

clear cpu-protection

Description

Commands in this context clear CPU protection data.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

6.68 cpu-scheduling

cpu-scheduling

Syntax

cpu-scheduling

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>card>virtual cpu-scheduling)

Full Context

show card virtual cpu-scheduling

Description

This command displays the CPU scheduling health on the card. The scheduling health is a measure of the hypervisor load and is expressed by the percentage of clock interrupts that arrive within an accepted time period compared to the last clock interrupt.

Platforms

VSR

cpu-scheduling

Syntax

cpu-scheduling

Context

[Tree] (clear>card>virtual cpu-scheduling)

Full Context

clear card virtual cpu-scheduling

Description

This command clears virtual CPU scheduling statistics on the card.

Platforms

VSR

6.69 cpu-usage

cpu-usage

Syntax

cpu-usage *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

cpu-usage *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] **esa-vm** *esa-id/vm-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

cpu-usage *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**] **type** {**control-plane** | **data-plane**}

cpu-usage *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**] **type** {**control-plane** | **data-plane**} **esa-vm** *esa-id/vm-id*

Context

[Tree] (show>isa>stats>tunnel-isa cpu-usage)

Full Context

show isa statistics tunnel-isa cpu-usage

Description

This command displays the CPU usage of the specified ISA. The information includes control plane usage and data plane usage.

The data plane usage collection depends on the configuration of the **config>isa>tunnel-grp>stats-collection>isa-dp-cpu-usage system** and collects usage every 5 minutes for the last 24 hours. The output also includes the current value.

Parameters

count

Displays information for the number of statistics intervals to be displayed (starting with the most recent).

Values 1 to 24

minutes

Displays information about the specified period covered by the statistics to be displayed (starting with the most recent).

Values 1 to 1440

current

Displays information about the current statistic value. The values of count and minutes are ignored by the system when this parameter is specified.

show-oid

Displays information about the Object Identifier (OID) of the current statistical value.

mda

Displays information about the specified ISA.

Values slot/mda

control-plane

Displays information about the control plane.

data-plane

Displays information about the data plane.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

Output

The following output is an example of the **show isa stats tunnel-isa cpu-usage** configuration.

Output Example

```
show>isa>stats>tunnel-isa# cpu-usage 1/2
===============================================================================
STATISTICS FOR ISA 1/2
===============================================================================
INDEX        VALUE                     START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
ISA CONTROL PLANE CPU USAGE PERCENTAGE (%)
16           0.05                      2017/05/24 02:30:00 MIN 5
17           0.00                      2017/05/24 02:25:00 MIN 5
18           0.03                      2017/05/24 02:20:00 MIN 5
19           0.06                      2017/05/24 02:15:00 MIN 5
20           0.05                      2017/05/24 02:10:00 MIN 5
21           0.07                      2017/05/24 02:05:00 MIN 5
22           0.06                      2017/05/24 02:00:00 MIN 5
23           0.05                      2017/05/24 01:55:00 MIN 5
24           0.00                      2017/05/24 01:50:00 MIN 5
25           0.07                      2017/05/24 01:45:00 MIN 5
26           0.01                      2017/05/24 01:40:00 MIN 5
27           0.04                      2017/05/24 01:35:00 MIN 5
28           0.01                      2017/05/24 01:30:00 MIN 5
29           0.00                      2017/05/24 01:25:00 MIN 5
30           0.01                      2017/05/24 01:20:00 MIN 5
31           0.01                      2017/05/24 01:15:00 MIN 5
32           0.01                      2017/05/24 01:10:00 MIN 5
33           0.06                      2017/05/24 01:05:00 MIN 5
34           0.01                      2017/05/24 01:00:00 MIN 5
35           0.02                      2017/05/24 00:55:00 MIN 5
36           0.03                      2017/05/24 00:50:00 MIN 5
37           0.03                      2017/05/24 00:45:00 MIN 5
38           0.01                      2017/05/24 00:40:00 MIN 5
39           0.01                      2017/05/24 00:35:00 MIN 5
40           0.02                      2017/05/24 00:30:00 MIN 5
41           0.01                      2017/05/24 00:25:00 MIN 5
42           0.03                      2017/05/24 00:20:00 MIN 5
43           0.02                      2017/05/24 00:15:00 MIN 5
44           0.06                      2017/05/24 00:10:00 MIN 5
45           0.05                      2017/05/24 00:05:00 MIN 5
46           0.00                      2017/05/24 00:00:00 MIN 5
47           0.02                      2017/05/23 23:55:00 MIN 5
48           0.04                      2017/05/23 23:50:00 MIN 5
49           0.03                      2017/05/23 23:45:00 MIN 5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
50          0.06                    2017/05/23 23:40:00 MIN 5
51          0.00                    2017/05/23 23:35:00 MIN 5
52          0.05                    2017/05/23 23:30:00 MIN 5
53          0.02                    2017/05/23 23:25:00 MIN 5
54          0.03                    2017/05/23 23:20:00 MIN 5
55          0.02                    2017/05/23 23:15:00 MIN 5
56          0.06                    2017/05/23 23:10:00 MIN 5
57          0.04                    2017/05/23 23:05:00 MIN 5
58          0.00                    2017/05/23 23:00:00 MIN 5
59          0.00                    2017/05/23 22:55:00 MIN 5
60          0.04                    2017/05/23 22:50:00 MIN 5
61          0.03                    2017/05/23 22:45:00 MIN 5
62          0.03                    2017/05/23 22:40:00 MIN 5
63          0.04                    2017/05/23 22:35:00 MIN 5
64          0.05                    2017/05/23 22:30:00 MIN 5
65          0.02                    2017/05/23 22:25:00 MIN 5
66          0.05                    2017/05/23 22:20:00 MIN 5
67          0.03                    2017/05/23 22:15:00 MIN 5
68          0.01                    2017/05/23 22:10:00 MIN 5
69          0.02                    2017/05/23 22:05:00 MIN 5
70          0.01                    2017/05/23 22:00:00 MIN 5
71          0.05                    2017/05/23 21:55:00 MIN 5
72          0.02                    2017/05/23 21:50:00 MIN 5
73          0.02                    2017/05/23 21:45:00 MIN 5
74          0.00                    2017/05/23 21:40:00 MIN 5
75          0.00                    2017/05/23 21:35:00 MIN 5
76          0.01                    2017/05/23 21:30:00 MIN 5
77          0.06                    2017/05/23 21:25:00 MIN 5
78          0.01                    2017/05/23 21:20:00 MIN 5
79          0.01                    2017/05/23 21:15:00 MIN 5
80          0.00                    2017/05/23 21:10:00 MIN 5
81          0.06                    2017/05/23 21:05:00 MIN 5
82          0.06                    2017/05/23 21:00:00 MIN 5
83          0.00                    2017/05/23 20:55:00 MIN 5
84          0.02                    2017/05/23 20:50:00 MIN 5
85          0.00                    2017/05/23 20:45:00 MIN 5
86          0.00                    2017/05/23 20:40:00 MIN 5
87          0.06                    2017/05/23 20:35:00 MIN 5
88          0.01                    2017/05/23 20:30:00 MIN 5
89          0.01                    2017/05/23 20:25:00 MIN 5
90          0.02                    2017/05/23 20:20:00 MIN 5
91          0.03                    2017/05/23 20:15:00 MIN 5
92          0.04                    2017/05/23 20:10:00 MIN 5
93          0.05                    2017/05/23 20:05:00 MIN 5
94          0.05                    2017/05/23 20:00:00 MIN 5
95          0.05                    2017/05/23 19:55:00 MIN 5
96          0.05                    2017/05/23 19:50:00 MIN 5
97          0.06                    2017/05/23 19:45:00 MIN 5
98          0.06                    2017/05/23 19:40:00 MIN 5
99          0.05                    2017/05/23 19:35:00 MIN 5
100         0.05                    2017/05/23 19:30:00 MIN 5
101         0.04                    2017/05/23 19:25:00 MIN 5
102         0.04                    2017/05/23 19:20:00 MIN 5
103         0.04                    2017/05/23 19:15:00 MIN 5
104         0.05                    2017/05/23 19:10:00 MIN 5
105         0.04                    2017/05/23 19:05:00 MIN 5
106         0.03                    2017/05/23 19:00:00 MIN 5
107         0.03                    2017/05/23 18:55:00 MIN 5
108         0.01                    2017/05/23 18:50:00 MIN 5
109         0.02                    2017/05/23 18:45:00 MIN 5
110         0.02                    2017/05/23 18:40:00 MIN 5
111         0.02                    2017/05/23 18:35:00 MIN 5
112         0.01                    2017/05/23 18:30:00 MIN 5
113         0.02                    2017/05/23 18:25:00 MIN 5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
114          0.02                       2017/05/23 18:20:00 MIN 5
115          0.01                       2017/05/23 18:15:00 MIN 5
116          0.02                       2017/05/23 18:10:00 MIN 5
117          0.01                       2017/05/23 18:05:00 MIN 5
118          0.02                       2017/05/23 18:00:00 MIN 5
119          0.01                       2017/05/23 17:55:00 MIN 5
120          0.08                       2017/05/23 17:50:48 MIN 4 SEC 12
ISA DATA PLANE CPU USAGE PERCENTAGE (%)
1 (CURRENT)  13.13                      2017/05/24 03:45:00 SEC 25
2            13.24                      2017/05/24 03:40:00 MIN 5
3            13.43                      2017/05/24 03:35:00 MIN 5
4            13.30                      2017/05/24 03:30:00 MIN 5
5            13.26                      2017/05/24 03:25:00 MIN 5
6            13.16                      2017/05/24 03:20:00 MIN 5
7            13.16                      2017/05/24 03:15:00 MIN 5
8            13.22                      2017/05/24 03:10:00 MIN 5
9            13.31                      2017/05/24 03:05:00 MIN 5
10           13.95                      2017/05/24 03:00:00 MIN 5
11           13.71                      2017/05/24 02:55:00 MIN 5
12           14.00                      2017/05/24 02:50:00 MIN 5
13           13.26                      2017/05/24 02:45:00 MIN 5
14           13.11                      2017/05/24 02:40:00 MIN 5
15           13.09                      2017/05/24 02:35:00 MIN 5
16           13.22                      2017/05/24 02:30:00 MIN 5
17           13.91                      2017/05/24 02:25:00 MIN 5
18           13.53                      2017/05/24 02:20:00 MIN 5
19           13.83                      2017/05/24 02:15:00 MIN 5
20           13.05                      2017/05/24 02:10:00 MIN 5
21           13.10                      2017/05/24 02:05:00 MIN 5
22           13.09                      2017/05/24 02:00:00 MIN 5
23           13.72                      2017/05/24 01:55:00 MIN 5
24           13.65                      2017/05/24 01:50:00 MIN 5
25           13.81                      2017/05/24 01:45:00 MIN 5
26           13.31                      2017/05/24 01:40:00 MIN 5
27           13.10                      2017/05/24 01:35:00 MIN 5
28           13.10                      2017/05/24 01:30:00 MIN 5
29           13.31                      2017/05/24 01:25:00 MIN 5
30           13.92                      2017/05/24 01:20:00 MIN 5
31           13.58                      2017/05/24 01:15:00 MIN 5
32           13.64                      2017/05/24 01:10:00 MIN 5
33           13.11                      2017/05/24 01:05:00 MIN 5
34           13.18                      2017/05/24 01:00:00 MIN 5
35           13.27                      2017/05/24 00:55:00 MIN 5
36           13.90                      2017/05/24 00:50:00 MIN 5
37           13.59                      2017/05/24 00:45:00 MIN 5
38           13.79                      2017/05/24 00:40:00 MIN 5
39           13.16                      2017/05/24 00:35:00 MIN 5
40           13.24                      2017/05/24 00:30:00 MIN 5
41           13.28                      2017/05/24 00:25:00 MIN 5
42           14.02                      2017/05/24 00:20:00 MIN 5
43           13.65                      2017/05/24 00:15:00 MIN 5
44           13.66                      2017/05/24 00:10:00 MIN 5
45           13.07                      2017/05/24 00:05:00 MIN 5
46           13.12                      2017/05/24 00:00:00 MIN 5
47           13.32                      2017/05/23 23:55:00 MIN 5
48           13.80                      2017/05/23 23:50:00 MIN 5
49           13.69                      2017/05/23 23:45:00 MIN 5
50           13.37                      2017/05/23 23:40:00 MIN 5
51           13.05                      2017/05/23 23:35:00 MIN 5
52           13.07                      2017/05/23 23:30:00 MIN 5
53           13.58                      2017/05/23 23:25:00 MIN 5
54           13.55                      2017/05/23 23:20:00 MIN 5
55           13.80                      2017/05/23 23:15:00 MIN 5
56           13.18                      2017/05/23 23:10:00 MIN 5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
57          13.13                   2017/05/23 23:05:00 MIN 5
58          13.12                   2017/05/23 23:00:00 MIN 5
59          13.80                   2017/05/23 22:55:00 MIN 5
60          13.55                   2017/05/23 22:50:00 MIN 5
61          13.77                   2017/05/23 22:45:00 MIN 5
62          13.08                   2017/05/23 22:40:00 MIN 5
63          9.77                    2017/05/23 22:35:00 MIN 5
64          0.02                    2017/05/23 22:30:00 MIN 5
65          0.02                    2017/05/23 22:25:00 MIN 5
66          0.01                    2017/05/23 22:20:00 MIN 5
67          0.00                    2017/05/23 22:15:00 MIN 5
68          7.08                    2017/05/23 22:10:00 MIN 5
69          13.09                   2017/05/23 22:05:00 MIN 5
70          13.58                   2017/05/23 22:00:00 MIN 5
71          13.63                   2017/05/23 21:55:00 MIN 5
72          6.34                    2017/05/23 21:50:00 MIN 5
73          0.00                    2017/05/23 21:45:00 MIN 5
74          0.00                    2017/05/23 21:40:00 MIN 5
75          0.00                    2017/05/23 21:35:00 MIN 5
76          0.00                    2017/05/23 21:30:00 MIN 5
77          0.00                    2017/05/23 21:25:00 MIN 5
78          0.00                    2017/05/23 21:20:00 MIN 5
79          0.00                    2017/05/23 21:15:00 MIN 5
80          0.00                    2017/05/23 21:10:00 MIN 5
81          0.00                    2017/05/23 21:05:00 MIN 5
82          0.00                    2017/05/23 21:00:00 MIN 5
83          0.00                    2017/05/23 20:55:00 MIN 5
84          0.00                    2017/05/23 20:50:00 MIN 5
85          0.00                    2017/05/23 20:45:00 MIN 5
86          0.00                    2017/05/23 20:40:00 MIN 5
87          0.00                    2017/05/23 20:35:00 MIN 5
88          0.00                    2017/05/23 20:30:00 MIN 5
89          0.00                    2017/05/23 20:25:00 MIN 5
90          0.00                    2017/05/23 20:20:00 MIN 5
91          0.00                    2017/05/23 20:15:00 MIN 5
92          0.00                    2017/05/23 20:10:00 MIN 5
93          0.00                    2017/05/23 20:05:00 MIN 5
94          0.00                    2017/05/23 20:00:00 MIN 5
95          0.00                    2017/05/23 19:55:00 MIN 5
96          0.00                    2017/05/23 19:50:00 MIN 5
97          0.00                    2017/05/23 19:45:00 MIN 5
98          0.00                    2017/05/23 19:40:00 MIN 5
99          0.00                    2017/05/23 19:35:00 MIN 5
100         0.00                    2017/05/23 19:30:00 MIN 5
101         0.00                    2017/05/23 19:25:00 MIN 5
102         0.00                    2017/05/23 19:20:00 MIN 5
103         0.00                    2017/05/23 19:15:00 MIN 5
104         0.00                    2017/05/23 19:10:00 MIN 5
105         0.00                    2017/05/23 19:05:00 MIN 5
106         0.00                    2017/05/23 19:00:00 MIN 5
107         0.00                    2017/05/23 18:55:00 MIN 5
108         0.00                    2017/05/23 18:50:00 MIN 5
109         0.00                    2017/05/23 18:45:00 MIN 5
110         0.00                    2017/05/23 18:40:00 MIN 5
111         0.00                    2017/05/23 18:35:00 MIN 5
112         0.00                    2017/05/23 18:30:00 MIN 5
113         0.00                    2017/05/23 18:25:00 MIN 5
114         0.00                    2017/05/23 18:20:00 MIN 5
115         0.00                    2017/05/23 18:15:00 MIN 5
116         0.00                    2017/05/23 18:10:00 MIN 5
117         0.00                    2017/05/23 18:05:00 MIN 5
118         0.00                    2017/05/23 18:00:00 MIN 5
119         0.00                    2017/05/23 17:55:00 MIN 5
120         0.00                    2017/05/23 17:50:48 MIN 4 SEC 12
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
NO. OF ENTRIES: 240
===============================================================================
```

6.70 create-sticky-lease

create-sticky-lease

Syntax

create-sticky-lease *host-name* [**mac** *ieee-address*] [**circuit-id** *circuit-id*] [**client-id** *client-id*] [**requested-ip-address** *ip-address*] [**circuit-id-hex** *circuit-id-hex-string*] [**client-id-hex** *client-id-hex-string*]

Context

[Tree] (tools>perform>router>dhcp>server>pool create-sticky-lease)

Full Context

tools perform router dhcp local-dhcp-server pool create-sticky-lease

Description

This command tries to create a lease-state in the specified local-dhcp-server pool with the supplied parameters. The hostname uniquely identifies this lease for subsequent operations. mac, circuit-id, and client-id should also have a unique combination of values according to the configured user-ident variables. If the requested-ip-address is provided the server tries to create a lease with this address. If this address is not available in the pool, the command fails.

Parameters

host-name

Specifies a string to identify the lease, up to 32 characters. If not specified, it can be internally generated based on MAC@ or another key.

ieee-address

Specifies the MAC address in xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format.

circuit-id

Specifies the circuit-id string, up to 255 characters.

client-id

Specifies the client-id string, up to 255 characters.

ip-address

Specifies the IPv4 address in dotted notation a.b.c.d.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.71 credit-control

credit-control

Syntax

credit-control [**subscriber** *sub-ident-string*]

credit-control out-of-credit [**action** *action*] [**summary**]

credit-control extended-failure-handling [*state*] [**summary**]

Context

[Tree] (show>service>active-subscribers credit-control)

Full Context

show service active-subscribers credit-control

Description

This command displays active subscriber credit control information. Without additional filters, the output lists information for all active subscribers.

The output of this command can be filtered:

- per subscriber by specifying the optional **subscriber** *sub-ident-string* parameter
- per all subscribers that are out of credit by specifying the **out-of-credit** parameter with the optional **action** *action* parameter
- per subscribers that have a Diameter Gy session with Extended Failure Handling (EFH) enabled by specifying the **extended-failure-handling** parameter with the optional *state* parameter.

Parameters

sub-ident-string

Displays credit control information for the specified subscriber, up to 32 characters.

out-of-credit [action *action*]

Displays credit control information for subscribers that are out of credit and, optionally, have the specified out of credit action enabled.

Values continue, block-category, change-service-level

extended-failure-handling [*state*]

Displays credit control information for subscribers with a Diameter Gy session with EFH enabled. The optional *state* parameter lists subscribers for which the Diameter Gy session EFH is active, inactive, or both (all).

Values active, inactive, all

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

summary

Lists the number of matching entries for the specified filter.

Platforms

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

Output

The following output is an example of active subscriber's credit control information.

Output Example

```
A:eng-BNG-2 #  show  service active-subscribers credit-control
===============================================================================
Active Subscribers
===============================================================================
-------------------------------------------------------------------------------
Subscriber user_1
           (no-prof)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
(1) SLA Profile Instance sap:1/1/20:841 - sla:no-prof
-------------------------------------------------------------------------------
Category Map         : cat-map-01
Number of categories
static               : 1
gx-session           : 1
gx-pcc               : 0
Category Name        : category-01
Ingress Queues       : (Not Specified)
Egress Queues        : 1
Ingress Policers     : (Not Specified)
Egress Policers      : (Not Specified)
Idle Timeout         : 1000
-------------------------------------------------------------------------------
IP Address
              MAC Address        Session            Origin       Svc        Fwd
-------------------------------------------------------------------------------
192.168.0.14
              00:00:10:10:12:13  N/A                DHCP         1000       Y
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of active subscribers : 1
===============================================================================
```

The following table describes credit control output fields.

Table 94: Output fields: credit control

Label	Description
Credit Control Policy	The credit control policy name in use for this subscriber session
Category Map	The active category map in use for this subscriber session
Diameter Session Gy	The Diameter Gy session ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
CC Failure Handling	The current value for Credit Control Failure Handling (CCFH) as configured in the Diameter Gy application policy or as received in an Answer message from the Online Charging Server (OCS) in the CCFH AVP Values: terminate, continue, or retry-and-terminate
Extended Failure Handling (EFH) - State[1]	The EFH state: active — EFH is enabled and currently active inactive — EFH is enabled and currently inactive
EFH - Attempts [1 2]	The number of times interim credit is assigned to all rating groups followed by an attempt to establish a new Diameter Gy session with the Online Charging Server (OCS), or credit control server
EFH - Maximum Attempts[1 2]	The configured maximum attempts value in the Diameter application policy When an attempt to establish a new Diameter Gy session with the OCS continues to fail after the maximum attempts value is reached, then the user session is terminated (the subscriber hosts are deleted from the system).
EFH - Active Time [1 2]	The time since the EFH state became active for this subscriber session
EFH - Total Active Time[1]	The accumulated time of all occurrences that EFH was active during the lifetime of this subscriber session
EFH - Total Active Count [1]	The number of times that EFH was active during the lifetime of this subscriber session
Number of categories - static	The number of static categories in use for this subscriber session.
Number of categories - gx-session	The number of categories reserved for this subscriber session for Gx session level Usage Monitoring.
Number of categories - gx-pcc	The number of dynamic categories in use by this subscriber session for Gx PCC rule-based Usage Monitoring.
Category - Category Name	The name of the category as configured in the category map
Category - Ingress Queues	The ingress queues for which credit control is applied in this category as configured in the category map
Category - Egress Queues	The egress queues for which credit control is applied in this category as configured in the category map

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Category - Ingress Policers	The ingress policers for which credit control is applied in this category as configured in the category map
Category - Egress Policers	The egress policers for which credit control is applied in this category as configured in the category map
Category - Credit Volume Used	The used total octets counter (ingress and egress combined) since the last usage reporting of this rating group
Category - Credit Volume Avail.	The remaining total granted octets available before a new credit negotiation is triggered for this rating group (category) or the out of credit action is triggered
Category - Credit Volume Thres.	The volume quota threshold in octets as received from the OCS. When the Credit Volume Available octets fall below the Credit Volume Threshold, a new credit negotiation is triggered for this rating group (category). The Credit Volume Threshold value is set to Expired and Credit Negotiating is set to True.
Category - Credit Time Used	The number of seconds passed since the last reporting of this rating group
Category - Credit Time Avail.	The remaining number of seconds before a new credit negotiation is triggered for this rating group (category) or the out of credit action is triggered
Category - Credit Time Thres.	The time quota threshold in seconds as received from the OCS When the Credit Time Available falls below the Credit Time Threshold, a new credit negotiation is triggered for this rating group (category). The Credit Time Threshold value is set to Expired and Credit Negotiating is set to true.
Category - Credit Expired	The credit expired value: False—Negotiated credit is still available True—All granted credit is exhausted; either new credit is being negotiated with the OCS or the out of credit action is activated.
Category - Credit Negotiating	The credit negotiating value: False—There is no credit being requested to the OCS True—New credit is being requested to the OCS
Category - Out Of Credit Action	The out of credit action value:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	None—Out-of-credit action is not active When the out-of-credit action is active, the value is set to one of: ChangeServiceLevel, BlockCategory, Continue, or DisconnectHost
Category - Quota Holding Time	The Idle timeout associated with the granted quota. When no traffic associated with the quota is observed for the time specified, a credit negotiation is triggered with the OCS.
Category - Validity Time Used	The number of seconds passed since the Validity Time was installed
Category - Validity Time Avail.	The remaining number of seconds of the Validity Time before a new usage reporting is triggered for this rating group (category)
Category - EFH Unreported Credit - Current Volume [1] [2]	The unreported volume credit for the current occurrence of EFH in an active state. This counter includes the unreported used volume credit for the initial Diameter Gy session that caused the active EFH state and the unreported volume interim credit for previous attempts. Used interim credit for the current attempt is shown in the Credit Volume Used counter.
Category - EFH Unreported Credit - Total Volume [1]	The accumulated total unreported volume credit for the previous occurrences of EFH in an active state. The total counter is updated when the EFH state toggles from active to inactive. When interim credit reporting is enabled, the counters are reset to zero when the actual usage reporting for this rating group (category) occurs. When interim credit reporting is disabled, the counters accumulate the total unreported volume credit during the lifetime of the subscriber session.
Category - EFH Unreported Credit - Current Time [1] [2]	The unreported time credit for the current occurrence of EFH in an active state. This counter includes the unreported used time credit for the initial Diameter Gy session that caused the active EFH state and the unreported time interim credit for previous attempts. Used interim credit for the current attempt is shown in the Credit Time Used counter.
Category - EFH Unreported Credit - Total Time [1]	The accumulated total unreported time credit for the previous occurrences of EFH in an active state. The total counter is updated when the EFH state toggles from active to inactive. When interim credit reporting is enabled, the counters are reset to zero when the actual usage reporting for this rating group (category) occurs. When interim credit reporting is disabled, the counters

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	accumulate the total unreported time credit during the lifetime of the subscriber session.
Category - HTTP Rdr URL Override	The URL returned by a Diameter OCS in a Credit Control Answer (CCA) message Final-Unit-Indication/ Redirect-Server/Redirect-Server-Address AVP. This URL is used for Diameter Gy http-redirect out-of-credit actions when **allow-override** is configured.

Note:

1. These fields are only shown when EFH is enabled in the Diameter application policy. EFH is enabled using the **configure subscriber-mgmt diameter-application-policy gy extended-failure-handling no shutdown** command.
2. These fields are only shown when the EFH state is active.

6.72 credit-control-policy

credit-control-policy

Syntax

credit-control-policy [*policy-name*]

credit-control-policy *policy-name* **subscribers**

Context

[Tree] (show>subscr-mgmt credit-control-policy)

Full Context

show subscriber-mgmt credit-control-policy

Description

This command displays credit control policy information.

Parameters

policy-name

Specifies the credit control policy name, up to 32 characters.

subscribers

Displays the subscribers associated with the credit control policy.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.73 credit-reset

credit-reset

Syntax

credit-reset sap *sap-id* **subscriber** *sub-ident-string* **sla-profile** *sla-profile-name* {**category** *category-name* | **all-categories**} [**spi-sharing-type** *spi-sharing-type*] [**spi-sharing-id** *spi-sharing-id*]

credit-reset sap *sap-id* **ip** *ip-address* {**category** *category-name*| **all-categories**} [**mac** *mac-address*]

credit-reset svc *service-id* **ip** *ip-address* {**category** *category-name* | **all-categories**} [**mac** *mac-address*]

Context

[Tree] (tools>perform>subscr-mgmt credit-reset)

Full Context

tools perform subscriber-mgmt credit-reset

Description

This command resets the credit for an SLA-profile instance.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

sub-ident-string

Resets the credit for the specified subscriber identification, up to 32 characters.

sla-profile-name

Resets the credit for the specified SLA profile, up to 32 characters.

category-name

Resets the credit for the specified category, up to 32 characters.

spi-sharing-type

Resets the credit for sessions with the specified SPI sharing type.

Values per-group, per-session-ipoe, per-session-ppp

spi-sharing-id

Resets the credit for sessions with the specified SPI sharing type and sharing identifier. The SPI sharing identifier is:

- an identifier when the sharing type is per-group
- an internal PPP or IPoE identifier when the sharing type is a per-PPP or per-IPoE session

Values 0 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Resets the credit for the specified IP address.

mac-address

Resets the credit for the specified MAC IP address.

sub-profile-string

Resets the credit for the specified subscriber profile, up to 32 characters.

service-id

Resets the credit for the specified service ID.

Values service-id: 1 2147483647 svc-name: up to 64 characters.

Platforms

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

6.74 cron

cron

Syntax

cron

Context

[Tree] (show>system cron)

Full Context

show system cron

Description

Commands in this context display CRON information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.75 crp

crp

Syntax

crp [*family* | *ip-address*]

Context

[Tree] (show>router>pim crp)

Full Context

show router pim crp

Description

This command displays PIM candidate RP (CRP) information received at the elected Bootstrap router (BSR).

Parameters

family

Displays CRP information for the address family.

Values ipv4, ipv6

ip-address

Displays the IP address of the candidate RP.

Platforms

All

Output

The following output is an example of a PIM CRP configuration.

Output Example

```
A:WAS# show router pim crp
===============================================================================
PIM Candidate RPs
===============================================================================
RP Address      Group Address      Priority    Holdtime  Expiry Time
-------------------------------------------------------------------------------
239.22.187.236    224.0.0.0/4        192         150       0d 00:02:19
239.22.187.239    224.0.0.0/4        192         150       0d 00:02:19
239.22.187.240    224.0.0.0/4        192         150       0d 00:02:09
-------------------------------------------------------------------------------
Candidate RPs : 3
===============================================================================
A:WAS#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:WAS# show router pim crp 239.22.187.236
===============================================================================
PIM Candidate RPs
===============================================================================
RP Address      Group Address      Priority    Holdtime  Expiry Time
-------------------------------------------------------------------------------
239.22.187.236    224.0.0.0/4        192         150       0d 00:01:43
-------------------------------------------------------------------------------
Candidate RPs : 1
===============================================================================
A:WAS#
```

Table 95: Output fields: PIM CRP provides PIM CRP field descriptions.

Table 95: Output fields: PIM CRP

Label	Description
RP Address	The Candidate RP address
Group Address	The range of multicast group addresses for which the CRP is the Candidate RP
Priority	The Candidate RP's priority for becoming a rendezvous point (RP). This value is used to elect RP for a group range. A value of 0 is considered as the highest priority.
Holdtime	The hold time of the candidate RP. It is used by the Bootstrap router to time out the RP entries if it does not listen to another CRP advertisement within the holdtime period.
Expiry	The minimum time remaining before the CRP will be declared down. If the local router is not the BSR, this value is 0.
Candidate RPs	The number of CRP entries.

6.76 cspf

cspf

Syntax

cspf to *ip-addr* [**from** *ip-addr*] [**bandwidth** *bandwidth*] [**include-bitmap** *bitmap*] [**exclude-bitmap** *bitmap*] [**hop-limit** *limit*] [**exclude-address** *excl-addr*] [**use-te-metric**] [**strict-srlg**] [**srlg-group**] [**exclude-node** *excl-node-id* [*excl-node-id*] [**skip-interface** *interface-name*] [**ds-class-type** *class-type*] [**cspf-reqtype** *req-type*] [**least-fill-min-thd** *thd*] [**setup-priority** *val*] [**hold-priority** *val*]

Context

[Tree] (tools>perform>router>mpls cspf)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform router mpls cspf

Description

This command computes a CSPF path with specified user constraints.

Parameters

to *ip-addr*

Specifies the destination IP address.

Values a.b.c.d

from *ip-addr*

Specifies the originating IP address.

Values a.b.c.d

bandwidth *bandwidth*

Specifies the amount of bandwidth in Mb/s to be reserved.

Values 1 to 6400000

include-bitmap *bitmap*

Specifies to include a bit-map that specifies a list of admin groups that should be included during setup. Accepted in decimal, hex, or binary.

Values 1 to 4294967295

exclude-bitmap *bitmap*

Specifies to exclude a bit-map that specifies a list of admin groups that should be included during setup. Accepted in decimal, hex, or binary.

Values 1 to 4294967295

hop-limit *limit*

Specifies the maximum number of hops for the path.

Values 2 to 255

exclude-address *ip-addr*

Specifies IP addresses, up to eight, that should be excluded in the path computation.

Values a.b.c.d

use-te-metric

Specifies the use of the link traffic engineering metric to optimize the path. By default, the link IGP metric is used.

strict-srlg

Specifies the computation of a path which is strictly disjoint from links which are members of the entered SRLG

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

srlg-group *grp-id*

Specifies up to eight Shared Risk Loss Groups (SRLGs) that path computation should avoid, or must avoid if the **strict-srlg** option is enabled. An SRLG group represents a set of interfaces which could be subject to the same failures or defects and thus share the same risk of failing.

Values 0 to 4294967295

exclude-node *excl-node-id*

Specifies a list of up to eight addresses, that should be excluded during the path computation.

Values a.b.c.d

skip-interface *interface-name*

Specifies an interface name of up to 32 characters, that should be skipped during the path computation.

ds-class-type *class-type*

Specifies the class type (CT) to associate with the computed path.

Values 0 to 7

cspf-reqtype *req-type*

Specifies the if all ECMP paths or a single path, selected randomly or using the **least-fill** parameter, should be returned.

Values all, random, least-fill

least-fill-min-thd *thd*

Specifies the use of the least-fill path selection method in the computation of the path.

Values 1 to 100

setup-priority *val*

Specifies the setup priority value to use for the path.

Values 0 to 7

hold-priority *val*

Specifies the hold priority value to use for the path.

Values 0 to 7

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.77 custom-hash

custom-hash

Syntax

custom-hash

Context

[Tree] (show>system>security>hash-control custom-hash)

Full Context

show system security hash-control custom-hash

Description

This command displays custom hash information.

Platforms

All

6.78 custom-protocol

custom-protocol

Syntax

custom-protocol

Context

[Tree] (show>app-assure>group>policy custom-protocol)

Full Context

show application-assurance group policy custom-protocol

Description

This command displays application-assurance policy custom protocol information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

6.79 customer

customer

Syntax

customer [*customer-id* [**site** *customer-site-name* [**associated-subs**]]]

Context

[Tree] (show>service customer)

Full Context

show service customer

Description

This command displays service customer information.

Parameters

customer-id

Displays only information for the specified customer ID.

Values 1 to 2147483647

Default Displays all customer IDs.

site *customer-site-name*

Specifies the customer site which is an anchor point for an ingress and egress virtual scheduler hierarchy.

associated-subs

Displays information for the associated subscribers.

Platforms

All

Output

The following output is an example of customer information, and Table 96: Output fields: customer describes the output fields.

Output Example

```
*A:ALA-12# show service customer
===============================================================
Customers
===============================================================
Customer-ID : 1
Contact     : Manager
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description : Default customer
Phone       : (123) 555-1212

Customer-ID : 2
Contact     : Tech Support
Description : Nokia
Phone       : (234) 555-1212

Customer-ID : 3
Contact     : Fred
Description : Nokia
Phone       : (345) 555-1212

Customer-ID : 6
Contact     : Ethel
Description : Epipe Customer
Phone       : (456) 555-1212

Customer-ID : 7
Contact     : Lucy
Description : ABC Customer
Phone       : (567) 555-1212

Customer-ID : 8
Contact     : Customer Service
Description : IES Customer
Phone       : (678) 555-1212

Customer-ID : 274
Contact     : Test Engineer on Duty
Description : ABC Company
Phone       : 650 123-4567

Customer-ID : 94043
Contact     : Test Engineer on Duty
Description : TEST Customer
Phone       : (789) 555-1212

-------------------------------------------------------
Total Customers : 8
-------------------------------------------------------
*A:ALA-12#


*A:ALA-12# show service customer 274
===============================================================================
Customer  274
===============================================================================
Customer-ID : 274
Contact     : Test Engineer on Duty
Description : ABC Company
Phone       : 650 123-4567
-------------------------------------------------------------------------------
Multi Service Site
-------------------------------------------------------------------------------
Site        : west
Description : (Not Specified)
===============================================================================
*A:ALA-12#


*A:ALA-12# show service customer 274 site west
===============================================================================
Customer  274
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Customer-ID : 274
Contact     : Test Engineer on Duty
Description : ABC Company
Phone       : 650 123-4567
-------------------------------------------------------------------------------
Multi Service Site
-------------------------------------------------------------------------------
Site        : west
Description : (Not Specified)
Assignment  : Card 5
I. Sched Pol: SLA1
E. Sched Pol: (Not Specified)
-------------------------------------------------------------------------------
Service Association
-------------------------------------------------------------------------------
No Service Association Found.
===============================================================================
*A:ALA-12#
```

Table 96: Output fields: customer

Label	Description
Customer-ID	The ID that uniquely identifies a customer.
Contact	The name of the primary contact person.
Description	Generic information about the customer.
Phone	The phone/pager number to reach the primary contact person.
Total Customers	The total number of customers configured.
Multi-service site	
Site	Multi-service site name. A multi-service customer site is a group of SAPs with common origination and termination points.
Description	Information about a specific customer's multi-service site.
Assignment	The port ID, MDA, or card number, where the SAP's that are members of this multi- service site are defined.
I. Sched Pol	The ingress QoS scheduler policy assigned to this multi-service site.
E. Sched Pol	The egress QoS scheduler policy assigned to this multi-service site.
Service Association	
Service-ID	The ID that uniquely identifies a service.
SAP	The SAP assigned to the service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

customer

Syntax

customer *customer-id* **site** *customer-site-name* [{**ingress** | **egress**}] [**arbiter** {*name* | **root**}] [{**detail** | **depth**}]

Context

[Tree] (show>qos>policer-hierarchy customer)

Full Context

show qos policer-hierarchy customer

Description

This command displays information about the policer hierarchy per customer.

Parameters

customer-id

Specifies the customer ID that identifies the customer to the service.

customer-site-name

Specifies the unique customer site name, up to 32 characters.

ingress

Displays ingress queue group information.

egress

Displays egress queue group information.

name

Displays information about the name of the QoS arbiter.

root

Displays information about the arbiter root.

detail

Displays detailed information.

depth

Displays the bucket depth, parenting, rate, and traffic information related to a policer.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

customer

Syntax

customer *customer-id* **site** *customer-site-name* [**scheduler** *scheduler-name*] [{**ingress** | **egress**}] [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>qos>scheduler-hierarchy customer)

Full Context

show qos scheduler-hierarchy customer

Description

This command displays the scheduler hierarchy per customer multiservice site.

Parameters

customer-id

Specifies the ID number associated with a particular customer.

Values 1 to 2147483647

customer-site-name

Specifies the unique name customer site name.

scheduler-name

Specifies the unique scheduler name created in the context of the scheduler policy.

ingress

Displays ingress SAP customer scheduler stats.

egress

Displays egress SAP customer scheduler stats.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of customer scheduler hierarchy information, and Table 97: Output fields: QoS scheduler hierarchy customer describes the customer scheduler hierarchy fields.

Output Example

```
*A:PE# show qos scheduler-hierarchy customer 1 site "s1"
===============================================================================
Scheduler Hierarchy - Customer 1 MSS s1
===============================================================================
Root (Ing)
| slot(1)
|--(S) : s1
|   |
|   |--(S) : Tier0Ingress:1->1/1/1->1
|   |   |
|   |   |--(Q) : 1->1/1/1->1 1-1
|   |   |
|   |   |--(Q) : 1->1/1/1->1 2-1
|   |   |
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |   |--(Q) : 1->1/1/1->1 5-1
|   |   |


Root (Egr)
| slot(1)
|--(S) : s1
|   |
|   |--(Q) : 1->1/1/1->1
|   |
|


===============================================================================
*A:PE#
```

```
show qos scheduler-hierarchy customer 1 site "mss"
===============================================================================
Scheduler Hierarchy - Customer 1 MSS mss
===============================================================================
Root (Ing)
|
No Active Members Found on slot 3
Root (Egr)
| slot(3)
|--(Q) : 2->pw-2:100->8  (Port pxc-1.b)
|
|--(Q) : 2->pw-2:100->7  (Port pxc-1.b)
|
|--(Q) : 2->pw-2:100->6  (Port pxc-1.b)
|
|--(Q) : 2->pw-2:100->5  (Port pxc-1.b)
|
|--(Q) : 1->pw-1:100->8  (Port pxc-1.b)
|
|--(Q) : 1->pw-1:100->7  (Port pxc-1.b)
|
|--(Q) : 1->pw-1:100->6  (Port pxc-1.b)
|
|--(Q) : 1->pw-1:100->5  (Port pxc-1.b)
|
```

Table 97: Output fields: QoS scheduler hierarchy customer

Label	Description
Legend	Admin CIR/PIR: Specifies the configured value of CIR/PIR. Assigned CIR/PIR: Specifies the PIR/CIR rate given to a member by that parent level. Offered CIR/PIR: Specifies the offered load on that member. Consumed CIR/PIR: Specifies the amount of scheduler bandwidth used by this member.
Lvl/Wt	Specifies the priority level of the scheduler when compared to other child schedulers and queues vying for bandwidth on the parent schedulers during the above-CIR distribution phase of bandwidth allocation.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Weight defines the relative weight of this scheduler in comparison to other child schedulers and queues at the same level.
Cir Lvl/Wt	Specifies the level of hierarchy when compared to other schedulers and queues when vying for bandwidth on the parent scheduler. Weight defines the relative weight of this queue as compared to other child schedulers and queues while vying for bandwidth on the parent scheduler.
PIR	Specifies the PIR rate.
CIR	Specifies the CIR rate.
Parent	Specifies the parent scheduler that governs the available bandwidth given the queue aside from the queue's PIR setting.
Service-Id	The ID that uniquely identifies the policy.
Customer-Id	The ID that uniquely identifies the customer.
SAP	Specifies the Service Access Point (SAP) within the service where the policy is applied.
Multi Service Site	Specifies the multiservice site name.
Orphan Queues	Specifies the number of queues in an orphaned state.
Hierarchy	Displays the scheduler policy tree structure.
Tier0	Specifies the weight of the queue at its parent internal (Tier0) scheduler. This is a normalized value based on the port speed, or hash weight when used within a LAG.

customer

Syntax

customer *customer-id* **site** *customer-site-name* [**scheduler** *scheduler-name*] [{**ingress** | **egress**}]

Context

[Tree] (show>qos>scheduler-stats customer)

Full Context

show qos scheduler-stats customer

Description

This command displays scheduler statistics customer information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

customer-id

Specifies the ID number associated with a particular customer.

Values 1 to 2147483647

customer-site-name

The unique customer site name.

scheduler-name

The unique scheduler name created in the context of the scheduler policy.

ingress

The keyword to display ingress SAP customer scheduler stats.

egress

The keyword to display egress SAP customer scheduler stats.

Platforms

All

Output

The following output is an example of SAP scheduler-stats customer information, and Table 98: Output fields: QoS scheduler statistics customer describes the SAP scheduler-stats customer fields.

Output Example

```
A:ALA-12# show qos scheduler-stats customer 274 site west scheduler NetworkControl
ingress
===============================================================================
Scheduler Stats
===============================================================================
Scheduler                         Forwarded Packets        Forwarded Octets
-------------------------------------------------------------------------------
NetworkControl                    0                        0
===============================================================================
A:ALA-12#
```

Table 98: Output fields: QoS scheduler statistics customer

Label	Description
Scheduler	Displays the scheduler policy name.
Forwarded Packets	Displays the number of packets forwarded.
Forwarded Octets	Displays the number of octets forwarded.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

customer

Syntax

customer *customer-id* **site** *customer-site-name* [**egress**] [**detail**]

Context

[Tree] (show>qos>agg-rate customer)

Full Context

show qos agg-rate customer

Description

This command displays the H-QoS aggregate rate limit per customer multiservice site.

Parameters

customer *customer-id*

Specifies the ID number associated with a particular customer.

Values 1 to 2147483647

site *customer-site-name*

Specifies the unique customer site name.

egress

Displays egress SAP customer scheduler stats.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of QoS customer aggregation rate output, and Table 99: Output fields: QoS aggregation rate customer describes the QoS customer aggregation rate fields.

Output Example

```
*A:PE1# show qos agg-rate customer 1 site "site1" egress
===============================================================================
Aggregate Rate Information - Customer 1 MSS site1
===============================================================================
Root (Egr)
| slot(1)
|    AdminRate              : 10000
|    OperRate               : 0
|    Limit Unused Bandwidth : disabled
|    OnTheWireRates         : false
|    LastMileOnTheWireRates : false
|
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:PE#
```

```
show qos agg-rate customer 1 site "mss"
===============================================================================
Aggregate Rate Information - Customer 1 MSS mss
===============================================================================
Root (Egr)
| slot(3)
|    AdminRate              : 50000
|    OperRate               : 50000
|    Limit Unused Bandwidth : disabled
|    OnTheWireRates         : false
|    LastMileOnTheWireRates : false
|
|--(Q) : 2->pw-2:100->8  (Port pxc-1.b)
|
|--(Q) : 2->pw-2:100->7  (Port pxc-1.b)
|
|--(Q) : 2->pw-2:100->6  (Port pxc-1.b)
|
|--(Q) : 2->pw-2:100->5  (Port pxc-1.b)
|
|--(Q) : 1->pw-1:100->8  (Port pxc-1.b)
|
|--(Q) : 1->pw-1:100->7  (Port pxc-1.b)
|
|--(Q) : 1->pw-1:100->6  (Port pxc-1.b)
|
|--(Q) : 1->pw-1:100->5  (Port pxc-1.b)
```

Table 99: Output fields: QoS aggregation rate customer

Label	Description
AdminRate	Displays the configured aggregate rate in the subscriber profile.
OperRate	Displays the actual downstream rate.
Limit Unused Bandwidth	Indicates whether the **limit-unused-bandwidth** command is enabled to protect against exceeding the aggregated bandwidth.
OnTheWireRates	Indicates whether the displayed rates are on-the-wire rates.
LastMileOnTheWireRates	Indicates whether the displayed rates are on-the-wire rates for the last mile only.

customer

Syntax

customer *customer-id* **site** *customer-site-name* [**arbiter** {**root** | *name*}] [**ingress** | **egress**] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (monitor>qos>arbiter-stats customer)

Full Context

monitor qos arbiter-stats customer

Description

This command monitors arbiter statistics for a customer site.

Parameters

customer-id

Specifies the ID number to be associated with the customer, expressed as an integer.

Values 1 to 2147483647

customer-site-name

Specifies the customer site which is an anchor point for ingress and egress arbiter hierarchy.

name

Specifies the name of the policer control policy arbiter. This parameter is mandatory if the SAP resides on a LAG in adapt-qos link or port-fair mode.

Values An existing arbiter-name in the form of a string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

root

Specifies the root arbiter.

ingress

Displays arbiter-name statistics applied on the site ingress.

egress

Displays arbiter-name statistics applied on the site egress.

seconds

Configures the interval for each display in seconds.

Values 11 to 60

Default 11 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

customer

Syntax

customer *customer-id* **site** *customer-site-name* [**scheduler** *scheduler-name*] [**ingress** | **egress**] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>qos>scheduler-stats customer)

Full Context

monitor qos scheduler-stats customer

Description

This command monitors scheduler statistics per customer multi-service-site. The first screen displays the current statistics related to the specified customer ID and customer site name. The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta. Monitor commands are similar to **show** commands but only statistical information displays. These commands display selected statistics per the configured number of times at the interval specified.

Parameters

customer-id

Specifies the ID number to be associated with the customer, expressed as an integer.

Values 1 to 2147483647

customer-site-name

Specifies the customer site, which is an anchor point for ingress and egress virtual scheduler hierarchy.

scheduler-name

Specifies an existing *scheduler-name*. Scheduler names are configured in the **config>qos>scheduler-policy>tier** *level* context. This parameter is mandatory if the customer resides on a LAG in adapt-qos link or port-fair mode.

Values An existing *scheduler-name* is in the form of a string, up to 32 characters, composed of printable, 7-bit ASCII characters. If the string

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

ingress

Displays the customer's multi-service-site ingress scheduler policy.

egress

Displays the customer's multi-service-site egress scheduler policy.

seconds

Configures the interval for each display in seconds.

Values 11 to 60

Default 11 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

customer

Syntax

customer *customer-id* **site** *customer-site-name* [**arbiter** {*name* | *root*}] [**ingress** | **egress**]

Context

[Tree] (clear>qos>arbiter-stats customer)

Full Context

clear qos arbiter-stats customer

Description

This command clears the arbiter statistics per customer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

customer-id

Specifies the ID number of the associated customer.

Values 1 to 2147483647

customer-site-name

Specifies the customer site name, up to 32 characters.

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

ingress

Clears the arbiter name statistics applied on the site ingress.

egress

Clears the arbiter name statistics applied on the site egress.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

customer

Syntax

customer *customer-id* **site** *customer-site-name* [**scheduler** *scheduler-name*] [**ingress** | **egress**]

Context

[Tree] (clear>qos>scheduler-stats customer)

Full Context

clear qos scheduler-stats customer

Description

This command clears the scheduler statistics per customer multi-service site.

Parameters

customer-id

Specifies the ID number of the associated customer.

Values 1 to 2147483647

customer-site-name

Specifies the customer site name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

scheduler-name

Specifies the scheduler name, up to 32 characters.

ingress

Clears the customer's multi-service site ingress scheduler policy.

egress

Clears customer's multi-service site egress scheduler policy.

Platforms

All

customer

Syntax

customer *customer-id* **site** *customer-site-name* [**arbiter** *name* | *root*] [**ingress** | **egress**]

Context

[Tree] (show>qos>arbiter-stats customer)

Full Context

show qos arbiter-stats customer

Description

This command displays the arbiter statistics per customer multi-service site.

Parameters

customer-id

Specifies the ID number associated with a particular customer.

Values 1 to 2147483647

customer-site-name

Specifies the customer site name, up to 32 characters.

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

egress

Displays egress queue group information.

ingress

Displays ingress queue group information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7 d Commands

7.1 dampening

dampening

Syntax

dampening

Context

[Tree] (clear>port>eth dampening)

Full Context

clear port ethernet dampening

Description

This command clears Exponential Port Dampening (EPD) accumulated penalties on the port.

Platforms

All

7.2 damping

damping

Syntax

damping [*ip-prefix* [*/ip-prefix-length*]] [**damp-type**] [**detail**] [**ipv4**]

damping [*ip-prefix* [*/ip-prefix-length*]] [**damp-type**] [**detail**] { **ipv6** | **label-ipv4** | **label-ipv6** | **mcast-ipv4** | **mcast-ipv6** | **mvpn-ipv4** | **vpn-ipv4** | **vpn-ipv6**}

Context

[Tree] (show>router>bgp damping)

Full Context

show router bgp damping

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays BGP routes with have been dampened due to route flapping. This command can be entered with or without a route parameter.

When the keyword **detail** is included, more detailed information displays.

When only the command is entered (without any parameters included except **detail**), then all dampened routes are listed.

When a parameter is specified, then the matching route or routes are listed.

When a **decayed**, **history,** or **suppressed** keyword is specified, only those types of dampened routes are listed.

Parameters

ip-prefix[ip-prefix-length]

Displays damping information for the specified IP prefix length.

Values ipv4-prefix: a.b.c.d (host bits must be 0)

ipv4-prefix-le: 0 to 32

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

ipv6-prefix-le: 0 to 128

damp-type

Displays damping type for the specified IP address.

decayed

Displays damping entries that are decayed but are not suppressed.

history

Displays damping entries that are withdrawn but have history.

suppressed

Displays damping entries suppressed because of route damping.

detail

Displays detailed information.

ipv4

Displays damped routes for the IPv4 family.

ipv6

Displays damped routes for the IPv6 family.

label-ipv4

Displays damped routes for the label IPv4 family.

label-ipv6

Displays damped routes for the label IPv6 family.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mcast-ipv4

Displays damped routes for the MCAST IPv4 family.

mcast-ipv6

Displays damped routes for the MCAST IPv6 family.

mvpn-ipv4

Displays damped routes for the MVPN IPv4 family.

vpn-ipv4

Displays damped routes for the VPN IPv4 family.

vpn-ipv6

Displays damped routes for the VPN IPv6 family.

Platforms

All

Output

The following output is an example of BGP damping information, and Table 100: Output fields: BGP damping describes the output fields.

Output Example

```
*A:ALA-12# show router 3 bgp damping
===============================================================================
  BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
  Legend -
  Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
  Origin codes  : i - IGP, e - EGP, ? - incomplete,  - best
===============================================================================
BGP Damped Routes
===============================================================================
Flag  Network            From            Reuse       AS-Path
-------------------------------------------------------------------------------
ud*i  10.149.7.0/24      10.0.28.1       00h00m00s   60203 65001 19855 3356
                                                      1239  22406
si    10.155.6.0/23      10.0.28.1       00h43m41s   60203 65001 19855 3356
                                                      2914  7459
si    10.155.8.0/22      10.0.28.1       00h38m31s   60203 65001 19855 3356
                                                      2914  7459
si    10.155.12.0/22     10.0.28.1       00h35m41s   60203 65001 19855 3356
                                                      2914  7459
si    10.155.22.0/23     10.0.28.1       00h35m41s   60203 65001 19855 3356
                                                      2914  7459
si    10.155.24.0/22     10.0.28.1       00h35m41s   60203 65001 19855 3356
                                                      2914  7459
si    10.155.28.0/22     10.0.28.1       00h34m31s   60203 65001 19855 3356
                                                      2914  7459
si    10.155.40.0/21     10.0.28.1       00h28m24s   60203 65001 19855 3356
                                                      7911  7459
si    10.155.48.0/20     10.0.28.1       00h28m24s   60203 65001 19855 3356
                                                      7911  7459
ud*i  10.8.140.0/24      10.0.28.1       00h00m00s   60203 65001 19855 3356
                                                      4637  17447
ud*i  10.8.141.0/24      10.0.28.1       00h00m00s   60203 65001 19855 3356
                                                      4637  17447
ud*i  10.9.0.0/18        10.0.28.1       00h00m00s   60203 65001 19855 3356
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                                    3561  9658  6163
. . .
ud*i  10.213.184.0/23    10.0.28.1       00h00m00s   60203 65001 19855 3356
                                                     6774  6774  9154
-------------------------------------------------------------------------------
*A:ALA-12#


*A:ALA-12# show router 3 bgp damping detail
===============================================================================
  BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
  Legend -
  Status codes  : u - used, s - suppressed, h - history, d - decayed, * -
 valid
  Origin codes  : i - IGP, e - EGP, ? - incomplete,  - best
===============================================================================
BGP Damped Routes
===============================================================================
-------------------------------------------------------------------------------
Network : 10.149.7.0/24
-------------------------------------------------------------------------------
Network          : 10.149.7.0/24        Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h22m09s            Last update      : 02d00h58m
FOM Present      : 738                  FOM Last upd.    : 2039
Number of Flaps  : 2                    Flags            : ud*i
Path             : 60203 65001 19855 3356  1239  22406
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 10.142.48.0/20
-------------------------------------------------------------------------------
Network          : 10.142.48.0/20       Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h00m38s            Last update      : 02d01h20m
FOM Present      : 2011                 FOM Last upd.    : 2023
Number of Flaps  : 2                    Flags            : ud*i
Path             : 60203 65001 19855 3356  3561  5551  1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 10.200.128.0/19
-------------------------------------------------------------------------------
Network          : 10.200.128.0/19      Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h00m38s            Last update      : 02d01h20m
FOM Present      : 2011                 FOM Last upd.    : 2023
Number of Flaps  : 2                    Flags            : ud*i
Path             : 60203 65001 19855 1299  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 10.203.192.0/18
-------------------------------------------------------------------------------
Network          : 10.203.192.0/18      Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h00m07s            Last update      : 02d01h20m
FOM Present      : 1018                 FOM Last upd.    : 1024
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Number of Flaps  : 1                    Flags            : ud*i
Path             : 60203 65001 19855 1299  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
*A:ALA-12#


*A:ALA-12# show router 3 bgp damping 10.203.192.0/18 detail
===============================================================================
  BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
  Legend -
  Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
  Origin codes  : i - IGP, e - EGP, ? - incomplete,  - best
===============================================================================
BGP Damped Routes 10.203.192.0/18
===============================================================================
Network : 10.203.192.0/18
-------------------------------------------------------------------------------
Network          : 10.203.192.0/18      Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h00m00s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h00m42s            Last update      : 02d01h20m
FOM Present      : 2003                 FOM Last upd.    : 2025
Number of Flaps  : 2                    Flags            : ud*i
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Paths : 1
===============================================================================
*A:ALA-12#
*A:ALA-12# show router 3 bgp damping suppressed detail
===============================================================================
  BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
  Legend -
  Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
  Origin codes  : i - IGP, e - EGP, ? - incomplete,  - best
===============================================================================
BGP Damped Routes (Suppressed)
===============================================================================
Network : 10.142.48.0/20
-------------------------------------------------------------------------------
Network          : 10.142.48.0/20       Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h29m22s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h01m28s            Last update      : 02d01h20m
FOM Present      : 2936                 FOM Last upd.    : 3001
Number of Flaps  : 3                    Flags            : si
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 10.200.128.0/19
-------------------------------------------------------------------------------
Network          : 10.200.128.0/19      Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h29m22s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h01m28s            Last update      : 02d01h20m
FOM Present      : 2936                 FOM Last upd.    : 3001
Number of Flaps  : 3                    Flags            : si
Path             : 60203 65001 19855 3356  702   1889
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 10.203.240.0/20
-------------------------------------------------------------------------------
Network          : 10.203.240.0/20      Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h29m22s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h01m28s            Last update      : 02d01h20m
FOM Present      : 2936                 FOM Last upd.    : 3001
Number of Flaps  : 3                    Flags            : si
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
Network : 10.206.0.0/17
-------------------------------------------------------------------------------
Network          : 10.206.0.0/17        Peer             : 10.0.28.1
NextHop          : 10.0.28.1            Reuse time       : 00h29m22s
Peer AS          : 60203                Peer Router-Id   : 10.32.27.203
Local Pref       : none
Age              : 00h01m28s            Last update      : 02d01h20m
FOM Present      : 2936                 FOM Last upd.    : 3001
Number of Flaps  : 3                    Flags            : si
Path             : 60203 65001 19855 3356  702   1889
Applied Policy   : default-damping-profile
-------------------------------------------------------------------------------
*A:ALA-12#
```

Table 100: Output fields: BGP damping

Label	Description
BGP Router ID	The local BGP router ID.
AS	The configured autonomous system number.
Local AS	The configured or inherited local AS for the specified peer group. If not configured, then it is the same value as the AS.
Network	Route IP prefix and mask length for the route.
Flag(s)	Legend: Status codes: u- used, s-suppressed, h-history, d-decayed, *-valid. If a * is not present, then the status is invalid. Origin codes: i-IGP, e-EGP, ?-incomplete, >-best
Network	The IP prefix and mask length for the route.
From	The originator ID path attribute value.
Reuse time	The time when a suppressed route can be used again.
AS Path	The BGP AS path for the route.
Peer	The router ID of the advertising router.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
NextHop	BGP nexthop for the route.
Peer AS	The autonomous system number of the advertising router.
Peer Router-Id	The router ID of the advertising router.
Local Pref	BGP local preference path attribute for the route.
Age	The time elapsed since the service was enabled.
Last update	The time when BGP was updated last in second/minute/hour (SS:MM:HH) format.
FOM Present	The current Figure of Merit (FOM) value.
Number of Flaps	The number of flaps in the neighbor connection.
Reuse time	The time when the route can be reused.
Path	The BGP AS path for the route.
Applied Policy	The applied route policy name.

damping

Syntax

damping [{*ip-prefix*/ip-prefix-length] [**neighbor** *ip-address*]} | **group** *name*]

Context

[Tree] (clear>router>bgp damping)

Full Context

clear router bgp damping

Description

This command clears or resets the route damping information for received routes.

Parameters

ip-prefix/ip-prefix-length

Clears damping information for entries that match the IP prefix and prefix length.

Values ipv4-prefix:

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

ipv6-prefix:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ipv6-prefix-length: [0 to 128]

neighbor *ip-address*

Clears damping information for entries received from the BGP neighbor.

Values ipv4-address:

- a.b.c.d

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

interface: up to 32 characters, mandatory for link local addresses

group *name*

Clears damping information for entries received from any BGP neighbors in the peer group.

Values up to 32 characters

Platforms

All

7.3 data-trigger

data-trigger

Syntax

data-trigger sap *sap-id*

Context

[Tree] (clear>service>dynsvc data-trigger)

Full Context

clear service dynamic-services data-trigger

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command deletes all dynamic services associated with a dynamic services data trigger.

Note:
This command is not available in the MD-CLI.

Parameters

sap-id

Specifies the dynamic services data trigger SAP to delete.

Platforms

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

7.4 data-triggers

data-triggers

Syntax

data-triggers [**sap** *sap-id*] [**summary**]

Context

[Tree] (show>service>dynsvc data-triggers)

Full Context

show service dynamic-services data-triggers

Description

This command displays the active dynamic services data trigger details.

Note:
This command is not available in the MD-CLI.

Parameters

sap-id

Specifies the dynamic services SAP for which the details are shown.

summary

Limits the output to one line per data trigger SAP.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of data trigger information.

Output Example

```
# show service dynamic-services data-triggers
===============================================================================
Dynamic Services Data-triggers
===============================================================================
SAP                         : 1/1/4:1214.101
-------------------------------------------------------------------------------
Acct session-ID             : 144DFF0000009156A24138
MAC                         : 00:51:00:dd:01:01
IP                          :
State                       : sapCreated
-------------------------------------------------------------------------------
No. of Data-triggers: 1
===============================================================================
```

Table 101: Output fields: data trigger describes data trigger fields.

Table 101: Output fields: data trigger

Output field	Description
Acct session-ID	The RADIUS accounting session ID for this dynamic services data trigger. This accounting session ID is used as an accounting multi-session ID in RADIUS accounting for the associated dynamic services. It can also be used as a key in CoA or Disconnect Messages to set up or terminate associated dynamic services.
MAC	The MAC address learned to set up this dynamic service data trigger. The MAC address is included in the Access-Request message for RADIUS authentication.
IP	The IPv4 or IPv6 address learned to set up this dynamic service data trigger. If the data trigger packet was not an IP packet, then this field is empty. When available, the IP address is included in the RADIUS authentication and accounting messages.
State	The current state of the dynamic service data trigger: Pending—(initial state) data trigger received and authentication started Accepted—(transient state) authentication succeeded; dynsvc script started but not yet completed sapCreated—(final state) corresponding dynamic services sap created

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.5 database

database

Syntax

database

Context

[Tree] (show>service>id>spb database)

Full Context

show service id spb database

Description

This command displays SPB database information.

Platforms

All

Output

The following output is an example of service SPB database information.

Output Example

```
*A:Dut-A# show service id 100001 spb database
===============================================================================
ISIS Database
===============================================================================
LSP ID                                Sequence  Checksum Lifetime Attributes
-------------------------------------------------------------------------------

Displaying Level 1 database
-------------------------------------------------------------------------------
Dut-A.00-00                           0xc       0xbaba   1103     L1
Dut-B.00-00                           0x13      0xe780   1117     L1
Dut-C.00-00                           0x13      0x85a    1117     L1
Dut-D.00-00                           0xe       0x174a   1119     L1
Level (1) LSP Count : 4
===============================================================================
```

database

Syntax

database [**group** *grp-ip-address*] [**source** *src-ip-address*]] [**family**]

database evpn-mpls [**group** *grp-ip-address*] [**source** *src-ip-address*] [**family**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

database sap *sap-id* [**group** *grp-ip-address*] [**source** *src-ip-address*] [**family**]

database sdp *sap-id:vc-id* [**group** *grp-ip-address*] [**source** *src-ip-address*] [**family**]

database vxlan vtep *ip-address* **vni** *vni-id* [**group** *grp-ip-address*] [**source** *src-ip-address*]] [**family**]

Context

[Tree] (clear>service>id>pim-snooping database)

Full Context

clear service id pim-snooping database

Description

This command clears PIM snooping source group database information.

Parameters

sap-id

Clears PIM snooping SAP information

sdp-id

Clears PIM snooping entries associated with the specified SDP. For a spoke-SDP, the VC ID must be specified; for a mesh SDP, the VC ID is optional.

Values 1 to 17407

grp-ip-address

Clears PIM snooping information matching the specified group address

src-ip-address

Clears PIM snooping information matching one particular source within the multicast group

family

Displays either IPv4 or IPv6 information

Values ipv4 or ipv6

evpn-mpls

Clears PIM snooping statistics for EVPN-MPLS destinations

Platforms

All

database

Syntax

database [*ip-address* [*l mask*] [**longer**]] [**peer** *ip-address*] [**detail** [**qos**]]

Context

[Tree] (show>router>rip database)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router rip database

Description

Displays all routes in the RIP database.

Parameters

ip-address /mask

Specifies the IP address.

Values ip-address: a.b.c.d

mask: 1 to 32

longer

Specifies the longer prefix match entries should also be displayed.

peer ip-address

Specifies the peer IP address.

Values a.b.c.d

detail

Displays detailed information.

qos

Specifies the QoS.

Platforms

All

Output

The following output is an example of RIP route database information, and Table 102: Output fields: RIP database describes the output fields.

Output Example

```
*A:ALA-1#  show rip database
===============================================================================
RIP Route Database
===============================================================================
Destination       Peer            NextHop         Metric  Tag     TTL   Valid
-------------------------------------------------------------------------------
10.0.0.10/32      10.1.7.15       0.0.0.0         2       0x0000  163   No
10.0.0.10/32      10.1.8.14       0.0.0.0         2       0x0000  179   No
10.0.0.14/32      10.1.8.14       0.0.0.0         1       0x0000  179   Yes
10.0.6.0/24       10.1.7.15       0.0.0.0         11      0x2002  163   No
10.0.6.0/24       10.1.8.14       0.0.0.0         11      0x2002  179   No
10.0.7.0/24       10.1.7.15       0.0.0.0         11      0x2002  163   No
10.0.7.0/24       10.1.8.14       0.0.0.0         11      0x2002  179   No
10.1.5.0/24       10.1.7.15       0.0.0.0         2       0x0000  151   Yes
10.1.5.0/24       10.1.8.14       0.0.0.0         1       0x0000  167   No
10.100.17.16/31   10.1.7.15       0.0.0.0         2       0x0000  151   No
10.100.17.16/31   10.1.8.14       0.0.0.0         2       0x0000  167   No
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of Routes: 11
===============================================================================
*A:ALA-12#
```

Table 102: Output fields: RIP database

Label	Description
Destination	The RIP destination for the route.
Peer	The router ID of the peer router.
NextHop	The IP address of the next hop.
Metric	The hop count to rate the value of different hops.
Tag	The value to distinguish between internal routes (learned by RIP) and external routes (learned from other protocols).
TTL	Displays the number of seconds the specific route will remain in the routing table. When an entry reaches 0, it is removed from the routing table.
Valid	No — The route is not valid. Yes — The route is valid.

database

Syntax

database

Context

[Tree] (clear>router>rip database)

Full Context

clear router rip database

Description

This command flushes all routes in the RIP database.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

database

Syntax

database [**sub-domain** *sub-domain*] [**template** *template-name*]

Context

[Tree] (show>router>bier database)

Full Context

show router bier database

Description

This command shows the BIER database and assigned labels for <SD, BSL, SI>.

Parameters

sub-domain

Displays detailed information about the sub-domain.

Values 0 to 255

template-name

Displays template name, up to 32 characters.

Platforms

All

Output

The following output is an example of a BIER database. Table 103: Output fields: BIER Database provides BIER database field descriptions.

Output Example

```
*A:Dut-A# show router bier database
===============================================================================
BIER Database
===============================================================================
Template                        MT             Sub-domain     BSL
BFR-ID                          Start          End            Total
BFR-Prefix
-------------------------------------------------------------------------------
temp1                           ipv4-unicast   0              256
1                               1048464        1048479        16
10.20.1.1

temp1                           ipv4-unicast   1              256
255                             1048447        1048462        16
10.20.1.1

temp1                           ipv4-unicast   2              256
2966                            1048430        1048445        16
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.1

temp1                           ipv4-unicast   3              256
1                               1048413        1048428        16
10.20.1.1

temp1                           ipv4-unicast   4              256
255                             1048396        1048411        16
10.20.1.1

===============================================================================
BIER Database entries : 5
===============================================================================
*A:Dut-A#
```

Table 103: Output fields: BIER Database

Label	Description
Template	The template name
MT	The IGP topology associated with the sub-domain
Sub-domain	The sub-domain ID
BSL	The BitStringLength used in the sub-domain
BFR-ID	The BFR ID which identifies the router in the BitString
Start	The start label allocated for this sub-domain
End	The end label allocated for this sub-domain
Total	The total number of labels allocated for this sub-domain
BFR-Prefix	The routable IP address of a BFR, used by BIER to identify a BFR

database

Syntax

database [**group** *grp-ip-address*] [**source** *src-ip-address*]

database interface {*ip-int-name* | *ip-address*} [**group** *grp-ip-address*] [**source** *src-ip-address*]

database host *ip-address* [**group** *grp-ip-address*] [**source** *src-ip-address*]

database host all [**group** *grp-ip-address*] [**source** *src-ip-address*]

database group-interface *interface-name* [**fwd-service** *service-id*] [**group** *grp-ip-address*] [**source** *src-ip-address*]

database group-interface all

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>router>igmp database)

Full Context

clear router igmp database

Description

This command clears IGMP or PIM database statistics on a specified interface or IP address.

Parameters

group *grp-ip-address*

Clears the multicast group address (IPv4/IPv6) or zero in the specified address group.

source *src-ip-address*

Clears the IGMP database from the specified source IP address.

interface *ip-int-name*

Clears the IGMP database on the specified interface.

interface *ip-address*

Clears the IGMP database on the specified IP address.

host *ip-address*

Clears the IGMP database on the specified host.

host all

Clears the IGMP database on all hosts.

group-interface *interface-name*

Clears the IGMP database on the specified group interface.

group-interface all

Clears the IGMP database on all group interfaces.

Platforms

All

database

Syntax

database [**group** *ipv6-address* [**source** *ipv6-address*]]

database interface {*ip-int-name* | *ipv6-address*]} [**group** *ipv6-address* [**source** *ipv6-address*]]

database ipsec-interface *ip-int-name* [**group** *ipv6-address* [**source** *ipv6-address*]]

database host *ipv6-address* [**group** *ipv6-address* [**source** *ipv6-address*]]

database host all [**group** *ipv6-address* [**source** *ipv6-address*]]

database group-interface *interface-name* [**fwd-service** *service-id*] [**group** *grp-ipv6-address* [**source** *ipv6-address*]]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

database group-interface all

Context

[Tree] (clear>router>mld database)

Full Context

clear router mld database

Description

This command clears MLD database parameters.

Parameters

host *ipv6-address*

Clears the MLD database on the specified host.

host all

Clears the MLD database on all hosts.

interface *ip-int-name*

Clears database information for the specified MLD interface name.

interface *ipv6-address*

Clears database information for the specified MLD interface IPv6 address.

ipsec-interface *ip-int-name*

Clears database information for the specified dynamic name for the MLD-enabled child_SA.

group *ipv6-address*

Clears database information for the specified MLD group IPv6 address.

source *ipv6-address*

Clears database information for the specified MLD source IPv6 address.

service-id

Clears database information for the specified service ID.

Values service-id: 1 to 2148278386

svc-name: up to 64 characters.

Platforms

All

database

Syntax

database [**interface** *ip-int-name* | *mt-int-name* | *int-ip-address*] [**group** *grp-ip-address* [**source** *ip-address*]] [*family*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>router>pim database)

Full Context

clear router pim database

Description

This command clears IGMP or PIM database statistics on a specified interface or IP address.

Parameters

ip-int-name

Clears the IGMP or PIM database on the specified interface.

mt-int-name

Clears the default core group address of the Multicast Distribution Tree (MDT) for the VPRN instance. The Multicast Tunnel (MT) interface for a VPRN is created when this object is set to a valid group address.

Syntax: *vprn-id*-mt-*grp-ip-addres*s

int-ip-address

Clears the IGMP or PIM database on the specified IP address.

group-ip-address

Clears the multicast group address (ipv4, ipv6) or zero in the specified address group.

ip-address

Clears the IGMP or PIM database from the specified source IP address.

family

Clears database family information.

Values ipv4, ipv6

mpls-if-name

Clears the MPLS interface name.

Syntax: mpls-if-*index*

Platforms

All

database

Syntax

database

Context

[Tree] (show>router>p2mp-sr-tree database)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router p2mp-sr-tree database

Description

Commands in this context display P2MP SR tree database information.

Platforms

All

database

Syntax

database [*family*] [*ip-prefix/ip-prefix-length*] [**up to** *prefix-length*] [**origin-as** *as-number*]

database [*family*] [*ip-prefix/ip-prefix-length*] {**longer**}

database {**summary**}

database [*family*] [{**static**}

Context

[Tree] (show>router>origin-validation database)

Full Context

show router origin-validation database

Description

This command displays database information.

Parameters

family

Specifies the type of routing information to be displayed.

Values ipv4 — Displays IPv4 entries.
ipv6 — Displays IPv6 entries.

ip-prefix/ip-prefix-length

Displays routes only matching the specified IP address and length, up to 64 characters.

prefix-length

Displays routes matching up to the specified length.

Values 1 to 128

as-number

Specifies the origin AS number.

Values 0 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

longer

Displays routes matching the *ip-prefix-l**ip-prefix-length* and routes with longer masks.

summary

Displays database summary information.

static

Displays static routes.

Platforms

All

Output

The following output is an example of database information.

Output Example

```
A:Dut-C# show router origin-validation database
===============================================================================
Static and Dynamic VRP Database Entries
===============================================================================
Prefix Range [Flags]                                          Origin AS
   Session IP [Flags]
-------------------------------------------------------------------------------
10.0.0.0/16-24 [Static-V]                                     65001
    -
10.16.0.0/12-12 [Dynamic]                                     65002
    10.168.1.1 [B]
-------------------------------------------------------------------------------
No. of VRP Database Entries: 2
-------------------------------------------------------------------------------
Flags: B = Base instance session
       M = Management instance session
       Static-V = Static-Valid; Static-I = Static-Invalid
===============================================================================
```

```
A:Dut-C# show router origin-validation database summary
===============================================================================
Static and Dynamic VRP Database Summary
===============================================================================
Type                                IPv4 Entries         IPv6 Entries
-------------------------------------------------------------------------------
10.168.1.1 [B]                      1                   0
RPKI Server #1
Static                              1                   0
===============================================================================
```

database

Syntax

database [*system-id* | *lsp-id*] [**detail**] [**level** *level*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>isis database)

Full Context

show router isis database

Description

This command displays the entries in the IS-IS link state database.

Parameters

system-id

Only the LSPs related to the specified *system-id* are listed. If no *system-id* or *lsp-id* are specified, all database entries are listed.

lsp-id

Only the specified LSP (hostname) is listed. If no *system-id* or *lsp-id* are specified, all database entries are listed.

level

Specifies the interface level (1, 2, or 1 and 2).

detail

All output is displayed in the detailed format.

Platforms

All

Output

The following output is an example of the IS-IS link state database information, and Table 104: Output fields: IS-IS database describes the output fields.

Output Example

```
*A:Dut-B# show router isis 0 database
===============================================================================
Rtr Base ISIS Instance 0 Database
===============================================================================
LSP ID                                Sequence  Checksum Lifetime Attributes
-------------------------------------------------------------------------------
Displaying Level 1 database
-------------------------------------------------------------------------------
Dut-B.00-00                           0x495     0x614e   711      L1L2
Dut-D.00-00                           0x13b     0x1917   831      L1
Level (1) LSP Count : 2
Displaying Level 2 database
-------------------------------------------------------------------------------
Dut-A.00-00                           0x4a6     0x214f   804      L1L2
Dut-B.00-00                           0x4b7     0xe654   898      L1L2
Dut-C.00-00                           0x4b2     0xa4f1   1166     L1L2
Level (2) LSP Count : 3
===============================================================================
*A:Dut-B#
*A:Dut-B#
*A:Dut-B# show router isis 0 database detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Rtr Base ISIS Instance 0 Database (detail)
===============================================================================
Displaying Level 1 database
-------------------------------------------------------------------------------
LSP ID    : Dut-B.00-00                                 Level     : L1
Sequence  : 0x495                 Checksum  : 0x614e   Lifetime  : 706
Version   : 1                     Pkt Type  : 18       Pkt Ver   : 1
Attributes: L1L2                  Max Area  : 3        Alloc Len : 1492
SYS ID    : 4900.0000.0002        SysID Len : 6        Used Len  : 179
TLVs :
  Area Addresses:
    Area Address : (3) 49.0001
  Supp Protocols:
    Protocols     : IPv4
  IS-Hostname   : Dut-B
  Router ID   :
    Router ID   : 10.20.1.2
  Router Cap : 10.20.1.2, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
    FAD Sub-Tlv:
        Flex-Algorithm   : 128
        Metric-Type      : delay
        Calculation-Type : 0
        Priority         : 100
        Flags: M
  I/F Addresses :
    I/F Address   : 10.20.1.2
    I/F Address   : 10.10.10.13
  TE IS Nbrs   :
    Nbr   : Dut-D.00
    Default Metric  : 10
    Sub TLV Len     : 30
    IF Addr   : 10.10.10.13
    Nbr IP    : 10.10.10.14
    TE APP LINK ATTR    :
      SABML-flag:Non-Legacy SABM-flags:   X
        Delay     : 100
    Adj-SID: Flags:v4VL Weight:0 Label:524285
  TE IP Reach   :
    Default Metric  : 0
    Control Info:   S, prefLen 32
    Prefix   : 10.20.1.2
    Sub TLV   :
      Prefix-SID Index:2, Algo:0, Flags:NnP
      Prefix-SID Index:12, Algo:128, Flags:NnP
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.12
-------------------------------------------------------------------------------
LSP ID    : Dut-D.00-00                                 Level     : L1
Sequence  : 0x13b                 Checksum  : 0x1917   Lifetime  : 827
Version   : 1                     Pkt Type  : 18       Pkt Ver   : 1
Attributes: L1                    Max Area  : 3        Alloc Len : 179
SYS ID    : 4900.0000.0004        SysID Len : 6        Used Len  : 179
TLVs :
  Area Addresses:
    Area Address : (3) 49.0001
  Supp Protocols:
    Protocols     : IPv4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  IS-Hostname   : Dut-D
  Router ID   :
    Router ID   : 10.20.1.4
  Router Cap : 10.20.1.4, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
    FAD Sub-Tlv:
        Flex-Algorithm   : 128
        Metric-Type      : delay
        Calculation-Type : 0
        Priority         : 50
        Flags: M
  I/F Addresses :
    I/F Address   : 10.20.1.4
    I/F Address   : 10.10.10.14
  TE IS Nbrs   :
    Nbr   : Dut-B.00
    Default Metric  : 10
    Sub TLV Len     : 30
    IF Addr   : 10.10.10.14
    Nbr IP    : 10.10.10.13
    TE APP LINK ATTR    :
      SABML-flag:Non-Legacy SABM-flags:   X
        Delay     : 100
    Adj-SID: Flags:v4VL Weight:0 Label:524287
  TE IP Reach   :
    Default Metric  : 0
    Control Info:   S, prefLen 32
    Prefix   : 10.20.1.4
    Sub TLV   :
      Prefix-SID Index:4, Algo:0, Flags:NnP
      Prefix-SID Index:14, Algo:128, Flags:NnP
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.12
Level (1) LSP Count : 2
Displaying Level 2 database
-------------------------------------------------------------------------------
LSP ID    : Dut-A.00-00                                 Level     : L2
Sequence  : 0x4a6                 Checksum  : 0x214f   Lifetime  : 798
Version   : 1                     Pkt Type  : 20       Pkt Ver   : 1
Attributes: L1L2                  Max Area  : 3        Alloc Len : 220
SYS ID    : 4900.0000.0001        SysID Len : 6        Used Len  : 220
TLVs :
  Area Addresses:
    Area Address : (3) 49.0001
  Supp Protocols:
    Protocols     : IPv4
  IS-Hostname   : Dut-A
  Router ID   :
    Router ID   : 10.20.1.1
  Router Cap : 10.20.1.1, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
  I/F Addresses :
    I/F Address   : 10.20.1.1
    I/F Address   : 10.10.10.1
    I/F Address   : 10.10.10.5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  TE IS Nbrs   :
    Nbr   : Dut-C.00
    Default Metric  : 10
    Sub TLV Len     : 30
    IF Addr   : 10.10.10.5
    Nbr IP    : 10.10.10.6
    TE APP LINK ATTR    :
      SABML-flag:Non-Legacy SABM-flags:   X
        Delay     : 100
    Adj-SID: Flags:v4VL Weight:0 Label:524286
  TE IS Nbrs   :
    Nbr   : Dut-B.00
    Default Metric  : 10
    Sub TLV Len     : 24
    IF Addr   : 10.10.10.1
    Nbr IP    : 10.10.10.2
    TE APP LINK ATTR    :
      SABML-flag:Non-Legacy SABM-flags:   X
    Adj-SID: Flags:v4VL Weight:0 Label:524285
  TE IP Reach   :
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.0
    Default Metric  : 0
    Control Info:   S, prefLen 32
    Prefix   : 10.20.1.1
    Sub TLV   :
      Prefix-SID Index:1, Algo:0, Flags:NnP
      Prefix-SID Index:11, Algo:128, Flags:NnP
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.4
-------------------------------------------------------------------------------
LSP ID    : Dut-B.00-00                                 Level     : L2
Sequence  : 0x4b7                 Checksum  : 0xe654   Lifetime  : 891
Version   : 1                     Pkt Type  : 20       Pkt Ver   : 1
Attributes: L1L2                  Max Area  : 3        Alloc Len : 1492
SYS ID    : 4900.0000.0002        SysID Len : 6        Used Len  : 271
TLVs :
  Area Addresses:
    Area Address : (3) 49.0001
  Supp Protocols:
    Protocols     : IPv4
  IS-Hostname   : Dut-B
  Router ID   :
    Router ID   : 10.20.1.2
  Router Cap : 10.20.1.2, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
    FAD Sub-Tlv:
        Flex-Algorithm   : 128
        Metric-Type      : delay
        Calculation-Type : 0
        Priority         : 100
        Flags: M
  I/F Addresses :
    I/F Address   : 10.20.1.2
    I/F Address   : 10.10.10.2
    I/F Address   : 10.10.10.9
  TE IS Nbrs   :
    Nbr   : Dut-C.00
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Default Metric  : 10
    Sub TLV Len     : 30
    IF Addr   : 10.10.10.9
    Nbr IP    : 10.10.10.10
    TE APP LINK ATTR    :
      SABML-flag:Non-Legacy SABM-flags:   X
        Delay     : 100
    Adj-SID: Flags:v4VL Weight:0 Label:524286
  TE IS Nbrs   :
    Nbr   : Dut-A.00
    Default Metric  : 10
    Sub TLV Len     : 24
    IF Addr   : 10.10.10.2
    Nbr IP    : 10.10.10.1
    TE APP LINK ATTR    :
      SABML-flag:Non-Legacy SABM-flags:   X
    Adj-SID: Flags:v4VL Weight:0 Label:524284
  TE IP Reach   :
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.0
    Default Metric  : 0
    Control Info:   S, prefLen 32
    Prefix   : 10.20.1.2
    Sub TLV   :
      Prefix-SID Index:2, Algo:0, Flags:NnP
      Prefix-SID Index:12, Algo:128, Flags:NnP
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.8
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.12
    Default Metric  : 10
    Control Info:   S, prefLen 32
    Prefix   : 10.20.1.4
    Sub TLV   :
      Prefix-SID Index:4, Algo:0, Flags:RNnP
      Prefix-SID Index:14, Algo:128, Flags:RNnP
      Prefix-Metric-FlexAlg Algo:128, Metric:100
-------------------------------------------------------------------------------
LSP ID    : Dut-C.00-00                                 Level     : L2
Sequence  : 0x4b2                 Checksum  : 0xa4f1   Lifetime  : 1158
Version   : 1                     Pkt Type  : 20       Pkt Ver   : 1
Attributes: L1L2                  Max Area  : 3        Alloc Len : 226
SYS ID    : 4900.0000.0003        SysID Len : 6        Used Len  : 226
TLVs :
  Area Addresses:
    Area Address : (3) 49.0001
  Supp Protocols:
    Protocols     : IPv4
  IS-Hostname   : Dut-C
  Router ID   :
    Router ID   : 10.20.1.3
  Router Cap : 10.20.1.3, D:0, S:0
    TE Node Cap : B E M  P
    SR Cap: IPv4 MPLS-IPv6
       SRGB Base:20000, Range:10001
    SR Alg: metric based SPF, 128
    Node MSD Cap: BMI : 12 ERLD : 15
  I/F Addresses :
    I/F Address   : 10.20.1.3
    I/F Address   : 10.10.10.6
    I/F Address   : 10.10.10.10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  TE IS Nbrs   :
    Nbr   : Dut-A.00
Default Metric  : 10
    Sub TLV Len     : 30
    IF Addr   : 10.10.10.6
    Nbr IP    : 10.10.10.5
    TE APP LINK ATTR    :
      SABML-flag:Non-Legacy SABM-flags:   X
        Delay     : 100
    Adj-SID: Flags:v4VL Weight:0 Label:524287
  TE IS Nbrs   :
    Nbr   : Dut-B.00
    Default Metric  : 10
    Sub TLV Len     : 30
    IF Addr   : 10.10.10.10
    Nbr IP    : 10.10.10.9
    TE APP LINK ATTR    :
      SABML-flag:Non-Legacy SABM-flags:   X
        Delay     : 100
    Adj-SID: Flags:v4VL Weight:0 Label:524286
  TE IP Reach   :
    Default Metric  : 0
    Control Info:   S, prefLen 32
    Prefix   : 10.20.1.3
    Sub TLV   :
      Prefix-SID Index:3, Algo:0, Flags:NnP
      Prefix-SID Index:13, Algo:128, Flags:NnP
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.4
    Default Metric  : 10
    Control Info:    , prefLen 30
    Prefix   : 10.10.10.8
Level (2) LSP Count : 3
-------------------------------------------------------------------------------
Control Info     : D = Prefix Leaked Down
                   S = Sub-TLVs Present
Attribute Flags  : N = Node Flag
                   R = Re-advertisement Flag
                   X = External Prefix Flag
                   E = Entropy Label Capability (ELC) Flag
Adj-SID Flags    : v4/v6 = IPv4 or IPv6 Address-Family
                   B = Backup Flag
                   V = Adj-SID carries a value
                   L = value/index has local significance
                   S = Set of Adjacencies
                   P = Persistently allocated
Prefix-SID Flags : R = Re-advertisement Flag
                   N = Node-SID Flag
                   nP = no penultimate hop POP
                   E = Explicit-Null Flag
                   V = Prefix-SID carries a value
                   L = value/index has local significance
Lbl-Binding Flags: v4/v6 = IPv4 or IPv6 Address-Family
                   M = Mirror Context Flag
                   S = SID/Label Binding flooding
                   D = Prefix Leaked Down
                   A = Attached Flag
SABM-flags Flags:  R = RSVP-TE
                   S = SR-TE
                   F = LFA
                   X = FLEX-ALGO
FAD-flags Flags:   M = Prefix Metric
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-B#
```

Table 104: Output fields: IS-IS database

Label	Description
Flex-Algorithm	The flexible algorithm number
Priority	Displays the FAD priority; It is the tiebreaker when multiple FADs are received
Metric Type	The metric used by the winning FAD igp — the IGP metric is used te-metric — the TE metric is used delay — the delay metric is used
Calculation Type	Displays the calculation type; for SPF a zero value is only defined
Prefix SID Flags	Displays the prefix SID flags
Fad Flags	Displays the FAD Flags; the M-flag is used for inter-area; when set, the metric must be used for inter-area traffic to avoid loops and blackhole traffic on ABR/ASBR

database

Syntax

database [*system-id*]

Context

[Tree] (clear>router>isis database)

Full Context

clear router isis database

Description

This command removes the entries from the IS-IS link-state database which contains information about PDUs.

Parameters

system-id

When the system ID is entered, only the specified entries are removed from the IS-IS link-state database.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

database

Syntax

database [**type** {**router** | **network** | **summary** | **asbr-summary** | **external** | **nssa** | **all**}] [**area** *area-id*] [**adv-router** *router-id*] [*link-state-id*] [**detail**] [**filtered**]

database [**type** {**router** | **network** | **inter-area-pfx** | **inter-area-rtr** | **external** | **nssa** | **intra-area-pfx** | **rtr-info** | **all**}] [**area** *area-id*] [**adv-router** *router-id*] [*link-state-id*] [**detail**] [**filtered**]

Context

[Tree] (show>router>ospf database)

[Tree] (show>router>ospf3 database)

Full Context

show router ospf database

show router ospf3 database

Description

This command displays information about the OSPF link state database (LSDB).

When no command line options are specified, the command displays brief output for all database entries.

Parameters

type *keyword*

Specifies to filter the OSPF LSDB information based on the type specified by *keyword*.

router

Displays only router (Type 1) LSAs in the LSDB.

network

Displays only network (Type 2) LSAs in the LSDB.

summary

Displays only summary (Type 3) LSAs in the LSDB.

asbr-summary

Displays only ASBR summary (Type 4) LSAs in the LSDB.

external

Displays only AS external (Type 5) LSAs in the LSDB. External LSAs are maintained globally and not per area. If the display of external links is requested, the area parameter, if present, is ignored.

nssa

Displays only NSSA area-specific AS external (Type 7) LSAs in the LSDB.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

inter-area-pfx

Displays inter-area prefix LSAs.

inter-area-rtr

Displays inter-area router LSAs.

intra-area-pfx

Displays intra-area prefix LSAs.

rtr-info

Displays router info LSAs.

all

Displays all LSAs in the LSDB. The all keyword is intended to be used with either the **area** *area-id* or the **adv-router** *router-id* [*link-state-id*] parameters.

area *area-id*

Displays LSDB information associated with the specified OSPF *area-id*.

Values ip-address — a.b.c.d

area — 0 to 4294967295

adv-router *router-id* [*link-state-id*]

Displays LSDB information associated with the specified advertising router. To further narrow the number of items displayed, the *link-state-id* can optionally be specified.

detail

Displays detailed information on the LSDB entries.

filtered

Displays LSDB entries that were filtered by an area import or export policy.

Platforms

All

Output

OSPF Database Output

Table 105: Output fields: OSPF database describes the standard and detailed command output fields for an OSPF database.

Table 105: Output fields: OSPF database

Label	Description
Area Id	The OSPF area identifier.
Type LSA Type	Router — LSA type of router (OSPF) Network — LSA type of network (OSPF) Summary — LSA type of summary (OSPF) ASBR Summary — LSA type of ASBR summary (OSPF) Nssa-ext — LSA area-specific, NSSA external (OSPF)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Area opaque — LSA type of area opaque (OSPF) router — LSA type of router (OSPF3) Network — LSA type of network (OSPF3) IE Pfx — LSA type of inter-area prefix (OSPF3) Newline IE Rtr LSA type of inter-area router (OSPF3) IA Pfx — LSA type of intra-area prefix (OSPF3)
Link State Id	The link state Id is an LSA type specific field containing either a number to distinguish several LSAs from the same router, an interface ID, or a router-id; it identifies the piece of the routing domain being described by the advertisement.
Adv Rtr Id Adv Router Id	The router identifier of the router advertising the LSA.
Age	The age of the link state advertisement in seconds.
Sequence Sequence No	The signed 32-bit integer sequence number.
Cksum Checksum	The 32-bit unsigned sum of the link-state advertisements' LS checksums.
No. of LSAs	The number of LSAs displayed.
Options	EA — External Attribute LSA Support DC — Demand Circuit Support R — If clear, a node can participate in OSPF topology distribution without being used to forward transit traffic. N — Type 7 LSA Support MC — Multicast Support E — External Routes Support V6 — V6 works in conjunction with R. If V6 is clear, a node can participate in OSPF topology distribution without being used to forward IPv6 datagrams. If R is set and V6 is clear, IPv6 datagrams are not forwarded but diagrams belonging to another protocol family may be forwarded.
Prefix Options	P — Propagate NSSA LSA. MC — Multicast support. LA — Local address capability. If set, the prefix is an IPv6 interface address of the advertising router. NU — No unicast capability. If set, the prefix is excluded from IPv6 unicast calculations.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Flags	None — No flags set V — The router is an endpoint for one or more fully adjacent Virtual Links having the described area as the transit area E — The router is an AS Boundary Router B — The router is an Area Border Router
Link Count	The number of links advertised in the LSA.
Link Type (*n*)	The link type of the *n*th link in the LSA.
Network (*n*)	The network address of the *n*th link in the LSA.
Mask (*n*)	The mask of the *n*th link in the LSA.
No of TOS (*n*)	The ToS of the *n*th link in the LSA.
Metric-0 (*n*)	The cost metric of the *n*th link in the LSA.
Not Flooded (*n*)	Filtered on Import The nth LSA was filtered by an area import policy. Filtered on Export The nth LSA was filtered by an area export policy. **Note**: this line does not appear if there is no filtering and the LSA was flooded.

Output Example

```
A:ALA-A# show router ospf 1 database
===============================================================================
Rtr Base OSPFv2 Instance 1 Link State Database (type : All)
===============================================================================
Area Id         Type    Link State Id   Adv Rtr Id      Age  Sequence   Cksum
-------------------------------------------------------------------------------
0.0.0.0         Router  180.0.0.2       180.0.0.2       1800 0x800000b6 0xf54
0.0.0.0         Router  180.0.0.5       180.0.0.5       1902 0x8000009d 0xcb7c
0.0.0.0         Router  180.0.0.8       180.0.0.8       1815 0x8000009a 0x529b
0.0.0.0         Router  180.0.0.9       180.0.0.9       1156 0x80000085 0xd00f
0.0.0.0         Router  180.0.0.10      180.0.0.10      533  0x8000009d 0x3f1f
0.0.0.0         Router  180.0.0.11      180.0.0.11      137  0x80000086 0xc58f
0.0.0.0         Router  180.0.0.12      180.0.0.12      918  0x8000009d 0x4cf3
0.0.0.0         Router  180.0.0.13      180.0.0.13      1401 0x800000a2 0x879c
0.0.0.0         Network 180.0.53.28     180.0.0.28      149  0x80000083 0xe5cd
0.0.0.0         Network 180.0.54.28     180.0.0.28      1259 0x80000083 0xdad7
0.0.0.0         Summary 180.0.0.15      180.0.0.10      378  0x80000084 0xeba1
0.0.0.0         Summary 180.0.0.15      180.0.0.12      73   0x80000084 0xdfab
0.0.0.0         Summary 180.0.0.18      180.0.0.10      1177 0x80000083 0xcfbb
0.0.0.1         Summary 180.100.25.4    180.0.0.12      208  0x80000091 0x3049
0.0.0.1         AS Summ 180.0.0.8       180.0.0.10      824  0x80000084 0x3d07
0.0.0.1         AS Summ 180.0.0.8       180.0.0.12      1183 0x80000095 0x4bdf
0.0.0.1         AS Summ 180.0.0.9       180.0.0.10      244  0x80000082 0x73cb
n/a             AS Ext  7.1.0.0         180.0.0.23      1312 0x80000083 0x45e7
n/a             AS Ext  7.2.0.0         180.0.0.23      997  0x80000082 0x45e6
n/a             AS Ext  10.20.0.0       180.0.0.23      238  0x80000081 0x2d81
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
...
-------------------------------------------------------------------------------
No. of LSAs: 339
===============================================================================

A:ALA-A# show router ospf 1 database detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Link State Database (type : All) (detail)
-------------------------------------------------------------------------------
Router LSA for Area 0.0.0.0
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.10.10.10
Link State Id    : 10.10.10.10 (168430090)
LSA Type         : Router
Sequence No      : 0x80000002          Checksum         : 0xd81
Age              : 594                 Length           : 36
Options          : E
Flags            : None                Link Count       : 1
Link Type (1)    : Stub Network
Network (1)      : 192.168.0.0         Mask (1)         : 255.255.255.0
No of TOS (1)    : 0                   Metric-0 (1)     : 10
-------------------------------------------------------------------------------
AS Ext LSA for Network 180.0.0.14
-------------------------------------------------------------------------------
Area Id          : N/A                 Adv Router Id    : 180.0.0.10
Link State Id    : 180.0.0.14          LSA Type         : AS Ext
Sequence No      : 0x80000083          Checksum         : 0xa659
Age              : 2033                Length           : 36
Options          : E
Network Mask     : 255.255.255.255     Fwding Address   : 180.1.6.15
Metric Type      : Type 2              Metric-0         : 4
Ext Route Tag    : 0
-------------------------------------------------------------------------------

A:ALA-A# show router ospf database filtered
===============================================================================
Rtr Base OSPFv2 Instance 0 Link State Database (filtered)
===============================================================================
Type    Area Id         Link State Id   Adv Rtr Id      Filter
Router  0.0.0.0         10.0.0.2        10.0.0.2
-------------------------------------------------------------------------------
Router  0.0.0.0         10.0.0.2        10.0.0.2
Summary 0.0.0.0         1.2.3.0         10.0.0.2
Summary 0.0.0.0         10.0.0.1        10.0.0.2        Export 0.0.0.1
AS Summ 0.0.0.0         10.0.0.1        10.0.0.2
Router  0.0.0.1         10.0.0.1        10.0.0.1
Router  0.0.0.1         10.0.0.2        10.0.0.2
Network 0.0.0.1         1.1.2.2         10.0.0.2
Summary 0.0.0.1         1.2.3.0         10.0.0.2        Import 0.0.0.1
Summary 0.0.0.1         1.2.4.0         10.0.0.2        Import 0.0.0.1
Summary 0.0.0.1         1.4.6.0         10.0.0.2        Import 0.0.0.1
Summary 0.0.0.1         1.5.6.0         10.0.0.2        Import 0.0.0.1
Summary 0.0.0.2         1.5.6.0         10.0.0.2
Summary 0.0.0.2         10.0.0.1        10.0.0.2        Export 0.0.0.1
Summary 0.0.0.2         10.0.6.0        10.0.0.2
-------------------------------------------------------------------------------
No. of LSAs: 14
No. of Export Filtered LSAs: 2
No. of Import Filtered LSAs: 4
===============================================================================
A:ALA-A#
```

```
*A:Dut-C>config>router>ospf3# show router ospf3 0 database detail adv-router 10.20.1.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Rtr Base OSPFv3 Instance 0 Link State Database (type: All) (detail)
===============================================================================
-------------------------------------------------------------------------------
Router LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.3
Link State Id    : 0.0.0.0 (0)
LSA Type         : Router
Sequence No      : 0x80000002          Checksum         : 0x8749
Age              : 343                 Length           : 56
Options          : ----R--EV6
Flags            : ASBR                Link Count       : 2
Link Type (1)    : P2P Link            Nbr Rtr ID (1)   : 10.20.1.1
I/F Index (1)    : 2                   Nbr I/F Index (1): 3
Metric (1)       : 100
Link Type (2)    : P2P Link            Nbr Rtr ID (2)   : 10.20.1.6
I/F Index (2)    : 3                   Nbr I/F Index (2): 4
Metric (2)       : 100
-------------------------------------------------------------------------------
IA Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.3
Link State Id    : 0.0.0.0 (0)
LSA Type         : IA Pfx
Sequence No      : 0x80000004          Checksum         : 0x285a
Age              : 303                 Length           : 192
Ref Ls Type      : 2001                Ref Ls Id        : 0
Ref Adv Rtr      : 10.20.1.3           No of Pfxs       : 8
Prefix (1)       : 3ffe::a14:103/128
Pfx Options (1)  : LA                  Metric (1)       : 0
Prefix (2)       : 3ffe::3300:d00/120
Pfx Options (2)  :                     Metric (2)       : 100
Prefix (3)       : 3ffe::100:d00/120
Pfx Options (3)  :                     Metric (3)       : 100
Prefix (4)       : 3ffe::3300:2400/120
Pfx Options (4)  :                     Metric (4)       : 100
Prefix (5)       : 3ffe::100:2400/120
Pfx Options (5)  :                     Metric (5)       : 100
Prefix (6)       : 3ffe::100:900/120
Pfx Options (6)  :                     Metric (6)       : 200
Prefix (7)       : 3ffe::3300:2103/128
Pfx Options (7)  : LA                  Metric (7)       : 0
Prefix (8)       : 3ffe::100:2103/128
Pfx Options (8)  : LA                  Metric (8)       : 0
-------------------------------------------------------------------------------
Rtr Inf LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.3
Link State Id    : 0.0.0.0 (0)
LSA Type         : Rtr Inf
Sequence No      : 0x80000002          Checksum         : 0x783a
Age              : 343                 Length           : 68
TLV dump:
    Capabilities (1) Len 4 :
        0x28000000
    SR algorithm (8) Len 2 :
        0x2         0x0
    SR label range (9) Len 12 :
        Range-size=1000
        Sub-TLV SID/label(7) len 3 :
            label=40000
    SR Readable label depth capability: 15
    non-OSPF Func Capabilities (32768) Len 4 :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        0x80000000
-------------------------------------------------------------------------------
E-Router LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.3
Link State Id    : 0.0.0.0 (0)
LSA Type         : E-Router
Sequence No      : 0x80000004          Checksum         : 0x44a8
Age              : 303                 Length           : 88
Options          : ----R--EV6
Flags            : ASBR                Link Count       : 2
Link Type (1)    : P2P Link            Nbr Rtr ID (1)   : 10.20.1.1
I/F Index (1)    : 2                   Nbr I/F Index (1): 3
Metric (1)       : 100
Adj SID (1)      : 524287              Flags (1)        : BVL--
                                       Weight (1)       : 0
Link Type (2)    : P2P Link            Nbr Rtr ID (2)   : 10.20.1.6
I/F Index (2)    : 3                   Nbr I/F Index (2): 4
Metric (2)       : 100
Adj SID (2)      : 524286              Flags (2)        : BVL--
                                       Weight (2)       : 0
-------------------------------------------------------------------------------
E-IA Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.3
Link State Id    : 0.0.0.0 (0)
LSA Type         : E-IA Pfx
Sequence No      : 0x80000004          Checksum         : 0xb319
Age              : 304                 Length           : 140
Ref Ls Type      : a021                Ref Ls Id        : 0
Ref Adv Rtr      : 10.20.1.3           No of Pfxs       : 3
Prefix (1)       : 3ffe::a14:103/128
Pfx Options (1)  : N LA                Metric (1)       : 0
Prefix SID (1)   : 6                   Flags (1)        : NP-----
                                       Algorithm (1)    : 0
Prefix (2)       : 3ffe::3300:2103/128
Pfx Options (2)  : N LA                Metric (2)       : 0
Prefix (3)       : 3ffe::100:2103/128
Pfx Options (3)  : N LA                Metric (3)       : 0
Prefix SID (3)   : 0                   Flags (3)        : NP-----
                                       Algorithm (3)    : 0
-------------------------------------------------------------------------------
AS Ext LSA (0.0.0.2 (2))
-------------------------------------------------------------------------------
Area Id          : N/A                 Adv Router Id    : 10.20.1.3
Link State Id    : 0.0.0.2 (2)
LSA Type         : AS Ext
Sequence No      : 0x80000001          Checksum         : 0x4775
Age              : 348                 Length           : 44
Options          : E
Pfx Options      :                     E2-Metric        : 1
Dest Prefix      : 3ffe::6700:1/128
===============================================================================
```

```
*A:Dut-C>config>router>ospf3# show router ospf3 0 database detail adv-router 10.20.1.6
===============================================================================
Rtr Base OSPFv3 Instance 0 Link State Database (type: All) (detail)
===============================================================================
-------------------------------------------------------------------------------
Router LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.0 (0)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSA Type         : Router
Sequence No      : 0x80000002           Checksum         : 0x2aa3
Age              : 328                  Length           : 56
Options          : ----R--EV6
Flags            : ABR ASBR             Link Count       : 2
Link Type (1)    : P2P Link             Nbr Rtr ID (1)   : 10.20.1.2
I/F Index (1)    : 2                    Nbr I/F Index (1): 4
Metric (1)       : 100
Link Type (2)    : P2P Link             Nbr Rtr ID (2)   : 10.20.1.3
I/F Index (2)    : 4                    Nbr I/F Index (2): 3
Metric (2)       : 100
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.1 (1)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x45df
Age              : 335                  Length           : 44
Pfx Options      :                      Metric           : 0
Dest Prefix      : 3ffe::a14:106/128
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.3 (3)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0xb9b
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 100
Dest Prefix      : 3ffe::100:3705/128
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.4 (4)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x83ef
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 100
Dest Prefix      : 3ffe::3300:3705/128
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.5 (5)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x5d60
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 100
Dest Prefix      : 3ffe::a14:105/128
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.6 (6)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x1932
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 200
Dest Prefix      : 3ffe::100:2c04/128
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.8 (8)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x878f
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 200
Dest Prefix      : 3ffe::3300:2c04/128
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.9 (9)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x75e0
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 200
Dest Prefix      : 3ffe::a14:104/128
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.10 (10)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0xdcde
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 100
Dest Prefix      : 3ffe::a14:102/128
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.12 (12)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0xc86a
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 200
Dest Prefix      : 3ffe::3300:1800/120
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.13 (13)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x3c28
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 200
Dest Prefix      : 3ffe::100:1800/120
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.14 (14)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x8c07
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 100
Dest Prefix      : 3ffe::3300:1a00/120
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.15 (15)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0xffc4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 100
Dest Prefix      : 3ffe::100:1a00/120
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.16 (16)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0xaf6a
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 200
Dest Prefix      : 3ffe::3300:2d00/120
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.17 (17)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x2328
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 200
Dest Prefix      : 3ffe::100:2d00/120
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.18 (18)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x551c
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 100
Dest Prefix      : 3ffe::3300:3800/120
-------------------------------------------------------------------------------
IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.19 (19)
LSA Type         : IE Pfx
Sequence No      : 0x80000001           Checksum         : 0xc8d9
Age              : 328                  Length           : 44
Pfx Options      :                      Metric           : 100
Dest Prefix      : 3ffe::100:3800/120
-------------------------------------------------------------------------------
IE Rtr LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 10.20.1.2 (169083138)
LSA Type         : IE Rtr
Sequence No      : 0x80000001           Checksum         : 0xcf8b
Age              : 328                  Length           : 32
Options          : ----R--EV6           Metric           : 100
ASB Rtr Id       : 10.20.1.2
-------------------------------------------------------------------------------
IE Rtr LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 10.20.1.4 (169083140)
LSA Type         : IE Rtr
Sequence No      : 0x80000001           Checksum         : 0xc32f
Age              : 328                  Length           : 32
Options          : ----R--EV6           Metric           : 200
ASB Rtr Id       : 10.20.1.4
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IE Rtr LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 10.20.1.5 (169083141)
LSA Type         : IE Rtr
Sequence No      : 0x80000001           Checksum         : 0xdb79
Age              : 328                  Length           : 32
Options          : ----R--EV6           Metric           : 100
ASB Rtr Id       : 10.20.1.5
-------------------------------------------------------------------------------
IA Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.0 (0)
LSA Type         : IA Pfx
Sequence No      : 0x80000003           Checksum         : 0xb8c1
Age              : 293                  Length           : 112
Ref Ls Type      : 2001                 Ref Ls Id        : 0
Ref Adv Rtr      : 10.20.1.6            No of Pfxs       : 4
Prefix (1)       : 3ffe::3300:2400/120
Pfx Options (1)  :                      Metric (1)       : 100
Prefix (2)       : 3ffe::100:2400/120
Pfx Options (2)  :                      Metric (2)       : 100
Prefix (3)       : 3ffe::3300:4206/128
Pfx Options (3)  : LA                   Metric (3)       : 0
Prefix (4)       : 3ffe::100:4206/128
Pfx Options (4)  : LA                   Metric (4)       : 0
-------------------------------------------------------------------------------
Rtr Inf LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.0 (0)
LSA Type         : Rtr Inf
Sequence No      : 0x80000002           Checksum         : 0x4abf
Age              : 329                  Length           : 68
TLV dump:
    Capabilities (1) Len 4 :
        0x28000000
    SR algorithm (8) Len 2 :
        0x2         0x0
    SR label range (9) Len 12 :
        Range-size=1000
        Sub-TLV SID/label(7) len 3 :
            label=70000
    SR Readable label depth capability: 15
    non-OSPF Func Capabilities (32768) Len 4 :
        0x80000000
-------------------------------------------------------------------------------
E-Router LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.0 (0)
LSA Type         : E-Router
Sequence No      : 0x80000003           Checksum         : 0xdf0f
Age              : 293                  Length           : 88
Options          : ----R--EV6
Flags            : ABR ASBR             Link Count       : 2
Link Type (1)    : P2P Link             Nbr Rtr ID (1)   : 10.20.1.2
I/F Index (1)    : 2                    Nbr I/F Index (1): 4
Metric (1)       : 100
Adj SID (1)      : 524285               Flags (1)        : BVL--
                                        Weight (1)       : 0
Link Type (2)    : P2P Link             Nbr Rtr ID (2)   : 10.20.1.3
I/F Index (2)    : 4                    Nbr I/F Index (2): 3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Metric (2)       : 100
Adj SID (2)      : 524284              Flags (2)        : BVL--
                                       Weight (2)       : 0
-------------------------------------------------------------------------------
E-IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.2 (2)
LSA Type         : E-IE Pfx
Sequence No      : 0x80000001          Checksum         : 0xf5de
Age              : 334                 Length           : 60
Pfx Options      : N LA                Metric           : 0
Dest Prefix      : 3ffe::a14:106/128
Prefix SID       : 9                   Flags            : NP-----
                                       Algorithm        : 0
-------------------------------------------------------------------------------
E-IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.7 (7)
LSA Type         : E-IE Pfx
Sequence No      : 0x80000001          Checksum         : 0xb351
Age              : 328                 Length           : 60
Pfx Options      : N                   Metric           : 200
Dest Prefix      : 3ffe::100:2c04/128
Prefix SID       : 1                   Flags            : NP-----
                                       Algorithm        : 0
-------------------------------------------------------------------------------
E-IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.11 (11)
LSA Type         : E-IE Pfx
Sequence No      : 0x80000001          Checksum         : 0x4b20
Age              : 328                 Length           : 60
Pfx Options      : N                   Metric           : 100
Dest Prefix      : 3ffe::a14:102/128
Prefix SID       : 11                  Flags            : NP-----
                                       Algorithm        : 0
-------------------------------------------------------------------------------
E-IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.20 (20)
LSA Type         : E-IE Pfx
Sequence No      : 0x80000001          Checksum         : 0xcd81
Age              : 328                 Length           : 60
Pfx Options      : N                   Metric           : 100
Dest Prefix      : 3ffe::100:3705/128
Prefix SID       : 2                   Flags            : NP-----
                                       Algorithm        : 0
-------------------------------------------------------------------------------
E-IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.21 (21)
LSA Type         : E-IE Pfx
Sequence No      : 0x80000001          Checksum         : 0xc29e
Age              : 328                 Length           : 60
Pfx Options      : N                   Metric           : 100
Dest Prefix      : 3ffe::a14:105/128
Prefix SID       : 8                   Flags            : NP-----
                                       Algorithm        : 0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
E-IE Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.22 (22)
LSA Type         : E-IE Pfx
Sequence No      : 0x80000001           Checksum         : 0x5ca1
Age              : 328                  Length           : 60
Pfx Options      : N                    Metric           : 200
Dest Prefix      : 3ffe::a14:104/128
Prefix SID       : 7                    Flags            : NP-----
                                        Algorithm        : 0
-------------------------------------------------------------------------------
E-IA Pfx LSA for Area 0.0.0.1
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 0.0.0.0 (0)
LSA Type         : E-IA Pfx
Sequence No      : 0x80000002           Checksum         : 0x54d0
Age              : 293                  Length           : 100
Ref Ls Type      : a021                 Ref Ls Id        : 0
Ref Adv Rtr      : 10.20.1.6            No of Pfxs       : 2
Prefix (1)       : 3ffe::3300:4206/128
Pfx Options (1)  : N LA                 Metric (1)       : 0
Prefix (2)       : 3ffe::100:4206/128
Pfx Options (2)  : N LA                 Metric (2)       : 0
Prefix SID (2)   : 3                    Flags (2)        : NP-----
                                        Algorithm (2)    : 0
===============================================================================
```

database

Syntax

database [**purge**]

Context

[Tree] (clear>router>ospf database)

[Tree] (clear>router>ospf3 database)

Full Context

clear router ospf database

clear router ospf3 database

Description

This command clears all LSAs received from other nodes, sets all adjacencies other than two-way to one-way, and refreshes all self-originated LSAs.

Parameters

purge

Clears all self-originated LSAs and re-originates all self-originated LSAs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

database

Syntax

database [**peer** *ipv6-address*] [**detail**]

database [**peer** *ipv6-address*] **detail** [**qos**]

database *ipv6-address*[*/prefix-length*] [**longer**] [**peer** *ipv6-address*] [**detail**]

database *ipv6-address*[*/prefix-length*] [**longer**] [**peer** *ipv6-address*] **detail** [**qos**]

Context

[Tree] (show>router>ripng database)

Full Context

show router ripng database

Description

This command displays the routes in the RIPng database.

Parameters

ipv6-address

Specifies the RIPng IPv6 address.

Values

ipv6-address:	x:x:x:x:x:x:x:x [-interface]
	x:x:x:x:x:x:d.d.d.d [-interface]
	x: [0..FFFF]H
	d: [0..255]D
	interface — link local addresses up to 32 characters

prefix-length

The IP prefix in dotted decimal notation for the range used by the ABR to advertise that summarizes the area into another area.

Values ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

prefix-length: 0 to 128

detail

Displays detailed information.

qos

Displays QoS information.

longer

Displays more detailed information.

Platforms

All

Output

The following outputs are examples of router RIPng database information.

Output Example

```
*A:Dut-C>config>router>if# show router ripng database
===============================================================================
RIP-NG Route Database
===============================================================================
Destination                                Interface
  Peer                                       Metric TTL Valid
-------------------------------------------------------------------------------
3ffe::10:10:3:0/120                        one
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:3:0/120                        two
  fe80::6629:ffff:fe00:0                     1      3   Yes
3ffe::10:10:3:0/120                        three
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:3:0/120                        four
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:12:0/120                       one
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:12:0/120                       two
  fe80::6629:ffff:fe00:0                     1      3   Yes
3ffe::10:10:12:0/120                       three
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:12:0/120                       four
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:103:0/120                      one
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:103:0/120                      two
  fe80::6629:ffff:fe00:0                     1      3   Yes
3ffe::10:10:103:0/120                      three
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:103:0/120                      four
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:112:0/120                      one
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:112:0/120                      two
  fe80::6629:ffff:fe00:0                     1      3   Yes
3ffe::10:10:112:0/120                      three
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:10:112:0/120                      four
  fe80::6629:ffff:fe00:0                     1      4   Yes
3ffe::10:20:1:2/128                        one
  fe80::6629:ffff:fe00:0                     1      4   Yes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3ffe::10:20:1:2/128                          two
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:20:1:2/128                          three
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:20:1:2/128                          four
  fe80::6629:ffff:fe00:0                       1      3   Yes
-------------------------------------------------------------------------------
No. of Routes: 20
===============================================================================
show router ripng database [peer <ipv6-address>]

*A:Dut-C>config>router>if# show router ripng database peer fe80::6629:ffff:fe00:0
===============================================================================
RIP-NG Route Database
===============================================================================
Destination                                  Interface
  Peer                                         Metric TTL Valid
-------------------------------------------------------------------------------
3ffe::10:10:3:0/120                          one
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:3:0/120                          two
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:3:0/120                          three
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:3:0/120                          four
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:12:0/120                         one
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:12:0/120                         two
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:12:0/120                         three
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:12:0/120                         four
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:103:0/120                        one
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:103:0/120                        two
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:103:0/120                        three
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:103:0/120                        four
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:112:0/120                        one
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:112:0/120                        two
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:112:0/120                        three
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:10:112:0/120                        four
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:20:1:2/128                          one
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:20:1:2/128                          two
  fe80::6629:ffff:fe00:0                       1      3   Yes
3ffe::10:20:1:2/128                          three
  fe80::6629:ffff:fe00:0                       1      4   Yes
3ffe::10:20:1:2/128                          four
  fe80::6629:ffff:fe00:0                       1      4   Yes
-------------------------------------------------------------------------------
No. of Routes: 20
===============================================================================
show router ripng database [peer <ipv6-address>] detail

*A:DutC>config>router>if# show router ripng database peer fe80::6629:ffff:fe00:0 detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
RIP-NG Route Database (Detail)
===============================================================================
Destination  : 3ffe::10:10:3:0/120              Metric       : 1
Interface    : one                             TTL          : 4
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:3:0/120              Metric       : 1
Interface    : two                             TTL          : 3
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:3:0/120              Metric       : 1
Interface    : three                           TTL          : 3
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:3:0/120              Metric       : 1
Interface    : four                            TTL          : 3
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:12:0/120             Metric       : 1
Interface    : one                             TTL          : 4
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:12:0/120             Metric       : 1
Interface    : two                             TTL          : 3
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:12:0/120             Metric       : 1
Interface    : three                           TTL          : 3
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:12:0/120             Metric       : 1
Interface    : four                            TTL          : 4
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:103:0/120            Metric       : 1
Interface    : one                             TTL          : 4
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:103:0/120            Metric       : 1
Interface    : two                             TTL          : 4
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:103:0/120            Metric       : 1
Interface    : three                           TTL          : 4
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:103:0/120            Metric       : 1
Interface    : four                            TTL          : 4
Next Hop     : ::                              Tag          : 0
Peer         : fe80::6629:ffff:fe00:0          Valid        : Yes

Destination  : 3ffe::10:10:112:0/120            Metric       : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Interface    : one                              TTL          : 4
Next Hop     : ::                               Tag          : 0
Peer         : fe80::6629:ffff:fe00:0           Valid        : Yes

Destination  : 3ffe::10:10:112:0/120            Metric       : 1
Interface    : two                              TTL          : 4
Next Hop     : ::                               Tag          : 0
Peer         : fe80::6629:ffff:fe00:0           Valid        : Yes

Destination  : 3ffe::10:10:112:0/120            Metric       : 1
Interface    : three                            TTL          : 4
Next Hop     : ::                               Tag          : 0
Peer         : fe80::6629:ffff:fe00:0           Valid        : Yes

Destination  : 3ffe::10:10:112:0/120            Metric       : 1
Interface    : four                             TTL          : 4
Next Hop     : ::                               Tag          : 0
Peer         : fe80::6629:ffff:fe00:0           Valid        : Yes

Destination  : 3ffe::10:20:1:2/128              Metric       : 1
Interface    : one                              TTL          : 4
Next Hop     : ::                               Tag          : 0
Peer         : fe80::6629:ffff:fe00:0           Valid        : Yes

Destination  : 3ffe::10:20:1:2/128              Metric       : 1
Interface    : two                              TTL          : 3
Next Hop     : ::                               Tag          : 0
Peer         : fe80::6629:ffff:fe00:0           Valid        : Yes

Destination  : 3ffe::10:20:1:2/128              Metric       : 1
Interface    : three                            TTL          : 4
Next Hop     : ::                               Tag          : 0
Peer         : fe80::6629:ffff:fe00:0           Valid        : Yes

Destination  : 3ffe::10:20:1:2/128              Metric       : 1
Interface    : four                             TTL          : 4
Next Hop     : ::                               Tag          : 0
Peer         : fe80::6629:ffff:fe00:0           Valid        : Yes

===============================================================================
show router ripng database <ipv6-address[/prefix-length]>
*A:Dut-C>config>router>if# show router ripng database 3ffe::10:20:1:2/128
===============================================================================
RIP-NG Route Database
===============================================================================
Destination                                 Interface
  Peer                                        Metric TTL Valid
-------------------------------------------------------------------------------
3ffe::10:20:1:2/128                         one
  fe80::6629:ffff:fe00:0                      1      4   Yes
3ffe::10:20:1:2/128                         two
  fe80::6629:ffff:fe00:0                      1      4   Yes
3ffe::10:20:1:2/128                         three
  fe80::6629:ffff:fe00:0                      1      4   Yes
3ffe::10:20:1:2/128                         four
  fe80::6629:ffff:fe00:0                      1      3   Yes
-------------------------------------------------------------------------------
No. of Routes: 4
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

database

Syntax

database

Context

[Tree] (clear>router>ripng database)

Full Context

clear router ripng database

Description

This command flushes all routes in the RIPng database.

Platforms

All

database

Syntax

database [**bsl** [*256..1024*]] **subdomain-id** [*0..255*]

Context

[Tree] (clear>router>bier database)

Full Context

clear router bier database

Description

This command clears the BIER database.

Platforms

All

database

Syntax

database [*system-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>service>id>spb database)

Full Context

clear service id spb database

Description

This command clears and resets the Shortest Path Bridging (SPB)database.

Parameters

system-id

Specifies the system ID. When the system ID is entered, only the specified entries are removed from the IS-IS adjacency database.

Values 6-octet system identifier (xxxx.xxxx.xxxx)

Platforms

All

7.6 datapath

datapath

Syntax

datapath *port-id* [**mac** *mac-chip-number*] [**fp** *fp-number*] [**detail**]

Context

[Tree] (show datapath)

Full Context

show datapath

Description

This command displays the datapath mapping for the specified card, MDA, FP, MAC, connector, and port combinations. Fully qualified port identifiers are displayed for ports when the **detail** or **port** parameters are specified.

This command is supported on FP4-based hardware only.

Parameters

port-id

Specifies the port ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

slot

Specifies the slot number of the card in the chassis to display. The maximum slot number is platform dependent. See the *Installation Guides* for more information.

Values 1 to 10

mda

Specifies the MDA number in the slot to display. This is an integer value relative to the card.

Values 1 to 2

xiom

Specifies the XIOM number in the slot to display.

Values x1

connector

Specifies the connector number to display. This is an integer value relative to the MDA.

Values c1 to c54

port

Specifies the connector port number to display. The full port identifier is displayed. This is an integer value relative to the connector.

Values 1 to 10

fp-number

Specifies the FP number to display. This is an integer value relative to the card.

Values 1 to 8

mac-chip-number

Specifies the MAC number to display. This is an integer value relative to the MDA.

Values 1 to 12

detail

Displays the full port identifiers for all ports with configured connectors.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of the **show datapath** command.

Output Example:

```
*A:PE# show datapath 1/2/c1/1

===============================================================================
Card      MDA       FP        MAC Chip Num   Connector      Ports
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1         2         1         1              c1             1/2/c1/1
===============================================================================
*A:PE# show datapath 1/2 fp 1


===============================================================================
Card      MDA       FP        MAC Chip Num   Connector      Ports
-------------------------------------------------------------------------------
1         2         1         1              c1
1         2         1         1              c2
1         2         1         1              c3
1         2         1         1              c4
1         2         1         1              c5
1         2         1         1              c6
===============================================================================


*A:PE# show datapath 1/2 mac 1 detail

===============================================================================
Card      MDA       FP        MAC Chip Num   Connector      Ports
-------------------------------------------------------------------------------
1         2         1         1              c1             1/2/c1/1
1         2         1         1              c2             1/2/c2/1
1         2         1         1              c3             1/2/c3/1
1         2         1         1              c4             1/2/c4/1
1         2         1         1              c5             1/2/c5/1
1         2         1         1              c6             1/2/c6/1
===============================================================================
*A:PE#

A:Dut-F# show datapath 1
===============================================================================
Card    [XIOM/]MDA  FP        MAC Chip Num   Connector      Port
-------------------------------------------------------------------------------
1       x1/1        1         1              c1
1       x1/1        1         1              c2
1       x1/1        1         1              c3
1       x1/1        1         1              c4
1       x1/1        1         1              c5
1       x1/1        1         1              c6
1       x1/1        1         2              c7
1       x1/1        1         2              c8
1       x1/1        1         2              c9
1       x1/1        1         2              c10
1       x1/1        1         2              c11
```

7.7 datastore-locks

datastore-locks

Syntax

datastore-locks [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>system>management-interface datastore-locks)

Full Context

show system management-interface datastore-locks

Description

This command displays datastore locks information.

Parameters

detail

Displays session-specific information.

Platforms

All

Output

The following output is an example of detail datastore locks information for all datastores. Table 106: Output fields: datastore locks describes the output fields.

Output Example

```
[]
A:admin@node-1# show system management-interface datastore-locks detail
===============================================================================
Session ID  Region                Datastore                   Lock State
   Username                       Session Mode                Idle Time
   Session Type                   From
-------------------------------------------------------------------------------
 6          configure             Candidate                   Unlocked
   admin                          Global                      0d 00:00:09
   MD-CLI (1)                     Console
-------------------------------------------------------------------------------
Number of sessions: 1
'#' indicates the current active session
'(n)' indicates the number of internal sessions
===============================================================================
```

Table 106: Output fields: datastore locks

Label	Description
Session ID	The session ID.
Region	The region or scope that the datastore belongs to.
Datastore	Datastores that can be locked. For example: Running and Candidate.
Lock State	Locked — Indicates the session is in a locked state. Unlocked — Indicates the session is in an unlocked state.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Username	The name of the user.
Session Mode	Global — A shared session. Exclusive — An exclusive session.
Idle Time	The idle time of the session.
Session Type	NETCONF — Indicates a NETCONF session is running. MD-CLI — Indicates an MD-CLI session is running. gRPC — Indicates a gRPC session is running. SNMP — Indicates an SNMP session is running. Classic CLI — Indicates a classic CLI session is running. System — Indicates a system (EHS or CRON) session is running.
From	The originating IP address.

7.8 debounce

debounce

Syntax

debounce peer *ip-address* **ring** *sync-tag*

Context

[Tree] (clear>redundancy>multi-chassis>mcr debounce)

Full Context

clear redundancy multi-chassis mc-ring debounce

Description

This command clears multi-chassis ring operational state debounce history.

Parameters

ip-address

Clears debounce history for the specified IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

sync-tag

Clears debounce history for the specified sync tag.

Platforms

All

7.9 debug

debug

Syntax

debug [*application*]

Context

[Tree] (show debug)

Full Context

show debug

Description

This command displays set debug points.

Note:
This command is not available in the MD-CLI. Use the MD-CLI **admin show configuration debug** command or the **info** command in the debug configuration region.

Parameters

application

Display which debug points have been set.

Values aaa, anysec, application-assurance, atm, bgp, bier, call-trace, certificate, cisco-hdlc, diameter, dynamic-services, eth-cfm, ethernet, filter, frame-relay, gtp, igmp, ip, ipsec, isis, l2tp, lag, ldp, local-dhcp-server, mcast-management, mirror, mld, mpls, msdp, mtrace, mtrace2, nat, oam, ospf, ospf3, pcep, pcp, pim, ppp, python, radius, radius-proxy, rip, ripng, rpki, rsvp, service, snmp, srrp, subscriber-mgmt, system, upnp, vrrp, wlan-gw, wpp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following shows an example of debug output.

Output Example

```
*A:EsrC# show debug
debug
    mirror-source 100
        subscriber "user1" ingress
        subscriber "user2" fc be h2 h1 nc egress
        subscriber "user3" ingress egress
        subscriber "user4" sap 1/1/2:1 fc af ef nc ingress
        subscriber "user5" sap 1/1/2:1 egress
        subscriber "user6" sap 1/1/2:1 fc be l2 af h2 ef nc ingress egress
        subscriber "user7" sap 1/1/2:1 ip 1.1.0.7 fc l1 h2 ingress
        subscriber "user8" sap 1/1/2:1 ip 1.1.0.8 fc af l1 h2 ef nc egress
        subscriber "user9" sap 1/1/2:1 ip 1.1.0.9 ingress egress
        subscriber "user10" sap 1/1/
2:1 mac 00:00:01:00:00:01 fc be l2 l1 h1 nc ingress
        subscriber "user11" sap 1/1/
2:1 mac 00:00:01:00:00:02 fc be l1 h2 ef h1 egress
        subscriber "user12" sap 1/1/
2:1 mac 00:00:01:00:00:03 fc be ef ingress egress
        subscriber "user13" sap 1/1/
2:1 ip 1.1.0.13 mac 00:00:01:00:00:01 fc be ef h1 ingress
        subscriber "user14" sap 1/1/2:1 ip 1.1.0.14 mac 00:00:01:00:00:02 egress
        subscriber "user15" sap 1/1/
2:1 ip 1.1.0.15 mac 00:00:01:00:00:03 fc af l1 ef nc ingress egress
        subscriber "user16" sla-profile "sla1" ingress
        subscriber "user17" sla-profile "sla2" egress
        subscriber "user18" sla-profile "sla3" fc be af h2 ingress egress
        no shutdown
    exit
exit
*A:EsrC#

*A:alu1# show debug
debug
    mirror-source 101
        port 1/1/1 ingress
        no shutdown
    exit
    mirror-source 102
        port 1/1/3 egress
        no shutdown
    exit
exit
*A:alu1#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.10 debug-packet

debug-packet

Syntax

debug-packet [**clear**]

Context

[Tree] (tools>dump>eth-cfm debug-packet)

Full Context

tools dump eth-cfm debug-packet

Description

This command displays and optionally clears the counters representing the number of CFM PDUs that matched the debug criteria but were not passed to the debug logger. This situation is caused by a full message queue.

Parameters

clear

Clears the current counters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of CFM-PDU information.

Output Example

```
tools dump eth-cfm debug-packet
===============================================================================
ETH-CFM Debug Logging Message Queue Statistics
===============================================================================
Rx Debug Exceptions        : 0
Tx Debug Exceptions        : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.11 declined-addresses

declined-addresses

Syntax

declined-addresses *ip-address*[/*mask*] [**detail**]

declined-addresses pool *pool-name*

Context

[Tree] (show>router>dhcp>server declined-addresses)

Full Context

show router dhcp local-dhcp-server declined-addresses

Description

This command display information about declined addresses.

Parameters

pool-name

Specifies a DHCP pool name on the router.

ip-address

Specifies the IP address of the DNS server. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

detail

Displays detailed information.

Platforms

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

Output

The following output is an example of declined address information

Output Example

```
*A:ALA-48>show>router>dhcp>server# declined-addresses pool test
===============================================================================
Declined addresses for server test Base
===============================================================================
 Pool                              Subnet              IP Address
PPPoe User Name                  Time                MAC Address       Type
Option 82 Circuit ID
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:ALA-48>show>router>dhcp>server#
```

Table 107: Output fields: declined addresses pool describes declined address pool output fields.

Table 107: Output fields: declined addresses pool

Field	Description
Pool	The name of the IP address pool
Subnet	The subnet address
IP Address	The declined IP address
Time	The creation time of this entry
MAC Address	The declined MAC address
Type	The type of declined address
PPPoE User Name	The name of the PPPoE user name
Option 82 Circuit ID	The declined circuit ID from the Option 82

declined-addresses

Syntax

declined-addresses *ip-address*[/*mask*]

declined-addresses pool *pool-name*

Context

[Tree] (clear>router>dhcp>server declined-addresses)

Full Context

clear router dhcp local-dhcp-server declined-addresses

Description

This command clears declined DHCP addresses.

Parameters

pool-name

Clears information about the declined pool name.

ip-address[/mask]

Clears information about the declined IP address and mask.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.12 default-domain

default-domain

Syntax

default-domain [**bridge-identifier** {*bridge-id* | *bridge-name*}] [**vlan** *vlan-id*] [**system-settings**]

Context

[Tree] (show>eth-cfm default-domain)

Full Context

show eth-cfm default-domain

Description

This command displays per-MIP index (**bridge-identifier** and **vlan**) configuration as entered under the **default-domain** entries.

Parameters

bridge-id

Specifies the bridge identifier related to the MIP. This is equivalent to the *service-id*.

Values 1 to 2147483647

bridge-name

Specifies the name of the bridge related to the MIP, up to 64 characters.

vlan-id

Specifies the VLAN ID matching the primary VLAN, or "none" if **primary-vlan-enable** is not configured.

Values 1 to 4094, none

system-settings

Keyword to display the system settings.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of default domain information, and Table 108: Output fields: ETH-CFM default domain describes the output fields.

Output Example

```
show eth-cfm default-domain
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Default Domain Information
===============================================================================
System Settings
MHF Creation  : none                    Level            : 0
Id Permission : none                    MIP Ltr Priority : 7
===============================================================================
BridgeName:BridgeId                             VLAN Level Creation IdPerm  LtrPr
-------------------------------------------------------------------------------
7:7                                             none defer defer    defer   defer
string-100:1000000                              10   4     default  chassis 7
string-100:1000000                              20   5     default  defer   defer
west-toronto-corridoor-circuit-[1234567.74.001.11111]:1000001
                                                none 3     explicit defer   defer
west-toronto-corridoor-circuit-[1234567.74.001.11111]:1000001
                                                600  defer defer    defer   defer
west-toronto-corridoor-circuit-[1234567.74.001.11111]:1000001
                                                601  defer defer    defer   defer
===============================================================================
```

Table 108: Output fields: ETH-CFM default domain

Label	Description
BridgeName:BridgeID	The name and ID of the association service BridgeName:BridgeID combinations that exceed the allowed column length causes the associated output to be produced on a separate line.
VLAN	The numerical value of the primary VLAN associated with the MIP, or the value **none**
Level	The configured level value, or **defer** to the value specified under the system settings for the MIP
Creation	The configured MHF creation mode, or **defer** to the value specified under the system settings for the MIP
IdPerm	The configured identifier that is carried in supporting ETH-CFM PDUs, or **defer** to the value specified under the system settings
LtrPr	The configured MIP LTR priority, or **defer** to the value specified under the system settings for the MIP

7.13 delay-template

delay-template

Syntax

delay-template *template-name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>oam-pm>streaming delay-template)

Full Context

show oam-pm streaming delay-template

Description

This command displays the configuration data for one or all OAM performance monitoring delay templates.

Parameters

template-name

Displays the results for a specific delay template, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of OAM-PM streaming **delay-template** summary information. Table 109: Output fields: delay template describes the delay template fields.

Output Example

```
show oam-pm streaming delay-template
-------------------------------------------------------------------------------
Streaming Delay Templates
-------------------------------------------------------------------------------
Name                                                            Admin  Tests
-------------------------------------------------------------------------------
stream-1                                                          Up      7
-------------------------------------------------------------------------------
No. of Streaming Delay Templates: 1
-------------------------------------------------------------------------------


show oam-pm streaming delay-template "stream-1"
-------------------------------------------------------------------------------
Tmpl Name   : stream-1
Description : stream delay stats base 1
-------------------------------------------------------------------------------
Admin State      : Up
FD Average       : round-trip
IFDV Average     : round-trip
Sample Window    : 10 seconds
Window Integrity : 80%
Active Test Refs : 6
Total Test Refs  : 7
-------------------------------------------------------------------------------
```

Table 109: Output fields: delay template

Label	Description
Name	Name of the delay template

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Admin	State of the delay template
Tests	Number of tests referencing the delay template
Tmpl Name	Name of the delay template
Description	Description of the delay template (truncated beyond width)
Admin State	Up — The delay template is administratively enabled Down — The delay template is administratively disabled
FD Average	forward — The average frame delay metric for forward direction backward — The average frame delay metric for backward direction round-trip — The average frame delay metric for round-trip direction
IFDV Average	forward — The average inter-frame delay variation metric for forward direction backward — The average inter-frame delay variation metric for backward direction round-trip — The average inter-frame delay variation metric for round-trip direction
Sample Window	Length of the sample window
Window Integrity	Percentage required to ensure integrity of the reporting
Active Test Refs	Number of tests actively referencing the delay template
Total Test Refs	Number of total tests referencing the delay template

7.14 delay-template-using

delay-template-using

Syntax

delay-template-using [**delay-template** *template-name*]

Context

[Tree] (show>oam-pm>streaming delay-template-using)

Full Context

show oam-pm streaming delay-template-using

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the list of sessions configured against one or all OAM performance monitoring delay templates.

Parameters

template-name

Displays the results for a specific delay template up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of OAM-PM streaming **delay-template-using** summary information.

Output Example

```
show oam-pm streaming delay-template-using
===============================================================================
OAM Performance Monitoring Tests Per Delay Template
===============================================================================
Template Name                                                          Admin
    Session Name                     Test Type   State
-------------------------------------------------------------------------------
stream-1                                                                 Up
    eth-circuit-service-epipe1             DMM   Inact
    ip-lpb111-SR-TE-LSP                    TWL     Act
    ip-circuit-service-vprn2               TWL     Act
    ip-rtr-telemetry-streaming             TWL     Act
    mpls-dm-rsvp-PE-2-PE-1                  DM     Act
    mpls-dm-static-PE-2-PE-1                DM     Act
    mpls-dm-rsvp-PE-2-PE-1-hop1             DM     Act
-------------------------------------------------------------------------------
===============================================================================
```

```
show oam-pm streaming delay-template-using delay-template "stream-1"
===============================================================================
OAM Performance Monitoring Tests Per Delay Template
===============================================================================
Template Name                                                          Admin
    Session Name                     Test Type   State
-------------------------------------------------------------------------------
stream-1                                                                 Up
    eth-circuit-service-epipe1             DMM   Inact
    ip-lpb111-SR-TE-LSP                    TWL     Act
    ip-circuit-service-vprn2               TWL     Act
    ip-rtr-telemetry-streaming             TWL     Act
    mpls-dm-rsvp-PE-2-PE-1                  DM     Act
    mpls-dm-static-PE-2-PE-1                DM     Act
    mpls-dm-rsvp-PE-2-PE-1-hop1             DM     Act
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.15 dest-tracking

dest-tracking

Syntax

dest-tracking ip [**detail**]

dest-tracking ipv6 [**detail**]

dest-tracking sap [**detail**]

dest-tracking sdp [**detail**]

Context

[Tree] (tools>dump>filter>resources dest-tracking)

Full Context

tools dump filter resources dest-tracking

Description

This command displays information about resources pertaining to tracked targets.

Parameters

ip

Displays information about IPv4 targets.

ipv6

Displays information about IPv6 targets.

sap

Displays information about SAP targets.

sdp

Displays information about SDP targets.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of filter resource SAP destination tracking information.

Output Example

```
A:node-2>tools>dump>filter>resources# dest-tracking sap
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Unique SAPs with tracked forwarding states
===============================================================================
Used  : 1
Free  : 4095
Total : 4096
===============================================================================
```

The following output is an example of filter resource SAP destination tracking detailed information.

Output Example

```
A:node-2>tools>dump>filter>resources>dest-tracking# sap detail
===============================================================================
Unique SAPs with tracked forwarding states
===============================================================================
Num  Destination                                        Ref. count
-------------------------------------------------------------------------------
    1 sap 1/2/2                                         1
===============================================================================
Unique SAPs with tracked forwarding states
===============================================================================
Used  : 1
Free  : 4095
Total : 4096
===============================================================================
```

7.16 detail

detail

Syntax

detail [**session** *ip-addr* [*label-space*]] [*family*]

Context

[Tree] (show>router>ldp>bindings>active detail)

Full Context

show router ldp bindings active detail

Description

This command displays details of LDP bindings.

Parameters

family

Displays either IPv4 or IPv6 LDP information.

session *ip-addr*[*label-space*]

Specifies the IP address and label space identifier.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values <ip-addr[label-spa*> : ipv4-address:label-space ipv6-address[label-space] label-space - [0 to 65535]

Platforms

All

detail

Syntax

detail

Context

[Tree] (show>router>pcep>pcc detail)

Full Context

show router pcep pcc detail

Description

This command displays PCEP detail information.

Platforms

All

Output

PCEP Detail Output

Table 110: Output fields: PCEP detail describes PCEP detail and status output fields.

Output Example

```
*A:Dut-C>config>router>mpls# show router pcep pcc detail
===============================================================================
Path Computation Element Protocol (PCEP) Path Computation Client (PCC) Info
===============================================================================
Admin Status           : Up              Oper Status          : Up
Unknown Msg Limit      : 10 msg/min
Keepalive Interval     : 30 seconds      DeadTimer Interval   : 120 seconds
Capabilities List      : stateful-delegate stateful-pce segment-rt-path rsvp-
                         path pce-initiated-lsp
Address                : 10.20.1.3
Report Path Constraints: True
Redelegation Interval  : 90 seconds
State Interval         : 180 seconds     State Timer Action   : remove
Max SR-TE PCE Init Lsps: 8191
Open Wait Timer        : 60 seconds      Keep Wait Timer      : 60 seconds
Sync Timer             : 60 seconds      Request Timer        : 120 seconds
Connection Timer       : 60 seconds      Allow Negotiations   : False
Max Sessions           : 1               Max Unknown Req      : 1000
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 110: Output fields: PCEP detail

Label	Description
Admin Status	Down — PCEP is administratively disabled. Up — PCEP is administratively enabled.
Oper Status	Down — PCEP is operationally down. Up — PCEP is operationally up.
Unknown Msg Limit	Specifies the unknown messages, per minute, limit.
Keepalive Interval	Specifies the keepalive interval.
DeadTimer Interval	Specifies the number of matching entries.
Capabilities List	Specifies the capabilities listing.
Address	Specifies the IP address.
Report Path Constraints	True — Path constrains will be reported. False — Path constrains will not be reported.
Redelegation Interval	Specifies the redelegation timer interval.
State Interval	Specifies the state timer interval.
State Timer Action	Remove — Specifies the state timer action is remove. None — Specifies the state timer action is none.
Max SR-TE PCE Init Lsps	Specifies the maximum number of PCE initiated SR-TE LSPs that can be created by the router.
Open Wait Timer	Specifies the open wait timer value.
Keep Wait Timer	Specifies the keep wait timer value.
Sync Timer	Specifies the sync timer value.
Request Timer	Specifies the request timer value.
Connection Timer	Specifies the connection timer value.
Allow Negotiations	True — Allow negotiations will occur. False — Allow negotiations will not occur.
Max Sessions	Specifies the maximum sessions value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Max Unknown Req	Specifies the maximum unknown requests value.

detail

Syntax

detail [*partition*]

Context

[Tree] (show>app-assure>group>http-enrich detail)

Full Context

show application-assurance group http-enrich detail

Description

This command displays detailed HTTP Enrichment information.

Parameters

partition

Specifies the partition within the group.

Values 1 to 65535

Platforms

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

detail

Syntax

detail

Context

[Tree] (show>router>bgp>routes detail)

Full Context

show router bgp routes detail

Description

This command displays detailed information about the BGP routes, including information about the original path attribute values.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

detail is a parameter of the **show router bgp routes** command. Depending on the parameters that are used to issue the command, the output can display a narrower or wider set of routes, including routes belonging to other address families. See the **show router bgp routes** command description for syntax variants, parameter descriptions and values, and output examples.

Platforms

All

7.17 detected-protocols

detected-protocols

Syntax

detected-protocols {**all** | **sap** *sap-id* | **spoke-sdp** *sdp-id*[*:vc-id*]}

Context

[Tree] (clear>service>id>stp detected-protocols)

Full Context

clear service id stp detected-protocols

Description

RSTP automatically falls back to STP mode when it receives an STP BPDU. The **clear detected-protocols** command forces the system to revert to the default RSTP mode on the SAP or spoke SDP.

Parameters

all

Clears all detected protocol information.

sap-id

Clears the specified lease state SAP information.

sdp-id

The SDP ID to be cleared.

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID to be cleared.

Values 1 to 4294967295

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.18 deterministic

deterministic

Syntax

deterministic

Context

[Tree] (tools>perform>nat deterministic)

Full Context

tools perform nat deterministic

Description

Commands in this context perform actions of deterministic NAT.

Platforms

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

7.19 dhcp

dhcp

Syntax

dhcp

Context

[Tree] (show>router dhcp)

[Tree] (show>service>id dhcp)

Full Context

show router dhcp

show service id dhcp

Description

Commands in this context display DHCP information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

dhcp

Syntax

dhcp

Context

[Tree] (clear>service>id dhcp)

[Tree] (clear>router dhcp)

Full Context

clear service id dhcp

clear router dhcp

Description

Commands in this context clear and reset DHCP entities.

Platforms

All

dhcp

Syntax

dhcp

Context

[Tree] (tools>perform>router dhcp)

Full Context

tools perform router dhcp

Description

Commands in this context configure tools DHCP parameters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

dhcp

Syntax

dhcp [*filter-id*]

Context

[Tree] (show>filter dhcp)

Full Context

show filter dhcp

Description

This command displays DHCP filter information.

Parameters

filter-id

Displays detailed information for the specified filter ID and its filter entries.

Values 1 to 65535

Platforms

All

Output

The following output is an example of the command information when no filter ID is specified.

Output Example

```
*B:TechPubs>config# show filter dhcp
===============================================================================
DHCP Filters
===============================================================================
Filter-Id   Applied Description
-------------------------------------------------------------------------------
10          No      test-dhcp-filter
-------------------------------------------------------------------------------
Num filter entries: 1
===============================================================================
*B:TechPubs>config#


*B:TechPubs>config# show filter dhcp 10
===============================================================================
DHCP Filter
===============================================================================
Filter-Id    : 10                       Applied      : No
Entries      : 0
Description  : test-dhcp-filter
-------------------------------------------------------------------------------
Filter Match Criteria
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No Match Criteria Found
===============================================================================
*B:TechPubs>config#
```

7.20 dhcp-client

dhcp-client

Syntax

dhcp-client interface *ip-int-name* **statistics**

Context

[Tree] (clear>router>autoconfigure dhcp-client)

Full Context

clear router autoconfigure dhcp-client

Description

This command clears DHCP client information.

Parameters

ip-int-name

Clears DHCP client information on the specified interface, up to 32 characters.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

dhcp-client

Syntax

dhcp-client interface *ip-int-name* **routes**

dhcp-client interface *ip-int-name* **statistics**

dhcp-client interface *ip-int-name*

Context

[Tree] (show>router>autoconfigure dhcp-client)

Full Context

show router autoconfigure dhcp-client

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays DHCP client information.

Parameters

ip-int-name

Specifies the IP interface name, up to 32 characters.

statistics

Displays DHCP client statistics.

routes

Displays routes received by the DHCP protocol.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

7.21 dhcp-rx-stats

dhcp-rx-stats

Syntax

dhcp-rx-stats [**clear**]

Context

[Tree] (tools>dump dhcp-rx-stats)

Full Context

tools dump dhcp-rx-stats

Description

This command displays the DHCP received packet statistics.

Parameters

clear

Clears DHCP RX statistics.

Platforms

All

Output

The following output is an example of DHCP RX statistics information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:# tools dump dhcp-rx-stats
===============================================================================
DHCP Received Packet Statistics
===============================================================================
     Type                  Received     Forwarded       Dropped  Dropped(ESM)
-------------------------------------------------------------------------------
IPv4 DISCOVER                    72            72             0             0
     OFFER                        2             2             0             0
     REQUEST                      4             4             0             0
     DECLINE                      0             0             0             0
     ACK                          1             1             0             0
     NAK                          0             0             0             0
     RELEASE                      0             0             0             0
     INFORM                       0             0             0             0
     FORCERENEW                   0             0             0             0
     LEASEQUERY                   0             0             0             0
     LEASEUNASSIGNED              0             0             0             0
     LEASEUNKNOWN                 0             0             0             0
     LEASEACTIVE                  0             0             0             0
     RENEW                        2             2             0             0
-------------------------------------------------------------------------------
IPv6 SOLICIT                      0             0             0             0
     ADVERTISE                    0             0             0             0
     REQUEST                      0             0             0             0
     CONFIRM                      0             0             0             0
     RENEW                        0             0             0             0
     REBIND                       0             0             0             0
     REPLY                        0             0             0             0
     RELEASE                      0             0             0             0
     DECLINE                      0             0             0             0
     RECONFIGURE                  0             0             0             0
     INFO_REQUEST                 0             0             0             0
     RELAY_FORW                   0             0             0             0
     RELAY_REPLY                  0             0             0             0
     LEASEQUERY                   0             0             0             0
     LEASEQUERY_REPLY             0             0             0             0
-------------------------------------------------------------------------------
     Total                       81            81             0             0
-------------------------------------------------------------------------------
Maximum queue length          : 0
Maximum outst pbufs total     : 1
Maximum outst pbufs to client : 1
===============================================================================
```

7.22 dhcp6

dhcp6

Syntax

dhcp6

Context

[Tree] (show>service>id dhcp6)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

[Tree] (show>system dhcp6)

[Tree] (show>router dhcp6)

Full Context

show service id dhcp6

show system dhcp6

show router dhcp6

Description

Commands in this context display DHCP6 related information.

Platforms

All

dhcp6

Syntax

dhcp6

Context

[Tree] (clear>service>id dhcp6)

[Tree] (clear>router dhcp6)

Full Context

clear service id dhcp6

clear router dhcp6

Description

Commands in this context clear DHCPv6 parameters.

Platforms

All

dhcp6

Syntax

dhcp6

Context

[Tree] (tools>perform>router dhcp6)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform router dhcp6

Description

Commands in this context configure tools DHCP6 parameters.

Platforms

All

dhcp6

Syntax

dhcp6 [*filter-id*]

Context

[Tree] (show>filter dhcp6)

Full Context

show filter dhcp6

Description

This command displays DHCP6 filter information.

Parameters

filter-id

Displays detailed information for the specified filter ID and its filter entries.

Values 1 to 65535

Platforms

All

7.23 dhcp6-client

dhcp6-client

Syntax

dhcp6-client interface *ip-int-name* **statistics**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>router>autoconfigure dhcp6-client)

Full Context

clear router autoconfigure dhcp6-client

Description

This command clears DHCPv6 client information.

Parameters

ip-int-name

Clears DHCPv6 client information on the specified interface, up to 32 characters.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

dhcp6-client

Syntax

dhcp6-client interface *ip-int-name*

dhcp6-client interface *ip-int-name* **statistics**

Context

[Tree] (show>router>autoconfigure dhcp6-client)

Full Context

show router autoconfigure dhcp6-client

Description

This command displays DHCPv6 client information.

Parameters

ip-int-name

Specifies the IP interface name, up to 32 characters.

statistics

Displays DHCPv6 client statistics.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.24 diameter

diameter

Syntax

diameter

Context

[Tree] (show>service>active-subscribers>hierarchy diameter)

Full Context

show service active-subscribers hierarchy diameter

Description

This command provides information about the active Diameter Gx and Diameter Gy session IDs.

Note: The diameter NASREQ application is stateless in SR OS and therefore a NASREQ session ID is not included in the output.

Platforms

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

Output

The following output is an example of the active Diameter Gx and Gy session IDs and Table 111: Output fields: active subscriber hierarchy diameter describes the output fields.

```
show service active-subscribers hierarchy diameter
```

Output Example

```
===============================================================================
Active Subscribers Hierarchy (diameter information)
===============================================================================
-- ipoe-1
   (sub-profile-1)
   |
   +-- sap:[1/x1/1/c1/4:2211.2005] - sla:sla-profile-1
       |   Gy-diam-session-id:bng-gy.realm-2.com;1668427651;23
       |
       +-- IPOE-Session - mac:00:bb:02:00:00:05
           |   Gx-diam-session-id:bng-nasreq-gx.realm-1.com;1668427651;22
           |
           |-- 10.2.1.13
           |
           +-- 2001:db8:b002:100::1/128
               |
               +-- 2001:db8:b002:101::/64

-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Number of active subscribers : 1
Flags: (N) = the host or the managed route is in non-forwarding state
===============================================================================
```

Table 111: Output fields: active subscriber hierarchy diameter

Field	Description
Gy-diam-session-id	The active Diameter Gy session ID for this SLA Profile Instance. N/A when no session is active.
Gx-diam-session-id	The active Diameter Gx session ID for this subscriber host or session. N/A when no session is active.

diameter

Syntax

diameter

Context

[Tree] (tools>perform>aaa diameter)

Full Context

tools perform aaa diameter

Description

Commands in this context perform Diameter operations.

Platforms

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

diameter

Syntax

diameter

Context

[Tree] (clear>aaa diameter)

Full Context

clear aaa diameter

Description

Commands in this context clear Diameter information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

7.25 diameter-application-policy

diameter-application-policy

Syntax

diameter-application-policy [*name*]

Context

[Tree] (show>subscr-mgmt diameter-application-policy)

Full Context

show subscriber-mgmt diameter-application-policy

Description

This command displays Diameter application policy information.

Parameters

name

Specifies the application policy, up to 32 characters, for which orphaned Gx sessions are displayed.

Platforms

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

Output

The following output is an example of subscriber management Diameter application policy information

Output Example

```
# show subscriber-mgmt diameter-application-policy
===============================================================================
DIAMETER application policies
===============================================================================
Name                            Description
-------------------------------------------------------------------------------
diameter-gx-policy-1            Diameter Gx policy
diameter-gy-policy-1            Diameter Gy policy
diameter-nasreq-policy-1        Diameter NASREQ policy
-------------------------------------------------------------------------------
No. of policies: 3
===============================================================================


# show subscriber-mgmt diameter-application-policy "diameter-nasreq-policy-1"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
DIAMETER application policy "diameter-nasreq-policy-1"
===============================================================================
Description                 : Diameter NASREQ policy
Session failover            : enabled
Failover handling           : continue
Application                 : nasreq
Tx timer (s)                : 10
Last management change      : 02/28/2015 14:53:49
-------------------------------------------------------------------------------
NASREQ
-------------------------------------------------------------------------------
Include AVP                 : nas-port-id
                              nas-port-type
NAS-Port-Id prefix type     : none
NAS-Port-Id suffix type     : user-string
NAS-Port-Id suffix          : @bng1
NAS-Port-Type type          : standard

User name format            : mac
User name operation         : no-operation
MAC address format          : aa:
Last management change      : 02/28/2015 14:53:49
===============================================================================
Interfaces using diameter-auth-policy "diameter-nasreq-policy-1"
-------------------------------------------------------------------------------
Interface-name                   Service-id Type
-------------------------------------------------------------------------------
group-int-1-1                    1000       IES
-------------------------------------------------------------------------------
No. of interfaces: 1
-------------------------------------------------------------------------------
VPLS SAP's with diameter-auth-policy "diameter-nasreq-policy-1"
-------------------------------------------------------------------------------
Service    SAP
-------------------------------------------------------------------------------
10         1/1/4:*.*
-------------------------------------------------------------------------------
No. of SAP's: 1
-------------------------------------------------------------------------------


*A:Dut-C# show subscriber-mgmt diameter-application-policy "diamapppol_gx"
===============================================================================
DIAMETER application policy "diamapppol_gx"
===============================================================================
Description                 : (Not Specified)
Session failover            : enabled
Failover handling           : retry-and-terminate
Peer policy                 : diampeerpol_gx
Application                 : gx
Tx timer (s)                : 10
Last management change      : 05/08/2015 05:55:59
-------------------------------------------------------------------------------
Gx
-------------------------------------------------------------------------------
Include AVP                 : an-gw-address
Calling-Station-Id type     : mac
NAS-Port bits spec          : 0
NAS-Port-Id prefix type     : user-string
NAS-Port-Id prefix          : Testing
NAS-Port-Id suffix type     : circuit-id
NAS-Port-Type value         : 0
User-Equipment-Info         : mac
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Subscription-Id-Data origin : subscriber-id
Subscription-Id-Data type   : e164
MAC address format          : aa:
Report IP address event     : enabled
CCR-t replay interval       : 60
Last management change      : 05/08/2015 06:54:27
```

Table 112: Output fields: diameter application policy describes diameter application policy output fields.

Table 112: Output fields: diameter application policy

Field	Description
Description	The user provided description of this policy
Session failover	Failover is enabled or disabled
Failover Handling	Handling is retry-and-terminate or terminate
Peer policy	The diameter application peer policy name
Application	The policy's application, gx, gy, or nasreq
Tx timer (s)	The maximum wait time (seconds) while a client is pending
Last management change	The time of the most recent management-initiated change to this policy
Include AVP	The attribute-value-pairs for Gx messages
Calling-Station-Id type	The string that is put in the RADIUS Calling-Station-Id attribute if included in RADIUS authentication request messages
NAS-Port bits spec	The number that is put in the RADIUS NAS-Port attribute if included in RADIUS authentication request messages
NAS-Port-Id prefix type	The type of prefix that is added to the NAS-Port-Id attribute if included in RADIUS accounting-request messages
NAS-Port-Id prefix	The user configurable string that is added as the prefix to the NAS-Port attribute if included in RADIUS accounting-request messages
NAS-Port-Id suffix type	The user configurable string that is added as the suffix to the NAS-Port attribute if included in RADIUS accounting-request messages
NAS-Port-Type value	The value that is put in the RADIUS NAS-Port-Type attribute if included in RADIUS accounting-request messages
User-Equipment-Info	The user equipment info, eui64, imeisv, mac, or modified-eui64

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

diameter-application-policy

Syntax

diameter-application-policy *name* **statistics**

Context

[Tree] (clear>subscr-mgmt diameter-application-policy)

Full Context

clear subscriber-mgmt diameter-application-policy

Description

This command clears Diameter application policy data.

Parameters

name

Specifies the Diameter application policy name, up to 32 characters.

statistics

Clears Diameter application policy statistics.

Platforms

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

7.26 diameter-node

diameter-node

Syntax

diameter-node *origin-host-string* **peer** *dest-host-string*

diameter-node *origin-host-string* **peer** *dest-host-string* **statistics**

diameter-node *origin-host-string* **peers**

diameter-node *origin-host-string* **routing-table**

Context

[Tree] (show>aaa diameter-node)

Full Context

show aaa diameter-node

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information about a Diameter node.

Platforms

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

Output

The following outputs are examples of Diameter node information.

Output Example

```
show aaa diameter node "node1.myrealm.com" routing-table
===============================================================================
Diameter Routing Table (Node: node1.myrealm.com)
===============================================================================
Realm Name                      Appl      Pref:Index    Server-Identifier
-------------------------------------------------------------------------------
subrealm.telenet.be             Gx        30:1          node1.subrealm.telenet.be
telenet.be                      Gx        60            node2.subrealm.telenet.be
telenet.be                      relay     50            node3.subrealm.telenet.be
-------------------------------------------------------------------------------
No. of Routes: 5
===============================================================================
```

Table 113: Output fields: diameter node routing table describes routing entries in the Diameter realm-based routing table fields.

Table 113: Output fields: diameter node routing table

Field	Description
Realm Name	The destination realm name
Appl	The application for which this route will be used. Supported applications: • NASREQ • Gx • Gy • Relay (encompass all applications)
Pref:Index	The preference and index of the peer. Peers for the same realm are selected in order of preference. Peers with the lowest preference are preferred. If multiple peers have the same preference for the same realm, the peer with a lowest index is selected. Preference and index are user-configured parameters.
Server-Identifier	The next hop peer name

```
show aaa diameter node "node1.myrealm.com" peer "relay.telenet.be"
===============================================================================
Diameter Node : node1.myrealm.com
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Index                  : 1
Remote Host Identity   : relay.telenet.be
Remote Realm           : telenet.be
Remote IP address      : 13.0.1.5
Remote Port:  3868
Remote Origin-State-Id : 1522062441
Local Host Identity    : bng1.bng.nokia.com
Local Realm            : bng.nokia.com
Local IP address       : 13.0.1.4
Local port:  3456
Peer Admin State       : Up
Peer Active            : Yes
Peer Status            : I-Open
Active Applications    : nasreq gx
Last Disconnect Cause  : rebooting
Preference             : 4
Connection Timer (Tc)  : 10
Watchdog Timer   (Tw)  : 237
...
Last Mgmt Change       : 03/23/2018 11:42:43
```

Table 114: Output fields: diameter node peer describes Diameter node peer fields.

Table 114: Output fields: diameter node peer

Field	Description
Diameter Node	The Diameter node under which this peer is active
Index	The Peer index is a peer configuration parameter
Remote Host Identity	The peer identity
Remote Realm	The realm to which the peer belongs
Remote IP address	The IP address of the peer
Remote Port	The port on the peer used for Diameter communication
Remote Origin-State-Id	The Origin-State-Id of the peer
Local Host Identity	The local identity
Local Realm	The local realm name
Local IP address	The local IP address
Local Port	The local port used for Diameter communication
Peer Admin State	The administrative state of the configured peer
Peer Active	Indicates whether the connection towards the peer is active
Peer Status	The operational status of the configured peer
Active Applications	The applications used over this peer

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Last Disconnect Cause	The last disconnect cause
Preference	The configured preference of the peer
Connection Timer (Tc)	The timer used to initiate connections towards the peer. In case that the connection is not successfully established, a new attempt is periodically tried (every Tc interval)
Watchdog Timer (Tw)	The watchdog timer value that detects the failed connection towards the peer
Last Mgmt Change	The date and time of the last management change

```
show aaa diameter node "node1.myrealm.com" peer-table
===============================================================================
Diameter Peer Table (Node: node1.myrealm.com)
===============================================================================
Host Identity                       StatusT       Susp
-------------------------------------------------------------------------------
relay.telenet.be
                                    I-Open        No
relay.proximus.be
                                    I-Open        No
relay.proximus.be
                                    Closed        No
-------------------------------------------------------------------------------
No. of Active Peers: 2
```

Table 115: Output fields: diameter node peer describes Diameter node peer table fields.

Table 115: Output fields: diameter node peer

Field	Description
Node	The Diameter node name
Host Identity	The peer identity
StatusT	The status of the peer
Susp	The suspension state of the peer (based on watchdogs)
Server-Identifier	The next hop peer name

```
show aaa diameter-node "gyrouter.workstation.be" peer "gyserver-1.workstation.be" statistics
===============================================================================
Peer "gyserver-1.workstation.be"
===============================================================================
Message                             Sent                Received
-------------------------------------------------------------------------------Capabilities-
Exchange-Request        2                       0
Capabilities-Exchange-Answer        0                   2
Disconnect-Peer-Request             0                   0
Disconnect-Peer-Answer              0                   0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Device-Watchdog-Request              188                  0
Device-Watchdog-Answer               0                    188
Application message request          2367                 0
Application message answer           0                    2366
Last cleared time: N/A
===============================================================================
```

```
show aaa diameter-node "sr" routing-table
===============================================================================
Routes
===============================================================================
Realm-Name
           Application   Pref. Entry   Server-Identifier
-------------------------------------------------------------------------------
realm-2
           (relay)       5     dynamic node-b
realm-3
           gx            10    static  node-b
realm-4
           gy            20    static  node-b
realm-2
           (relay)       5     dynamic node-c
realm-3
           gx            20    static  node-c
realm-4
           gy            10    static  node-c
-------------------------------------------------------------------------------
No. of routes: 6
===============================================================================
A:Dut-C#
```

Table 116: Output fields: diameter node SR routing table describes the Diameter node SR table fields.

Table 116: Output fields: diameter node SR routing table

Field	Description
Realm Name	The destination realm name
Application	The application for which this route will be used. Supported applications: • NASREQ • Gx • Gy • Relay (all applications)
Pref	The preference and index of the peer. Peers for the same realm are selected in order of preference. Peers with higher preference are preferred. If multiple peers have the same preference for the same realm, the peer with a lowest index is selected. Preference and index are user-configured parameters.
Entry	Dynamic or static diameter route
Server-Identifier	The next hop peer name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

diameter-node

Syntax

diameter-node *origin-host-string* **peer** *dest-host-string* **statistics**

Context

[Tree] (clear>aaa diameter-node)

Full Context

clear aaa diameter-node

Description

This command clears Diameter node data.

Parameters

origin-host-string

Specifies the origin host name, up to 80 characters.

dest-host-string

Specifies the destination host name, up to 80 characters.

Platforms

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

7.27 diameter-session

diameter-session

Syntax

diameter-session

Context

[Tree] (show>subscr-mgmt diameter-session)

Full Context

show subscriber-mgmt diameter-session

Description

Commands in this context display diameter session information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

diameter-session

Syntax

diameter-session

Context

[Tree] (clear>subscr-mgmt diameter-session)

Full Context

clear subscriber-mgmt diameter-session

Description

This command clears diameter session data.

Platforms

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

7.28 direct-export

direct-export

Syntax

direct-export

Context

[Tree] (show>app-assure>group>cflowd direct-export)

Full Context

show application-assurance group cflowd direct-export

Description

Commands in this context display cflowd direct-export output.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.29 discovery

discovery

Syntax

discovery [{**peer** [*ip-address*]} | {**interface** [*ip-int-name*]}] [**state** *state*] [**detail**] [**adjacency-type** *type*]

discovery [**state** *state*] [**detail** | **summary**] [**adjacency-type** *type*] [**session** *ip-addr*[*label-space*]]

discovery [**state** *state*] [**detail** | **summary**] [**adjacency-type** *type*] [*family*]

discovery interface [*ip-int-name*] [**state** *state*] [**detail** | **summary**] [**session** *ip-addr*[*label-space*]]

discovery peer [*ip-address*] [**state** *state*] [**detail** | **summary**] [**session** *ip-addr*[*label-space*]]

Context

[Tree] (show>router>ldp discovery)

Full Context

show router ldp discovery

Description

This command displays the status of the interfaces participating in LDP discovery.

Parameters

peer ip-address

Specifies to display the IP address of the peer.

interface ip-int-name

The name of an existing interface. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

state state

Specifies to display the current operational state of the adjacency.

Values established, trying, down

detail

Specifies to display detailed information.

family

Displays either IPv4 or IPv6 LDP session information.

adjacency-type *type*

Specifies to display the adjacency type.

Values link, targeted

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

LDP Discovery Output

Table 117: Output fields: LDP discovery describes the LDP discovery output fields.

Table 117: Output fields: LDP discovery

Label	Description
Interface Name	The name of the interface.
Local Addr	The IP address of the originating (local) router.
Peer Addr	The IP address of the peer.
AdjType	The adjacency type between the LDP peer and LDP session is targeted.
State	Established — The adjacency is established. Trying — The adjacency is not yet established.
No. of Hello Adjacencies	The total number of hello adjacencies discovered.
Up Time	The amount of time the adjacency has been enabled.
Hold Time Remaining	The time left before a neighbor is declared to be down.

Output Example

```
*A:Dut-A# show router ldp discovery
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                              State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
N/A                             192.0.2.1:0                               Estab
targ                            198.51.100.1:0

N/A                             192.0.2.1:0                               Estab
targ                            203.0.113.1:0

to_SR2                          192.0.2.1:0                               Estab
link                            198.51.100.1:0

to_SR2_2                        192.0.2.1:0                               Estab
link                            198.51.100.1:0

to_SR3                          192.0.2.1:0                               Estab
link                            203.0.113.1:0

No. of IPv4 Hello Adjacencies: 5
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                            State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
to_SR2                          10.0.50.1:0                          Estab
link                            10.0.50.2:0

to_SR2_2                        fe80::4624:1ff:fe01:6                 Trying
link                            ff02::2

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 2
===============================================================================
*A:Dut-A# show router ldp discovery detail
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
-------------------------------------------------------------------------------
Peer 198.51.100.1
-------------------------------------------------------------------------------
Local Address      : 192.0.2.1:0
Peer Address       : 198.51.100.1:0
Adjacency Type     : targeted           State               : Established
Up Time            : 0d 00:22:58        Hold Time Remaining : 38
Hello Mesg Recv    : 104                Hello Mesg Sent     : 104
Local IP Address   : 192.0.2.1
Peer IP Address    : 198.51.100.1
Local Hello Timeout: 45                 Remote Hello Timeout: 45
Local Cfg Seq No   : 2476449752         Remote Cfg Seq No   : 2494880985
Lcl IPv4 P2MP Capbl: Disabled           Rem IPv4 P2MP Capbl : Enabled
Lcl IPv6 P2MP Capbl: Disabled           Rem IPv6 P2MP Capbl : Enabled
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled
-------------------------------------------------------------------------------
Peer 203.0.113.1
-------------------------------------------------------------------------------
Local Address      : 192.0.2.1:0
Peer Address       : 198.51.100.1:0
Adjacency Type     : targeted           State               : Established
Up Time            : 0d 00:27:24        Hold Time Remaining : 36
Hello Mesg Recv    : 124                Hello Mesg Sent     : 124
Local IP Address   : 192.0.2.1
Peer IP Address    : 203.0.113.1
Local Hello Timeout: 45                 Remote Hello Timeout: 45
Local Cfg Seq No   : 1472397992         Remote Cfg Seq No   : 2705515863
Lcl IPv4 P2MP Capbl: Enabled            Rem IPv4 P2MP Capbl : Enabled (R)
Lcl IPv6 P2MP Capbl: Enabled            Rem IPv6 P2MP Capbl : Enabled (R)
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled (R)
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled (R)
-------------------------------------------------------------------------------
Interface "to_SR2"
-------------------------------------------------------------------------------
Local Address      : 192.0.2.1:0
Peer Address       : 198.51.100.1:0
Adjacency Type     : link               State               : Established
Up Time            : 0d 00:23:11        Hold Time Remaining : 13
Hello Mesg Recv    : 366                Hello Mesg Sent     : 365
Local IP Address   : 10.0.60.1
Peer IP Address    : 10.0.60.2
Local Hello Timeout: 15                 Remote Hello Timeout: 15
Local Cfg Seq No   : 416151817          Remote Cfg Seq No   : 2265512807
Lcl IPv4 P2MP Capbl: Enabled            Rem IPv4 P2MP Capbl : Enabled (R)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Lcl IPv6 P2MP Capbl: Enabled            Rem IPv6 P2MP Capbl : Enabled (R)
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled (R)
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled (R)
-------------------------------------------------------------------------------
Interface "to_SR2_2"
-------------------------------------------------------------------------------
Local Address      : 192.0.2.1:0
Peer Address       : 198.51.100.1:0
Adjacency Type     : link               State               : Established
Up Time            : 0d 00:23:12        Hold Time Remaining : 13
Hello Mesg Recv    : 368                Hello Mesg Sent     : 367
Local IP Address   : 60.60.61.1
Peer IP Address    : 60.60.61.2
Local Hello Timeout: 15                 Remote Hello Timeout: 15
Local Cfg Seq No   : 1472397992         Remote Cfg Seq No   : 2705515863
Lcl IPv4 P2MP Capbl: Enabled            Rem IPv4 P2MP Capbl : Enabled (R)
Lcl IPv6 P2MP Capbl: Enabled            Rem IPv6 P2MP Capbl : Enabled (R)
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled (R)
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled (R)
-------------------------------------------------------------------------------
Interface "to_SR3"
-------------------------------------------------------------------------------
Local Address      : 192.0.2.1:0
Peer Address       : 203.0.113.1:0
Adjacency Type     : link               State               : Established
Up Time            : 0d 00:27:36        Hold Time Remaining : 12
Hello Mesg Recv    : 438                Hello Mesg Sent     : 437
Local IP Address   : 10.0.90.1
Peer IP Address    : 10.0.90.2
Local Hello Timeout: 15                 Remote Hello Timeout: 15
Local Cfg Seq No   : 3784603428         Remote Cfg Seq No   : 1928455485
Lcl IPv4 P2MP Capbl: Enabled            Rem IPv4 P2MP Capbl : Enabled (R)
Lcl IPv6 P2MP Capbl: Enabled            Rem IPv6 P2MP Capbl : Enabled (R)
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled (R)
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled (R)
===============================================================================
No. of IPv4 Hello Adjacencies: 5
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
-------------------------------------------------------------------------------
Interface "to_SR2"
-------------------------------------------------------------------------------
Local Address      : 10.0.50.1:0
Peer Address       : 10.0.50.2:0
Adjacency Type     : link               State               : Established
Up Time            : 0d 00:19:22        Hold Time Remaining : 12
Hello Mesg Recv    : 306                Hello Mesg Sent     : 306
Local IP Address   : fe80::4624:1ff:fe01:1
Peer IP Address    : fe80::4651:1ff:fe01:1
Local Hello Timeout: 15                 Remote Hello Timeout: 15
Local Cfg Seq No   : 3349779675         Remote Cfg Seq No   : 4177487405
Lcl IPv4 P2MP Capbl: Enabled            Rem IPv4 P2MP Capbl : Enabled (R)
Lcl IPv6 P2MP Capbl: Enabled            Rem IPv6 P2MP Capbl : Enabled (R)
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled (R)
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled (R)
-------------------------------------------------------------------------------
Interface "to_SR2_2"
-------------------------------------------------------------------------------
Local Address      : fe80::4624:1ff:fe*
Peer Address       : ff02::2
Adjacency Type     : link               State               : Trying
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of IPv6 Hello Adjacencies: 2
===============================================================================
* indicates that the corresponding row element may have been truncated
*A:Dut-A#

*A:Dut-A# show router ldp discovery peer detail
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
-------------------------------------------------------------------------------
Peer 10.20.1.6
-------------------------------------------------------------------------------
Local Address      : 10.20.1.1:0
Peer Address       : 10.20.1.6:0
Adjacency Type     : targeted           State               : Established
Up Time            : 0d 00:02:48        Hold Time Remaining : 15
Hello Mesg Recv    : 46                 Hello Mesg Sent     : 45
Local IP Address   : 10.20.1.1
Peer IP Address    : 10.20.1.6
Local Hello Timeout: 15                 Remote Hello Timeout: 15
Local Cfg Seq No   : 3886383873         Remote Cfg Seq No   : 3487172342
Lcl IPv4 P2MP Capbl: Disabled           Rem IPv4 P2MP Capbl : Enabled
Lcl IPv6 P2MP Capbl: Disabled           Rem IPv6 P2MP Capbl : Enabled
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled
===============================================================================
No. of IPv4 Hello Adjacencies: 1
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
-------------------------------------------------------------------------------
Peer 3ffe::a14:106
-------------------------------------------------------------------------------
Local Address      : 3ffe::a14:101[0]
Peer Address       : 3ffe::a14:106[0]
Adjacency Type     : targeted           State               : Established
Up Time            : 0d 00:01:03        Hold Time Remaining : 34
Hello Mesg Recv    : 6                  Hello Mesg Sent     : 5
Local IP Address   : 3ffe::a14:101
Peer IP Address    : 3ffe::a14:106
Local Hello Timeout: 45                 Remote Hello Timeout: 45
Local Cfg Seq No   : 4281565287         Remote Cfg Seq No   : 1836745726
Lcl IPv4 P2MP Capbl: Disabled           Rem IPv4 P2MP Capbl : Enabled
Lcl IPv6 P2MP Capbl: Disabled           Rem IPv6 P2MP Capbl : Enabled
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled
===============================================================================
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery adjacency-type targeted
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                            State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
N/A                             10.20.1.1:0                           Estab
targ                            10.20.1.6:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                   Local Addr                            State
AdjType                          Peer Addr
-------------------------------------------------------------------------------
N/A                              3ffe::a14:101[0]                      Estab
targ                             3ffe::a14:106[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#
*A:Dut-A# show router ldp discovery adjacency-type targeted ipv6 state established
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                   Local Addr                            State
AdjType                          Peer Addr
-------------------------------------------------------------------------------
N/A                              3ffe::a14:101[0]                      Estab
targ                             3ffe::a14:106[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 1
===============================================================================




===============================================================================
*A:Dut-A# show router ldp discovery peer
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                   Local Addr                            State
AdjType                          Peer Addr
-------------------------------------------------------------------------------
N/A                              10.20.1.1:0                           Estab
targ                             10.20.1.6:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 1
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                   Local Addr                            State
AdjType                          Peer Addr
-------------------------------------------------------------------------------
N/A                              3ffe::a14:101[0]                       Estab
targ                             3ffe::a14:106[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery peer 10.20.1.6
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Interface Name                   Local Addr                            State
AdjType                          Peer Addr
-------------------------------------------------------------------------------
N/A                              10.20.1.1:0                           Estab
targ                             10.20.1.6:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery peer 10.20.1.6 detail
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
-------------------------------------------------------------------------------
Peer 10.20.1.6
-------------------------------------------------------------------------------
Local Address      : 10.20.1.1:0
Peer Address       : 10.20.1.6:0
Adjacency Type     : targeted           State               : Established
Up Time            : 0d 00:02:25        Hold Time Remaining : 11
Hello Mesg Recv    : 39                 Hello Mesg Sent     : 39
Local IP Address   : 10.20.1.1
Peer IP Address    : 10.20.1.6
Local Hello Timeout: 15                 Remote Hello Timeout: 15
Local Cfg Seq No   : 3886383873         Remote Cfg Seq No   : 3487172342
Lcl IPv4 P2MP Capbl: Disabled           Rem IPv4 P2MP Capbl : Enabled
Lcl IPv6 P2MP Capbl: Disabled           Rem IPv6 P2MP Capbl : Enabled
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled
===============================================================================
No. of IPv4 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery peer detail
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
-------------------------------------------------------------------------------
Peer 10.20.1.6
-------------------------------------------------------------------------------
Local Address      : 10.20.1.1:0
Peer Address       : 10.20.1.6:0
Adjacency Type     : targeted           State               : Established
Up Time            : 0d 00:02:48        Hold Time Remaining : 15
Hello Mesg Recv    : 46                 Hello Mesg Sent     : 45
Local IP Address   : 10.20.1.1
Peer IP Address    : 10.20.1.6
Local Hello Timeout: 15                 Remote Hello Timeout: 15
Local Cfg Seq No   : 3886383873         Remote Cfg Seq No   : 3487172342
Lcl IPv4 P2MP Capbl: Disabled           Rem IPv4 P2MP Capbl : Enabled
Lcl IPv6 P2MP Capbl: Disabled           Rem IPv6 P2MP Capbl : Enabled
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled
===============================================================================
No. of IPv4 Hello Adjacencies: 1
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
-------------------------------------------------------------------------------
Peer 3ffe::a14:106
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Local Address      : 3ffe::a14:101[0]
Peer Address       : 3ffe::a14:106[0]
Adjacency Type     : targeted           State               : Established
Up Time            : 0d 00:01:03        Hold Time Remaining : 34
Hello Mesg Recv    : 6                  Hello Mesg Sent     : 5
Local IP Address   : 3ffe::a14:101
Peer IP Address    : 3ffe::a14:106
Local Hello Timeout: 45                 Remote Hello Timeout: 45
Local Cfg Seq No   : 4281565287         Remote Cfg Seq No   : 1836745726
Lcl IPv4 P2MP Capbl: Disabled           Rem IPv4 P2MP Capbl : Enabled
Lcl IPv6 P2MP Capbl: Disabled           Rem IPv6 P2MP Capbl : Enabled
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled
===============================================================================
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery adjacency-type targeted
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                            State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
N/A                             10.20.1.1:0                           Estab
targ                            10.20.1.6:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 1
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                            State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
N/A                             3ffe::a14:101[0]                      Estab
targ                            3ffe::a14:106[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#
*A:Dut-A# show router ldp discovery adjacency-type targeted ipv6 state established
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                            State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
N/A                             3ffe::a14:101[0]                      Estab
targ                            3ffe::a14:106[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery session 10.20.1.6
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Interface Name                   Local Addr                            State
AdjType                          Peer Addr
-------------------------------------------------------------------------------
N/A                              10.20.1.1:0                           Estab
targ                             10.20.1.6:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery interface "ip-10.10.1.1"
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                   Local Addr                            State
AdjType                          Peer Addr
-------------------------------------------------------------------------------
ip-10.10.1.1                     10.20.1.1:0                           Estab
link                             10.20.1.2:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 1
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                   Local Addr                            State
AdjType                          Peer Addr
-------------------------------------------------------------------------------
ip-10.10.1.1                     3ffe::a14:101[0]                      Estab
link                             3ffe::a14:102[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery interface "ip-10.10.1.1" detail
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
-------------------------------------------------------------------------------
Interface "ip-10.10.1.1"
-------------------------------------------------------------------------------
Local Address      : 10.20.1.1:0
Peer Address       : 10.20.1.2:0
Adjacency Type     : link               State               : Established
Up Time            : 0d 00:26:52        Hold Time Remaining : 14
Hello Mesg Recv    : 426                Hello Mesg Sent     : 423
Local IP Address   : 10.10.1.1
Peer IP Address    : 10.10.1.2
Local Hello Timeout: 15                 Remote Hello Timeout: 15
Local Cfg Seq No   : 3499624168         Remote Cfg Seq No   : 1622338078
Lcl IPv4 P2MP Capbl: Enabled            Rem IPv4 P2MP Capbl : Enabled
Lcl IPv6 P2MP Capbl: Enabled            Rem IPv6 P2MP Capbl : Enabled
Lcl IPv4 Pfx Capbl : Enabled            Rem IPv4 Pfx Capbl  : Enabled
Lcl IPv6 Pfx Capbl : Enabled            Rem IPv6 Pfx Capbl  : Enabled
===============================================================================
No. of IPv4 Hello Adjacencies: 1
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Interface "ip-10.10.1.1"
-------------------------------------------------------------------------------
Local Address      : 3ffe::a14:101[0]
Peer Address       : 3ffe::a14:102[0]
Adjacency Type     : link              State               : Established
Up Time            : 0d 00:26:32       Hold Time Remaining : 12
Hello Mesg Recv    : 421               Hello Mesg Sent     : 418
Local IP Address   : fe80::11
Peer IP Address    : fe80::12
Local Hello Timeout: 15                Remote Hello Timeout: 15
Local Cfg Seq No   : 1658693689        Remote Cfg Seq No   : 4291225243
Lcl IPv4 P2MP Capbl: Enabled           Rem IPv4 P2MP Capbl : Enabled
Lcl IPv6 P2MP Capbl: Enabled           Rem IPv6 P2MP Capbl : Enabled
Lcl IPv4 Pfx Capbl : Enabled           Rem IPv4 Pfx Capbl  : Enabled
Lcl IPv6 Pfx Capbl : Enabled           Rem IPv6 Pfx Capbl  : Enabled
===============================================================================
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#
*A:Dut-A# show router ldp discovery interface "ip-10.10.1.1" summary
 No. of IPv4 Hello Adjacencies: 1
 No. of IPv6 Hello Adjacencies: 1
*A:Dut-A#
*A:Dut-A# show router ldp discovery interface "ip-10.10.2.1" state established
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                 Local Addr                          State
AdjType                        Peer Addr
-------------------------------------------------------------------------------
ip-10.10.2.1                   10.20.1.1:0                         Estab
link                           10.20.1.3:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 1
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                 Local Addr                          State
AdjType                        Peer Addr
-------------------------------------------------------------------------------
ip-10.10.2.1                   3ffe::a14:101[0]                    Estab
link                           3ffe::a14:103[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery state established
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                 Local Addr                          State
AdjType                        Peer Addr
-------------------------------------------------------------------------------
N/A                            10.20.1.1:0                         Estab
targ                           10.20.1.6:0

ip-10.10.1.1                   10.20.1.1:0                         Estab
link                           10.20.1.2:0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ip-10.10.2.1                    10.20.1.1:0                             Estab
link                            10.20.1.3:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 3
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                              State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
N/A                             3ffe::a14:101[0]                        Estab
targ                            3ffe::a14:106[0]

ip-10.10.1.1                    3ffe::a14:101[0]                        Estab
link                            3ffe::a14:102[0]

ip-10.10.2.1                    3ffe::a14:101[0]                        Estab
link                            3ffe::a14:103[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 3
===============================================================================
*A:Dut-A#
*A:Dut-A# show router ldp discovery adjacency-type link
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                              State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
ip-10.10.1.1                    10.20.1.1:0                             Estab
link                            10.20.1.2:0

ip-10.10.2.1                    10.20.1.1:0                             Estab
link                            10.20.1.3:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 2
===============================================================================
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                              State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
ip-10.10.1.1                    3ffe::a14:101[0]                        Estab
link                            3ffe::a14:102[0]

ip-10.10.2.1                    3ffe::a14:101[0]                        Estab
link                            3ffe::a14:103[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 2
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery adjacency-type link ipv6
===============================================================================
LDP IPv6 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                              State
AdjType                         Peer Addr
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
ip-10.10.1.1                    3ffe::a14:101[0]                        Estab
link                            3ffe::a14:102[0]

ip-10.10.2.1                    3ffe::a14:101[0]                        Estab
link                            3ffe::a14:103[0]

-------------------------------------------------------------------------------
No. of IPv6 Hello Adjacencies: 2
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp discovery session 10.20.1.2
===============================================================================
LDP IPv4 Hello Adjacencies
===============================================================================
Interface Name                  Local Addr                              State
AdjType                         Peer Addr
-------------------------------------------------------------------------------
ip-10.10.1.1                    10.20.1.1:0                             Estab
link                            10.20.1.2:0

-------------------------------------------------------------------------------
No. of IPv4 Hello Adjacencies: 1
===============================================================================
*A:Dut-A#
*A:Dut-A# show router ldp discovery session 10.20.1.2 summary
 No. of IPv4 Hello Adjacencies: 1
*A:Dut-A#
```

7.30 dist-cpu-protection

dist-cpu-protection

Syntax

cpu-protection

Context

[Tree] (show>system>security dist-cpu-protection)

Full Context

show system security dist-cpu-protection

Description

Commands in this context display Distributed CPU Protection information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

dist-cpu-protection

Syntax

dist-cpu-protection

Context

[Tree] (tools>perform>security dist-cpu-protection)

[Tree] (tools>dump>security dist-cpu-protection)

Full Context

tools perform security dist-cpu-protection

tools dump security dist-cpu-protection

Description

This command displays to release Distributed CPU Protection parameters and status at the per card and forwarding plane level.

Platforms

All

dist-cpu-protection

Syntax

dist-cpu-protection [**detail**]

Context

[Tree] (show>port dist-cpu-protection)

Full Context

show port dist-cpu-protection

Description

This command displays distributed CPU protection information.

Parameters

detail

Displays detailed information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.31 diversity

diversity

Syntax

diversity *diversity-assoc-name*

Context

[Tree] (show>router>pcep>pcc>pce-assoc diversity)

Full Context

show router pcep pcc pce-associations diversity

Description

This command displays the diversity association information.

If a diversity association name is not specified, the information for all configured diversity associations is displayed.

Parameters

diversity-assoc-name

Specifies the diversity association name.

Platforms

All

Output

The following output is an example of diversity association information, and Table 118: Output fields: PCE associations diversity describes the output fields.

Output Example

```
*A:Dut-C>config>router>mpls>lsp# show router pcep pcc pce-associations diversity "test_div"
===============================================================================
PCEP PCC Diversity Associations Info
===============================================================================
Assocation Name    : test_div
Association ID     : 20                Association Source : 192.168.213.59
Diversity Type     : link              Disjointness Type  : loose
Disjoint Reference : False
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 118: Output fields: PCE associations diversity

Label	Description
Association Name	The diversity association name
Association ID	The diversity association ID
Association Source	The diversity source address of the diversity association. Both IPv4 and IPv6 addresses are supported.
Diversity Type	The diversity type of the diversity association
Disjointness Type	The disjointness type of the diversity association
Disjoint Reference	The P-flag value conveyed to the disjointness configuration TLV

7.32 dm

dm

Syntax

dm [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>oam-pm>session dm)

Full Context

monitor oam-pm session dm

Description

This command monitors the MPLS Delay Measurement (DM) statistics for the specified test's raw measurement interval.

Parameters

seconds

Specifies the time interval, in seconds.

Values 3 to 60

Default 10

repeat

Specifies the number of times the command is repeated.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 999

Default 10

absolute

Specifies that the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

Specifies that the rate-per-second is displayed.

Default delta

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

dm

Syntax

dm

Context

[Tree] (show>oam-pm>stats>session dm)

Full Context

show oam-pm statistics session dm

Description

This command selects the session's MPLS DM test for the statistical display.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

7.33 dmm

dmm

Syntax

dmm [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>oam-pm>session dmm)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

monitor oam-pm session dmm

Description

This command monitors the Ethernet Delay Measurement Message (DMM) statistics for the specified test's raw measurement interval.

Parameters

seconds

Specifies the time interval, in seconds.

Values 3 to 60

Default 10

repeat

Specifies the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Specifies that the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

Specifies that the rate-per-second is displayed.

Default delta

Platforms

All

Output

The following output is an example of raw session measurement information.

Output example

```
A:node-2# monitor oam-pm session "eth-pm-service-4" dmm
------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
------------------------------------------------------------------------------
-------------------------------------------------------------
Frame Delay (FD) Bin Counts
-------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------
0              0 us          3928          1125             0
1           1000 us          1197          1855          2611
2           2000 us           183          1361          1565
3           3000 us            36           762           778
4           4000 us            30           214           280
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
5            5000 us            14            45            81
6            6000 us             8            17            35
7            7000 us             1             5            16
8            8000 us             5            15            26
9           10000 us             1             4            11
-------------------------------------------------------------
-------------------------------------------------------------
Frame Delay Range (FDR) Bin Counts
-------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------
0              0 us          5374          5317          5321
1            5000 us            29            86            82
-------------------------------------------------------------
-------------------------------------------------------------
Inter-Frame Delay Variation (IFDV) Bin Counts
-------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------
0              0 us          2475          1268           625
1            100 us           516           676           554
2            200 us           395           479           417
3            300 us           338           451           398
4            400 us           224           291           340
5            500 us           185           212           280
6            600 us           187           137           234
7            700 us           185           134           208
8            800 us           315           223           392
9           1000 us           582          1531          1954
-------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 10 sec (Mode: Delta)
-------------------------------------------------------------------------------
-------------------------------------------------------------
Frame Delay (FD) Bin Counts
-------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------
0              0 us             0             7             0
1           1000 us            10             2             6
2           2000 us             0             1             3
3           3000 us             0             0             1
4           4000 us             0             0             0
5           5000 us             0             0             0
6           6000 us             0             0             0
7           7000 us             0             0             0
8           8000 us             0             0             0
9          10000 us             0             0             0
-------------------------------------------------------------
-------------------------------------------------------------
Frame Delay Range (FDR) Bin Counts
-------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------
0              0 us            10            10            10
1            5000 us             0             0             0
-------------------------------------------------------------
-------------------------------------------------------------
Inter-Frame Delay Variation (IFDV) Bin Counts
-------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------
0              0 us             5             4             2
1            100 us             2             2             2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2             200 us             2             1             1
3             300 us             1             0             0
4             400 us             0             0             1
5             500 us             0             0             0
6             600 us             0             0             0
7             700 us             0             0             1
8             800 us             0             0             0
9            1000 us             0             3             3
-------------------------------------------------------------------
-------------------------------------------------------------------
At time t = 20 sec (Mode: Delta)
-------------------------------------------------------------------
-------------------------------------------------------------------
Frame Delay (FD) Bin Counts
-------------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------------
0               0 us             9             0             0
1            1000 us             0             7             6
2            2000 us             0             3             3
3            3000 us             1             0             0
4            4000 us             0             0             0
5            5000 us             0             0             1
6            6000 us             0             0             0
7            7000 us             0             0             0
8            8000 us             0             0             0
9           10000 us             0             0             0
-------------------------------------------------------------------
-------------------------------------------------------------------
Frame Delay Range (FDR) Bin Counts
-------------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------------
0               0 us            10            10            10
1            5000 us             0             0             0
-------------------------------------------------------------------
-------------------------------------------------------------------
Inter-Frame Delay Variation (IFDV) Bin Counts
-------------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-------------------------------------------------------------------
0               0 us             5             3             2
1             100 us             0             2             2
2             200 us             0             1             0
3             300 us             0             3             1
4             400 us             2             0             0
5             500 us             1             0             0
6             600 us             0             1             2
7             700 us             0             0             0
8             800 us             0             0             0
9            1000 us             2             0             3
-------------------------------------------------------------------
```

dmm

Syntax

dmm

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>oam-pm>stats>session dmm)

Full Context

show oam-pm statistics session dmm

Description

This command selects the session's Ethernet DMM test for the statistical display.

Platforms

All

7.34 dns

dns

Syntax

dns

Context

[Tree] (show>router dns)

Full Context

show router dns

Description

This command displays DNS information.

Platforms

All

Output

The following output is an example of DNS settings information.

Output Example

```
*A:Dut-C# show router dns
===============================================================================
Redirect VPRN               : Service: 300
Administrative state        : enabled
Default domain name         : (Not Specified)
Primary DNS                 : 9.0.0.22
Secondary DNS               : 2009::16
Tertiary DNS                : (Not Specified)
IPv4 source address         : 5.1.45.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPv6 source address         : 2005::1:2d:3
Last management change      : 01/13/2020 11:00:13
```

7.35 dns-enrich

dns-enrich

Syntax

dns-enrich *dns-enrich-name* [**detail**]

Context

[Tree] (show>app-assure>group dns-enrich)

Full Context

show application-assurance group dns-enrich

Description

This command displays DNS enrichment information.

Parameters

dns-enrich-name

Specifies the DNS enrichment object name up to 32 characters.

detail

Keyword to display detailed information.

Platforms

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

Output

The following output is an example of DNS enrichment information, and Table 119: Output fields: DNS enrichmentdescribes the output fields.

Output example

```
*A:node-2# /show application-assurance group 1:0 dns-enrich "dns_enrich_01" detail
===============================================================================
Application Assurance Group 1:0 DNS Enrichment "dns_enrich_01"
===============================================================================
Description        : (Not Specified)
Admin Status       : Down
AQP Referenced     : No
===============================================================================
Application Assurance Group 1:0 DNS Enrichment "dns_enrich_01" Statistics
===============================================================================

UDP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
------------
Enriched Requests : 0

                                    Missing Subscriber ID    : 0
                                    Template Not Enabled     : 0
                                    Traffic Characteristics  : 0
                                    Exceeded Max Packet Size : 0
-------------------------------------------------------------------------

TCP
------------
Enriched Requests : 0

                                    Missing Subscriber ID    : 0
                                    Template Not Enabled     : 0
                                    Out Of Resources         : 0
                                    Traffic Characteristics  : 0
                                    Exceeded Max Packet Size : 0
-------------------------------------------------------------------------
Total             : 0
=========================================================================
```

Table 119: Output fields: DNS enrichment

Label	Description
Application Assurance Group	Displays the name of the application assurance group
Description	Displays the description of the group (if specified)
Admin Status	Displays the administrative status of the group
AQP Referenced	Displays whether an AQP is referenced
Enriched Requests (UDP)	Displays the number of enriched DNS UDP requests processed by the group
Missing Subscriber ID (UDP)	Displays the number of DNS UDP requests in which the subscriber ID is missing
Template Not Enabled (UDP)	Displays the number of DNS UDP requests in which the DNS enrichment policy is not enabled
Traffic Characteristics (UDP)	Displays the number of DNS UDP requests dropped due to traffic characteristics errors such as fragmented, malformed or tunneled (IP in IP) requests
Exceeded Max Packet Size (UDP)	Displays the number of DNS UDP requests dropped due to packet size exceeding the limit
Enriched Requests (TCP)	Displays the number of enriched DNS TCP requests processed by the group
Missing Subscriber ID (TCP)	Displays the number of DNS TCP requests in which the subscriber ID is missing

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Template Not Enabled (TCP)	Displays the number of DNS TCP requests in which the DNS enrichment policy is not enabled
Out Of Resources	Displays the number of DNS TCP requests dropped due to insufficient resources
Traffic Characteristics (TCP)	Displays the number of DNS TCP requests dropped due to traffic characteristics errors such as fragmented, malformed or tunneled (IP in IP) requests in addition to other errors such as exceeded TCP window size or exceeded MTU size
Exceeded Max Packet Size (TCP)	Displays the number of DNS TCP requests dropped due to packet size exceeding the limit
Total	Displays the total number of enriched DNS requests (both UDP and TCP) processed by the group

7.36 dns-ip-cache

dns-ip-cache

Syntax

dns-ip-cache *cache-name* **isa** *mda-id*

dns-ip-cache *cache-name*

Context

[Tree] (show>app-assure>group dns-ip-cache)

Full Context

show application-assurance group dns-ip-cache

Description

This command displays the application assurance DNS IP cache statistics and status information.

Parameters

cache-name

Specifies the DNS IP cache for a particular ISA-AA card, up to 32 characters.

mda-id

Specifies the AA ISA.

Values slot 1 to 10, mda 1 to 2

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

Table 120: Output fields: DNS IP cache describes the **show** command output fields.

Table 120: Output fields: DNS IP cache

Label	Description
Admin Status	Indicates the administrative status of the DNS IP cache. [Up | Down]
Domain expressions	Indicates the number of DNS domain expressions configured.
Server addresses	Indicates the number of server-addresses configured
High-Watermark	Indicates the value, in percentage, of the configured high watermark.
Low-Watermark	Indicates the value, in percentage, of the configured low watermark.
Cache-size	Indicates the value of the configured maximum cache size.
Usage	Indicates the value, in percentage, of the total for the number of entries in the cache.
Alarm State	Indicates the status of the alarm related to the DNS IP cache high/low watermark utilization. The alarm is raised when the high watermark is crossed; it is cleared when it goes below the low watermark. [Clear | Raised]
Hit-Count	Indicates the number of times an IP address lookup in this cache was successful.
Total responses	Indicates the total number of DNS responses analyzed.
Domain name matched	Indicates the number of times a domain name defined in the DNS match criteria matched a DNS response.
Domain & server matched	Indicates the number of times both the domain name and server address defined in the DNS match criteria matched a DNS response.
Total entries added	Indicates the total number of IP entries added in the cache.
Total entries removed	Indicates the total number of IP entries removed from the cache after the entry expired.
Full count	Indicates the total number of IP entries in the cache.
Hit Count	Indicates the number of times an IP address lookup in this cache was successful. The IP address lookup is performed in

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	app-filters and is successful if the server address DNS IP cache criteria is met.
Miss Count	Indicates the number of times an IP address lookup in this cache was unsuccessful. The IP address lookup is performed in app-filters and is unsuccessful if the server address DNS IP cache criteria is not met.

Output Example

```
*A:7750# show application-assurance group 1 dns-ip-cache "Default DNS IP Cache"
===============================================================================
Application Assurance Group 1 dns-ip-cache "Default DNS IP Cache"
===============================================================================
Admin Status                : Up

Domain expressions          : 11 (out of 32)
Server addresses            : 0 (out of 64)
High watermark              : 40%
Low watermark               : 35%
Cache size                  : 5000

-------------------------------------------------------------------------------
ISA                       Usage         (%)        Alarm             Hit Count
                                                   State
-------------------------------------------------------------------------------
1/2                           0     (0.00%)        clear                     0
3/2                         133    (88.66%)       raised                    18
===============================================================================

*A:7750# show application-assurance group 1 dns-ip-cache "Default DNS IP Cache" isa 3/1
===============================================================================
Application Assurance Group 1 dns-ip-cache "Default DNS IP Cache" ISA 3/1
===============================================================================
Admin Status                : Up

Domain expressions          : 11 (out of 32)
Server addresses            : 0 (out of 64)
High watermark              : 40%
Low watermark               : 35%
Cache size                  : 5000

-------------------------------------------------------------------------------
ISA 3/1 DNS Stats
-------------------------------------------------------------------------------
DNS
    Total responses         : 5751
    Domain name matched     : 106
    Domain & server matched : 106
Cache
    Total entries added     : 118
    Total entries removed   : 0
    Usage                   : 118 (2.36%) threshold alarm clear
    Full count              : 0

    Hit count               : 274
    Miss count              : 20379
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

dns-ip-cache

Syntax

dns-ip-cache *dns-ip-cache-name* **url** *file-url*

dns-ip-cache *dns-ip-cache-name* **isa** *mda-id/esa-vm-id* [**url** *file-url*] [**new-ip-count**]

Context

[Tree] (tools>dump>app-assure>group dns-ip-cache)

Full Context

tools dump application-assurance group dns-ip-cache

Description

This command displays the list of IP addresses stored in a DNS IP cache.

Parameters

dns-ip-cache-name

Specifies a DNS IP cache name, up to 32 characters.

url ***file-url***

Specifies the URL for the file to direct the search output to. The file may be local or remote.

Values

local-url | remote-url	local-url	[<cflash-id>/][<file-path>]	
		200 chars max, including cflash-id	
		directory length 99 chars max each	
	remote-url	{ftp| tftp}://[<login>:<pswd>@]<remote-locn>/[<file-path>]	
		255 chars max	
		<file-path> 199 chars max	
	remote-locn	{ <hostname> | <ipv4-address> | "["<ipv6-address>"]" }[:<port>]	
		ipv4-address	a.b.c.d
		ipv6-address	x:x:x:x:x:x:x:x[-interface]
			x:x:x:x:x:x:d.d.d.d[-interface]
			x - [0..FFFF]H
			d - [0..255]D

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

		interface - 32 chars max, for link
		local addresses
	port	[0..65535]
	cflash-id	cf1:| cf1-A:| cf1-B:| cf2:| cf2-A:| cf2-B:| cf3:| cf3-A:| cf3-B:

isa *mda-id/esa-vm-id*

Specifies the DNS IP cache for a particular ISA-AA card.

Values

slot/mda	slot: 1 to 10
	mda: 1, 2
esa-esa-id/vm-id	esa-id: 1 to 16
	vm-id: 1 to 4

new-ip-count

Displays the number of new IP addresses added to the cache.

Platforms

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

Output

The following are output examples for this command.

Output Example

```
*A:7750# tools dump application-assurance group 1 dns-ip-cache "Default DNS IP Cache"
isa 3/2
=====================================================
Application-Assurance dns-ip-cache "Default DNS IP Cache"
Current Time:          "01/21/2015 16:44:00" (UTC)
  group:               1
  isa:                 3/2
  admin state:         no shutdown
  max-entries:         150
=====================================================
ip-address                              creationTime(UTC)     lastUpdated(sec)
numDNSResponses      lastMatchTime(UTC)    numTimesMatched
2001:db8:3d40:3::3fa8:3d59              "01/21/2015 16:42:49" 71                  5
"01/21/2015 16:42:49" 0
2001:db8:3d40:3::3fa8:3d0b              "01/21/2015 16:42:49" 71                  1
"01/21/2015 16:42:49" 0
2001:db7:3d40:3::3fa8:3d2b              "01/21/2015 16:42:49" 71                  1
"01/21/2015 16:42:49" 0
192.168.74.203                          "01/21/2015 16:42:36" 84                  67
"01/21/2015 16:42:36" 0
192.168.124.91                          "01/21/2015 16:42:36" 84                  15
"01/21/2015 16:42:36" 0
192.168.124.97                          "01/21/2015 16:42:36" 84                  15
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
"01/21/2015 16:42:36" 0
192.168.86.136                          "01/21/2015 16:42:36" 84                   5
"01/21/2015 16:42:36" 0
192.168.74.176                          "01/21/2015 16:42:36" 84                  67
"01/21/2015 16:42:36" 0
192.168.86.99                           "01/21/2015 16:42:36" 84                  11
"01/21/2015 16:42:36" 0
```

Output Example

```
>/tools dump application-assurance group 1 dns-ip-cache "Default DNS IP Cache" isa 5/2 new-ip-
count
=====================================================
Application-Assurance dns-ip-cache "Default DNS IP Cache"
Current Time:          "08/06/2020 15:16:50" (UTC)
  group:               1
  isa:                 5/2
  admin state:         no shutdown
  num-domains:         2
=====================================================
domain              hostname                          new-ip-count
"Tango"             "*.tango.me$"                     37
"Google"            "*.google.*"                      6
=====================================================
```

Table 121: Output fields: tools DNS IP cache

Label	Description
ip-address	Indicates the IP address stored in the DNS IP cache. The address is added into the cache if the DNS response meets the DNS IP cache match criteria (domain name and DNS server address).
creationTime	Indicates the time at which the entry was created. The entry is created by a DNS response meeting the DNS IP cache match criteria (domain name and DNS server address).
lastUpdated(UTC)	Indicates the time at which the entry was last updated, either from a new IP flow (fully classified) using the same IP address or a new DNS response meeting the DNS IP cache match criteria.
numDNSResponses	Indicates the number of DNS responses including this IP address meeting the DNS IP cache match criteria.
lastMatchTime(UTC)	Indicates the last time the IP address matched an app-filter with a server address DNS IP cache criteria.
numTimesMatched	Indicates the number of times the IP address matched an app-filter with a server address DNS IP cache.
domain	Indicates the domain as configured in dns-ip-cache.
hostname	Indicates the hostname as configured in dns-ip-cache.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
new-ip-count	Indicates the number of new IP addresses added in the cache for the domain.

7.37 domain

domain

Syntax

domain [*md-index* | *md-admin-name*] [**association** {*ma-index* | *ma-admin-name* | **all-associations**}] [**detail**]

Context

[Tree] (show>eth-cfm domain)

Full Context

show eth-cfm domain

Description

This command displays domain information.

Parameters

md-index

Specifies the index of the MD to which the MP is associated, or 0, if none.

Values 1 to 4294967295

md-admin-name

Specifies the administrative name for the domain, up to 64 characters.

ma-index

Specifies the MA index to which the MP is associated, or 0, if none.

Values 1 to 4294967295

ma-admin-name

Specifies the administrative name for the association, up to 64 characters.

all-associations

Keyword used to display all associations to the MD.

detail

Keyword used to display detailed domain information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following outputs are examples of ETH-CFM domain information:

- ETH-CFM domain information, Table 122: Output fields: ETH-CFM domain information
- ETH-CFM detailed domain information, Table 123: Output fields: ETH-CFM detailed domain information
- ETH-CFM all associations information, Table 124: Output fields: ETH-CFM domain all-associations

Output example: ETH-CFM domain information

```
A:node-1# show eth-cfm domain
===============================================================================
CFM Domain Table
===============================================================================
Md-index   Level Name                                          Format
    md-admin-name
-------------------------------------------------------------------------------
15         5                                                   none
    level5-common
===============================================================================
```

Table 122: Output fields: ETH-CFM domain information

Label	Description
Md-index	The MD index value
Level	The integer identifying the maintenance domain Level (MD Level) Higher numbers correspond to higher maintenance domains (those with the greatest physical reach), with the highest values for customer CFM PDUs. Lower numbers correspond to lower maintenance domains (those with more limited physical reach), with the lowest values for CFM PDUs protecting single bridges or physical links.
Name	The generic MD name
Format	The type of the MD name Values include **dns**, **none**, **mac**, and **string**
md-admin-name	The administrative MD name

Output example: ETH-CFM detailed domain information

```
A:node-1# show eth-cfm domain level5-common detail
===============================================================================
Domain 15
Md-index          : 15                        Level             : 5
                                              MHF Creation      : defMHFnone
Name Format       : none                      Next Ma Index     : 1
Name              : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin Name        : level5-common
Creation Origin   : manual
===============================================================================
```

Table 123: Output fields: ETH-CFM detailed domain information

Label	Description
Domain	The domain
Md-index	The MD index value
Level	The integer identifying the maintenance domain Level (MD Level) Higher numbers correspond to higher maintenance domains (those with the greatest physical reach), with the highest values for customer CFM PDUs. Lower numbers correspond to lower maintenance domains (those with more limited physical reach), with the lowest values for CFM PDUs protecting single bridges or physical links.
MHF Creation	The MHF creation configured
Name Format	The name format
Next Ma Index	The next MA index
Name	The generic MD name
Admin Name	The administrative name
Creation Origin	The creation origin

Output example: ETH-CFM all associations information

```
A:node-2# show eth-cfm domain all-associations
===============================================================================
CFM Association Table
===============================================================================
Md-index   Ma-index   Name                    Int  Hold  Bridge-id  MEPS TxSid
    md-admin-name
    ma-admin-name
    bridge-name
-------------------------------------------------------------------------------
10         100        vpls-100-0              1    n/a              1    no
    10
    100
    vpls-100

12         1000       vpls-100-1              1    n/a              4    yes
    12
    vpls-100-1
    vpls-100
===============================================================================
* indicates that the corresponding row element may have been truncated.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 124: Output fields: ETH-CFM domain all-associations

Label	Description
Md-index	The MD index value
Ma-index	The MA index value
Name	The generic MD name
Int	The CCM transmission interval for all MEPs in the association
Hold	The CCM hold time, in milliseconds, that is added before the defect condition is raised. A value of "n/a" indicates that the MEP is not subsecond and does not support the CCM hold time.
Bridge-id	The bridge-identifier value for the domain association
MEPS	The total local and remote maintenance association end point (MEP)
TxSid	Yes — the Sender ID TLV is included in the supported ETH-CFM PDUs No — the Sender ID TLV is not included in the supported ETH-CFM PDUs
md-admin-name	The administrative MD name
ma-admin-name	The administrative MA name
bridge-name	The administrative bridge-identifier name

domain

Syntax

domain [*domain-name*]

Context

[Tree] (show>router>firewall domain)

Full Context

show router firewall domain

Description

This command lists an overview of all firewall domains that are provisioned in the routing instance.

Configuring the *domain-name* parameter will display operational details for the specified firewall domain.

Parameters

domain-name

Specifies the name of a firewall domain, up to 32 characters maximum.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of firewall domain information.

Output Example

```
Node# show router 4 firewall domain
===============================================================================
Firewall domains
===============================================================================
Domain                          NAT-group  Admin-state
-------------------------------------------------------------------------------
demo_domain_01                  1          in-service
domain_slaac_4                  1          in-service
-------------------------------------------------------------------------------
No. of firewall domains: 2
===============================================================================


Node# show router 4 firewall domain "domain_slaac_4"
===============================================================================
Firewall domain "domain_slaac_4"
===============================================================================
ISA group                   : 1
Administrative state        : in-service
Last management change      : 01/23/2017 10:47:24
===============================================================================
===============================================================================
Firewall domain prefixes
===============================================================================
Prefix                                      Description
-------------------------------------------------------------------------------
2001:db8:5ffe::/32                          (Not Specified)
-------------------------------------------------------------------------------
No. of prefixes: 1
===============================================================================
```

domain

Syntax

domain *ipsec-domain-id* [**now**] **auto**

domain ipsec-domain-id [**now**] **to** *router-id*

Context

[Tree] (tools>perform>redundancy>multi-chassis>mc-ipsec>force-switchover domain)

Full Context

tools perform redundancy multi-chassis mc-ipsec force-switchover domain

Description

This command triggers an IPsec N:M switchover for the specified IPsec domain.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ipsec-domain-id

Specifies the multi-chassis IPsec domain value.

Values 1 to 255

now

Specifies to switchover without confirmation.

auto

Automatically elects a new active node, excluding the current active node.

to *router-id*

Specifies the router ID of the new active node.

Platforms

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

domain

Syntax

domain

Context

[Tree] (show>router>nat domain)

Full Context

show router nat domain

Description

This command displays the NAT domain information.

Platforms

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

Output

The following output is an example of NAT domain information and Table 125: Output fields: NAT domain describes the output fields.

Output Example

```
# show router 12 nat domain "demo-domain"
===============================================================================
Domain demo-domain
===============================================================================
Description                         : (Not Specified)
ISA NAT Group                       : 1
domain type                         : largeScale
Address pooling                     : paired
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Applications                          : (None)
Admin state                           : inService
Session usage (%)                     : < 1
Session usage high                    : false

Active                                : true
Last Mgmt Change                      : 10/06/2025 08:29:25
===============================================================================

===============================================================================
Domain Prefix
===============================================================================
Prefix
-------------------------------------------------------------------------------
2008:db8::/56
2008:db8:0001::/48
-------------------------------------------------------------------------------
No. of prefixes : 2
===============================================================================


===============================================================================
Dual-Homing
===============================================================================
Type                                  : (Not Applicable)
Export route                          : (Not Specified)
Monitor route                         : (Not Specified)
Admin state                           : outOfService
Dual-Homing State                     : Disabled (up)
Dual-Homing Down Reason               : domain "demo-domain" redundancy node is admin
                                        down
===============================================================================
```

Table 125: Output fields: NAT domain

Label	Description
Domain <domain name>	
Description	Specifies the domain description
ISA NAT Group	Specifies the ISA NAT group number
domain type	Specifies the domain type
Address pooling	Specifies the address pooling type
Applications	Specifies the applications
Admin state	Specifies the administrative state of the domain
Session usage (%)	Specifies the session usage percentage
Session usage high	Specifies the session usage high state
Active	Specifies the active state

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Last Mgmt Change	Specifies the date and time of the last management change
Domain Prefix	
Prefix	Specifies the domain prefix
No. of prefixes	Specifies the total number of domain prefixes
Dual-Homing	
Type	Specifies the dual-homing type
Export route	Specifies the export route value
Monitor route	Specifies the monitor route value
Admin state	Specifies the dual-homing administrative state
Dual-Homing State	Specifies the dual-homing state
Dual-Homing Down Reason	Specifies the dual-homing down reason

7.38 dot1x

dot1x

Syntax

dot1x

Context

[Tree] (show>system>security dot1x)

Full Context

show system security dot1x

Description

This command displays IEEE 802.1X authentication information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.39 downgrade

downgrade

Syntax

downgrade target-version *target* [**reboot**]

Context

[Tree] (tools>perform>persistence downgrade)

Full Context

tools perform persistence downgrade

Description

This command downgrades persistence files to a previous version.

Parameters

target

Specifies the SR OS software version that corresponds with the target persistence file version.

reboot

Keyword to reboot the system after a successful conversion.

Platforms

All

7.40 downstream-nodes

downstream-nodes

Syntax

downstream-nodes

Context

[Tree] (show>router>p2mp-sr-tree downstream-nodes)

Full Context

show router p2mp-sr-tree downstream-nodes

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information for the downstream nodes of the P2MP SR tree.

Platforms

All

Output

The following output is an example of downstream nodes information, and Table 126: Output fields: P2MP SR tree downstream nodes describes the output fields.

Output Example

```
===============================================================================
Replication Segment
===============================================================================
Nexthop                                                  Admin/Oper
Interface
    RplSegment                                           Admin/Oper
      ProtectNh
      ProtectInterface
-------------------------------------------------------------------------------
10.180.3.2                                               Up/Up
N/A
  rs_8193_10.20.1.3_inst_1                               Up/Up
    N/A
    N/A
10.180.3.2                                               Up/Up
N/A
  rs_8193_10.20.1.3_inst_1                               Up/Up
    N/A
    N/A
-------------------------------------------------------------------------------
Total Downstream Nodes : 2
===============================================================================
```

Table 126: Output fields: P2MP SR tree downstream nodes

Label	Description
Nexthop Interface	IP address of the next hop interface
Rpl Segment	Replication segment name
ProtectNh	Protection next hop
ProtectInterface	Protection interface
Admin/Oper	Administrative state/Operational state of the entity

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

downstream-nodes

Syntax

downstream-nodes [*id*] [**nh-addr** *ip-address*] [**nh-ifName** *interface-name*] [**replication-sid** *label*] [**oper** {**up** | **down**}]

Context

[Tree] (show>router>p2mp-sr-tree>replication-segment downstream-nodes)

Full Context

show router p2mp-sr-tree replication-segment downstream-nodes

Description

This command displays information for the specified replication segment next hops of the P2MP SR tree.

Parameters

id

Specifies the next-hop ID.

Values 1 to 4096

ip-address

Specifies the root IPv4 address.

interface-name

Specifies the interface name, up to 32 characters.

label

Displays the specified label number.

Values 0, 16 to 1048576

oper up

Displays the next-hop with operational status up.

oper down

Displays the next-hop with operational status down.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.41 drain

drain

Syntax

[**no**] **drain**

Context

[Tree] (tools>perform>router>l2tp>group drain)

Full Context

tools perform router l2tp group drain

Description

This command triggers an attempt to drain a specified L2TP tunnel group.

Platforms

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

drain

Syntax

[**no**] **drain**

Context

[Tree] (tools>perform>router>l2tp>tunnel drain)

[Tree] (tools>perform>router>l2tp>group>tunnel drain)

Full Context

tools perform router l2tp tunnel drain

tools perform router l2tp group tunnel drain

Description

This command triggers an attempt to drain a specified L2TP tunnel.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

drain

Syntax

[**no**] **drain**

Context

[Tree] (tools>perform>router>l2tp>peer drain)

Full Context

tools perform router l2tp peer drain

Description

This command triggers an attempt to drain a specified L2TP peer.

Platforms

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

7.42 ds-lite-b4

ds-lite-b4

Syntax

dscp-table [**value** *dscp-value*]

Context

[Tree] (show>subscr-mgmt>vrgw>brg>gateway ds-lite-b4)

Full Context

show subscriber-mgmt vrgw brg gateway ds-lite-b4

Description

This command displays the DS-Lite B4 services of a gateway.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.43 dscp-map

dscp-map

Syntax

dscp-map [*dscp-name*]

Context

[Tree] (show>router>sgt-qos dscp-map)

Full Context

show router sgt-qos dscp-map

Description

This command displays DSCP to FC mappings.

Parameters

dscp-name

Specifies the DSCP name.

Values be, ef, cp1, cp2, cp3, cp4, cp5, cp6, cp7, cp9, cs1, cs2, cs3, cs4, cs5, nc1, nc2, af11, af12, af13, af21, af22, af23, af31, af32, af33, af41, af42, af43, cp11, cp13, cp15, cp17, cp19, cp21, cp23, cp25, cp27, cp29, cp31, cp33, cp35, cp37, cp39, cp41, cp42, cp43, cp44, cp45, cp47, cp49, cp50, cp51, cp52, cp53, cp54, cp55, cp57, cp58, cp59, cp60, cp61, cp62, cp63

Platforms

All

Output

The following output is an example of DSCP mapping information.

Output Example

```
A:ALA-A# show router sgt-qos dscp-map
===============================================================================
DSCP to FC Mappings
===============================================================================
DSCP Value          FC Value            Default FC Value
-------------------------------------------------------------------------------
be                  nc                  nc
cp1                 be                  be
cp2                 be                  be
cp3                 be                  be
cp4                 be                  be
cp5                 be                  be
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
cp6                 be                  be
cp7                 be                  be
cs1                 be                  be
cp9                 be                  be
af11                af                  af
cp11                be                  be
af12                af                  af
cp13                be                  be
af13                af                  af
cp15                be                  be
cs2                 be                  be
cp17                be                  be
af21                l1                  l1
cp19                be                  be
af22                l1                  l1
cp21                be                  be
af23                l1                  l1
cp23                be                  be
cs3                 be                  be
cp25                be                  be
af31                l1                  l1
cp27                be                  be
af32                l1                  l1
cp29                be                  be
af33                l1                  l1
cp31                be                  be
cs4                 be                  be
cp33                be                  be
af41                nc                  nc
cp35                be                  be
af42                h2                  h2
cp37                be                  be
af43                h2                  h2
cp39                be                  be
cs5                 be                  be
cp41                be                  be
cp42                be                  be
cp43                be                  be
cp44                be                  be
cp45                be                  be
ef                  ef                  ef
cp47                be                  be
nc1                 nc                  nc
cp49                be                  be
cp50                h2                  h2
cp51                be                  be
cp52                be                  be
cp53                be                  be
cp54                be                  be
cp55                be                  be
nc2                 nc                  nc
cp57                be                  be
cp58                be                  be
cp59                be                  be
cp60                be                  be
cp61                be                  be
cp62                be                  be
cp63                be                  be
===============================================================================
A:ALA-A#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.44 dscp-table

dscp-table

Syntax

dscp-table [**value** *dscp-value*]

Context

[Tree] (show>qos dscp-table)

Full Context

show qos dscp-table

Description

This command displays the DSCP name-to-DSCP value mappings.

Parameters

value *dscp-value*

The specific DSCP value for which to display information.

Values 0 to 63

Default Show all values

Platforms

All

Output

The following output is an example of dscp-table information, and Table 127: Output fields: QoS DHCP table describes the output fields.

Output Example

```
A:ALA-48# show qos dscp-table
===========================================================
DSCP Mapping
===========================================================
DSCP Name      DSCP Value     TOS (bin)      TOS (hex)
-----------------------------------------------------------
be             0              0000 0000      00
cp1            1              0000 0100      04
cp2            2              0000 1000      08
cp3            3              0000 1100      0C
cp4            4              0001 0000      10
cp5            5              0001 0100      14
cp6            6              0001 1000      18
cp7            7              0001 1100      1C
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
cs1             8               0010 0000       20
cp9             9               0010 0100       24
af11            10              0010 1000       28
cp11            11              0010 1100       2C
af12            12              0011 0000       30
cp13            13              0011 0100       34
af13            14              0011 1000       38
cp15            15              0011 1100       3C
cs2             16              0100 0000       40
cp17            17              0100 0100       44
af21            18              0100 1000       48
cp19            19              0100 1100       4C
af22            20              0101 0000       50
cp21            21              0101 0100       54
af23            22              0101 1000       58
cp23            23              0101 1100       5C
cs3             24              0110 0000       60
cp25            25              0110 0100       64
af31            26              0110 1000       68
cp27            27              0110 1100       6C
af32            28              0111 0000       70
cp29            29              0111 0100       74
af33            30              0111 1000       78
cp31            31              0111 1100       7C
cs4             32              1000 0000       80
cp33            33              1000 0100       84
af41            34              1000 1000       88
cp35            35              1000 1100       8C
af42            36              1001 0000       90
cp37            37              1001 0100       94
af43            38              1001 1000       98
cp39            39              1001 1100       9C
cs5             40              1010 0000       A0
cp41            41              1010 0100       A4
cp42            42              1010 1000       A8
cp43            43              1010 1100       AC
cp44            44              1011 0000       B0
cp45            45              1011 0100       B4
ef              46              1011 1000       B8
cp47            47              1011 1100       BC
nc1             48              1100 0000       C0
cp49            49              1100 0100       C4
cp50            50              1100 1000       C8
cp51            51              1100 1100       CC
cp52            52              1101 0000       D0
cp53            53              1101 0100       D4
cp54            54              1101 1000       D8
cp55            55              1101 1100       DC
nc2             56              1110 0000       E0
cp57            57              1110 0100       E4
cp58            58              1110 1000       E8
cp59            59              1110 1100       EC
cp60            60              1111 0000       F0
cp61            61              1111 0100       F4
cp62            62              1111 1000       F8
cp63            63              1111 1100       FC
===============================================================
A:ALA-48#


A:ALA-48# show qos dscp-table value 46
===============================================================
DSCP Mapping
===============================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
DSCP Name      DSCP Value     TOS (bin)      TOS (hex)
-------------------------------------------------------
ef             46             1011 1000      B8
=======================================================
A:ALA-48#
```

Table 127: Output fields: QoS DHCP table

Label	Description
DSCP Name	Displays the name of the DiffServ code point to be associated with the forwarding class.
DSCP Value	Displays the DSCP values, between 0 and 63.
TOS (bin)	Displays the type of service in binary format.
TOS (hex)	Displays the type of service in hex format.

7.45 dslite-lsn-sub

dslite-lsn-sub

Syntax

dslite-lsn-sub router *router-instance* **b4-address-prefix** *ipv6-prefix*

Context

[Tree] (clear>nat dslite-lsn-sub)

Full Context

clear nat dslite-lsn-sub

Description

This command clears NAT mappings for Dual-Stack Lite (DS-Lite) LSN subscribers.

Parameters

router-instance

Specifies the router instance, up to 32 characters.

ipv6-prefix

Specifies the IPv6 prefix and length.

Values

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- d: [0 to 255]D

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

7.46 dump

dump

Syntax
dump

Context
[Tree] (tools dump)

Full Context
tools dump

Description
Commands in this context display troubleshooting information.

Platforms
All

7.47 duplicate

duplicate

Syntax
duplicate [*ip-address*]

Context
[Tree] (clear>service>id>proxy-arp duplicate)

Full Context
clear service id proxy-arp duplicate

Description
This command clears proxy-ARP duplicate entries.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-address

Specifies the IP address.

Values a.b.c.d

Platforms

All

duplicate

Syntax

duplicate [*ipv6-address*]

Context

[Tree] (clear>service>id>proxy-nd duplicate)

Full Context

clear service id proxy-nd duplicate

Description

This command clears proxy-ND duplicate entries.

Parameters

ipv6-address

Specifies the IPv6 address.

Values

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

7.48 dynamic

dynamic

Syntax

dynamic *ip-address*

Context

[Tree] (clear>service>id>proxy-arp dynamic)

Full Context

clear service id proxy-arp dynamic

Description

This command clears proxy-ARP dynamic entries.

Parameters

ip-address

Specifies the IP address.

Values a.b.c.d

Platforms

All

dynamic

Syntax

dynamic *ipv6-address*

Context

[Tree] (clear>service>id>proxy-nd dynamic)

Full Context

clear service id proxy-nd dynamic

Description

This command clears proxy-ND dynamic entries.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ipv6-address

Specifies the IPv6 address.

Values
- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

Platforms

All

7.49 dynamic-blocks

dynamic-blocks

Syntax

dynamic-blocks subscriber *sub-ident-string* **[nat-policy** *policy-name***]**

Context

[Tree] (tools>dump>nat>l2-aware dynamic-blocks)

Full Context

tools dump nat l2-aware dynamic-blocks

Description

This command displays information about dynamic blocks.

Parameters

sub-ident-string

Specifies the subscriber identification string, up to 64 characters

policy-name

Specifies the NAT policy name, up to 32 characters

Platforms

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

Output

The following output is an example of dynamic block information, and Table 128: Output fields: dynamic blocks describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
/tools dump nat l2-aware dynamic-blocks subscriber "dynblocks sub"
===============================================================================
Dynamic blocks
===============================================================================
NAT policy                      Router Outside IP              Dynamic block
-------------------------------------------------------------------------------
dynblocks pol                   101    40.101.200.5            1049 - 1058
                                                               1059 - 1068
```

Table 128: Output fields: dynamic blocks

Field	Description
NAT policy	The NAT policy name
Router	The router number
Outside IP	The outside IP address
Dynamic block	The dynamic block range

7.50 dynamic-resolve

dynamic-resolve

Syntax

dynamic-resolve all [**force**]

dynamic-resolve *ip-address* [**force**]

Context

[Tree] (tools>perform>service>id>proxy-arp dynamic-resolve)

Full Context

tools perform service id proxy-arp dynamic-resolve

Description

This command triggers the resolve procedure for dynamic IP entries. When executed, a resolve message (ARP-request) is issued for the requested IP or, if the **all** option used, for all the configured dynamic IPs.

The **force** option triggers the resolve process even for IPs with an existing entry in the proxy-ARP table.

Parameters

ip-address

Specifies the IP address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values a.b.c.d

all

Runs the command for all configured dynamic IPs.

force

Issues a resolve message even when configured dynamic IP entries are present.

Platforms

All

dynamic-resolve

Syntax

dynamic-resolve all [**force**]

dynamic-resolve *ipv6-address* [**force**]

Context

[Tree] (tools>perform>service>id>proxy-nd dynamic-resolve)

Full Context

tools perform service id proxy-nd dynamic-resolve

Description

This command triggers the resolve procedure for dynamic IPv6 entries. When executed, a resolve message (Neighbor Solicitation) is issued for the requested IPv6 or, if the **all** option used, for all the configured dynamic IPv6s.The **force** option triggers the resolve process even for IPv6 addresses with an existing entry in the proxy-ARP table.

Parameters

ipv6-address

Specifies the IPv4 or IPv6 address.

Values ip-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

where:

x: [0 to FFFF]H

d: [0 to 255]D

all

Runs the command for all configured dynamic IPv6 addresses.

force

Issues a resolve message even when configured dynamic IP entries are present.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

7.51 dynamic-services

dynamic-services

Syntax

dynamic-services

Context

[Tree] (show>service>id dynamic-services)

[Tree] (show>service dynamic-services)

Full Context

show service id dynamic-services

show service dynamic-services

Description

Commands in this context show dynamic services information.

Note:
These commands are not available in the MD-CLI.

Platforms

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

dynamic-services

Syntax

dynamic-services

Context

[Tree] (clear>service dynamic-services)

[Tree] (clear>service>id dynamic-services)

Full Context

clear service dynamic-services

clear service id dynamic-services

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context clear dynamic services related data.

Note:
These commands are not available in the MD-CLI.

Platforms

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

dynamic-services

Syntax

dynamic-services

Context

[Tree] (clear>service>stats dynamic-services)

Full Context

clear service statistics dynamic-services

Description

This command resets the dynamic services script statistics. See also **show service dynamic services script statistics**.

Note:
This command is not available in the MD-CLI.

Platforms

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

dynamic-services

Syntax

dynamic-services command-list

Context

[Tree] (tools>dump>service dynamic-services)

Full Context

tools dump service dynamic-services

Description

This command displays the list of supported commands that can be used in dynamic service CLI scripts.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

There are two types of CLI nodes in this list:

- Pass through nodes: navigation is allowed but attributes creation or attribute changes are prohibited in this node.
- Allowed nodes: navigation, attribute creation and attribute changes are allowed in this node.

Note:
These commands are not available in the MD-CLI.

Platforms

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

7.52 dynamic-services-policy

dynamic-services-policy

Syntax

dynamic-services-policy [*policy-name*]

Context

[Tree] (show>service>dynsvc dynamic-services-policy)

Full Context

show service dynamic-services dynamic-services-policy

Description

This command displays the dynamic services policy information.

Note:
This command is not available in the MD-CLI.

Parameters

policy-name

specifies for which dynamic services policy the information is requested.

Platforms

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

Output

The following output is an example of dynamic service policy information.

Output Example

```
# show service dynamic-services dynamic-services-policy "dynsvc-policy-1"
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dynamic Service Policies
===============================================================================
Dynamic Service Policy      : dynsvc-policy-1
-------------------------------------------------------------------------------
cli-user                    : (Not Specified)
description                 : Dynamic Services Policy 1
script-policy               : script-policy-5
sap-limit                   : 2000

Accounting instance 1
Stats type                  : volume-time
server policy               : aaa-server-policy-1
Update interval (minutes)   : 30
Update interval jitter      : 180s

Accounting instance 2
Stats type                  : time
server policy               : aaa-server-policy-2
Update interval (minutes)   : 0
Update interval jitter      : 10%
-------------------------------------------------------------------------------
No. of Services-policies: 1
===============================================================================
```

Table 129: Output fields: dynamic services policy describes the Dynamic Services policy fields.

Table 129: Output fields: dynamic services policy

Output Field	Description
dynsrv-policy-name	The unique name of a dynamic services policy, up to 32 characters.
cli-user	The identifier name of the CLI user associated with this Dynamic Services policy.
script-policy	The identifier name of the script policy associated with this Dynamic Services policy.
sap-limit	The limit of the number of SAPs (Service Access Point) that can be created using this Dynamic Services policy.
Stats type	The value used to identify the type of accounting statistics gathered, either **volume-time** or **time**.
server policy	The identifier name of a RADIUS server policy to be used for accounting.
update interval (minutes)	The time interval between consecutive accounting updates when using this Dynamic Services policy.
update interval jitter	The amount of jitter to be applied on the update interval.
No. of Services-policies	The total number Dynamic Services policies.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8 e Commands

8.1 ecmp

ecmp

Syntax

ecmp

Context

[Tree] (show>router ecmp)

Full Context

show router ecmp

Description

This command displays the ECMP settings for the router.

Platforms

All

Output

The following output is an example of ECMP settings information, and Table 130: Output fields: ECMP describes the output fields for the router ECMP settings.

Output Example

```
A:ALA-A# show router ecmp
===============================================================================
Router ECMP
===============================================================================
Instance       Router Name                     ECMP    Configured-ECMP-Routes
-------------------------------------------------------------------------------
1              Base                            True    8
===============================================================================
A:ALA-A#
*A:Dut-C# show router ecmp

===============================================================================
Router ECMP
===============================================================================
Instance       Router Name                     ECMP    Max-ECMP-   Weight ECMP
                                                       Rtes
-------------------------------------------------------------------------------
1              Base                            True    32          True
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Table 130: Output fields: ECMP

Label	Description
Instance	The router instance number
Router Name	The name of the router instance
ECMP	False — ECMP is disabled for the instance True — ECMP is enabled for the instance
Configured-ECMP-Routes	The number of ECMP routes configured for path sharing

8.2 edit-ipoe-session

edit-ipoe-session

Syntax

edit-ipoe-session sap *sap-id* **mac** *mac-address* [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** sla-*profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*] [**app-profile-string** *app-profile-string*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*]

Context

[Tree] (tools>perform>subscr-mgmt edit-ipoe-session)

Full Context

tools perform subscriber-mgmt edit-ipoe-session

Description

This command updates the data of the IPoE session identified with the given MAC address and SAP identifier. Optionally the remote ID and circuit ID can be specified to identify the IPoE session to update.

Note:
The changes take effect immediately.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.3 edit-lease-state

edit-lease-state

Syntax

edit-lease-state sap *sap-id* **ip** *ip-address* [**mac** *ieee-address*] [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** *sla-profile-string*] [**app-profile-string** [*app-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*]

edit-lease-state svc-id *service-id* **ip** *ip-address* [**mac** *ieee-address*] [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** *sla-profile-string*] [**app-profile-string** [*app-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*]

Context

[Tree] (tools>perform>subscr-mgmt edit-lease-state)

Full Context

tools perform subscriber-mgmt edit-lease-state

Description

This command provides the parameters to edit lease state information.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

ip-address

Modifies lease state information for the specified IP address.

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

sub-ident-string

Modifies the lease state information for the specified subscriber identification.

sub-profile-string

Modifies lease state information for the specified subscriber profile.

sla-profile-string

Modifies lease state information for the specified SLA profile.

service-id

Modifies lease state information for the specified service ID.

Values *service-id*: 1 to 2147483647

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

svc-name: 64 characters maximum

Platforms

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

8.4 edit-ppp-session

edit-ppp-session

Syntax

edit-ppp-session sap *sap-id* [**user-name** *user-name*] [**mac** *mac-address*] [**session-id** *session-id*] [**ip-address** *ip-address*] [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** *sla-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*] [**app-profile-string** *app-profile-string*]

edit-ppp-session svc *service-id* [**user-name** *user-name*] [**mac** *mac-address*] [**session-id** *session-id*] [**ip-address** *ip-address*] [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** *sla-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*] [**app-profile-string** *app-profile-string*]

Context

[Tree] (tools>perform>subscr-mgmt edit-ppp-session)

Full Context

tools perform subscriber-mgmt edit-ppp-session

Description

This command updates the data of the PPP session identified with the given MAC address and SAP identifier. Optionally the remote-id and circuit-id can be specified to identify the IPoE session to update.

Note:
The changes take immediate effect.

Parameters

sap-id

Specifies a SAP ID, up to 255 characters.

user-name

Specifies the PPP user name, up to 253 characters.

mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session-id

Specifies information about the ID of the PPP session.

Values 1 to 65535

sub-ident-string

Specifies an existing subscriber identification profile.

sla-profile-string

Identifies the SLA profile string up, to 16 characters.

ip-address

Specifies the peer's IP address.

service-id

Specifies an existing subscriber service ID.

Values 1 to 2147483647

sub-profile-string

Specifies the subscriber profile string, up to 16 characters.

sub-profile-name

Specifies the subscriber profile name, up to 32 characters.

intermediate-destination-id

Specifies the intermediate destination identifier which is encoded in the identification strings, up to 32 characters.

ancp-string

Specifies the ASCII representation of the string, up to 63 characters.

app-profile-string

Specifies the application profile string, up to 16 characters.

Platforms

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

8.5 edit-slaac-host

edit-slaac-host

Syntax

edit-slaac-host sap *sap-id* [**user-name** *user-name*] [**mac** *mac-address*] [**session-id** *session-id*] [**ip-address** *ip-address*] [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** *sla-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*] [**app-profile-string** *app-profile-string*]

edit-slaac-host svc *service-id* [**user-name** *user-name*] [**mac** *mac-address*] [**session-id** *session-id*] [**ip-address** *ip-address*] [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

string *sla-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*] [**app-profile-string** *app-profile-string*]

Context

[Tree] (tools>perform>subscr-mgmt edit-slaac-host)

Full Context

tools perform subscriber-mgmt edit-slaac-host

Description

This command updates the data of the SLAAC host information.

Parameters

sap-id

Specifies a SAP ID, up to 255 characters.

user-name

Specifies the PPP user name up to 253 characters.

mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers.

session-id

Specifies information about the ID of the PPP session.

Values 1 to 65535

sub-ident-string

Specifies an existing subscriber identification profile.

sla-profile-string

Identifies the SLA profile string up to 16 characters.

ip-address

Specifies the peer’s IP address.

service-id

Specifies an existing subscriber service ID.

Values 1 to 2147483647

sub-profile-string

Specifies the subscriber profile string up to 16 characters.

sub-profile-name

Specifies the subscriber profile name up to 32 characters.

intermediate-destination-id

Specifies the intermediate destination identifier which is encoded in the identification strings up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ancp-string

Specifies the ASCII representation of the up to 63 characters.

app-profile-string

Specifies the application profile string up to 16 characters.

Platforms

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

8.6 efm-member-template

efm-member-template

Syntax

efm-member-template

Context

[Tree] (show>lag efm-member-template)

Full Context

show lag efm-member-template

Description

This command displays EFM-OAM information.

Platforms

7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of LAG EFM member template information, and Table 131: Output fields: LAG EFM member template describes the output fields.

Output example: show lag <lag-id> efm-member-template

```
A:node-2# show lag 1 efm-member-template
===============================================================================
Ethernet Oam (802.3ah)
===============================================================================
Admin State        : up
Mode               : passive
Transmit Interval  : 100 ms
Multiplier         : 2
Hold Time          : 1
Tunneling          : false
Trigger Fault      : critical-event

Loopback Ignore Rx : Process
Fwd Non-Efm Frames : true
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ignore Efm State   : true
Link Monitoring    : disabled

Peer RDI Rx
  Critical Event   : log-only
  Dying Gasp       : log-only
  Link Fault       : log-only
  Event Notify     : out-of-service

Local SF Action                         Discovery
  Event Burst      : 1                    Ad Link Mon Cap  : yes
  Port Action      : out-of-service
  Dying Gasp       : disabled
  Critical Event   : disabled

Errored Frame                           Errored Frame Period
  Enabled          : no                   Enabled          : no
  Event Notify     : enabled              Event Notify     : enabled
  SF Threshold     : 1                    SF Threshold     : 1
  SD Threshold     : disabled (0)         SD Threshold     : disabled (0)
  Window           : 10 ds                Window           : 1488095 frames

Errored Symbol Period                   Errored Frame Seconds Summary
  Enabled          : no                   Enabled          : no
  Event Notify     : enabled              Event Notify     : enabled
  SF Threshold     : 1                    SF Threshold     : 1
  SD Threshold     : disabled (0)         SD Threshold     : disabled (0)
  Window           : 10 ds                Window           : 600 ds
===============================================================================
```

Table 131: Output fields: LAG EFM member template

Label	Description
Admin State	Displays the administrative state of EFM-OAM on the LAG member template: up or down
Mode	Displays the mode of OAM operation: active or passive
Transmit Interval	Displays the transmit interval of OAM PDUs
Multiplier	Displays the multiplier applied to the transmit interval to set the local link-down timer
Hold Time	Displays the EFM-OAM operational transition dampening time, in seconds
Tunneling	Displays whether EFM-OAM PDU tunneling is enabled: true or false
Trigger Fault	Displays the Information OAM PDU flag used to trigger a fault: dying-gasp or critical-event
Loopback Ignore Rx	Displays how received loopback control OAM PDUs are handled Process — Reactions to loopback control OAM PDUs from peers are enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Ignore — Reactions to loopback control OAM PDUs from peers are disabled
Fwd Non-Efm Frames	Displays whether non-EFM frames received from the EFM peer are forwarded when in remote loopback state: true or false
Ignore Efm State	Displays whether protocol state machine failures are suppressed from affecting the port operational state: true or false
Link Monitoring	Displays whether link monitoring is enabled or disabled
Critical Event	Peer RDI Rx — Displays the local port action when a critical event Flag field is received from the peer: log-only or out-of-service Local SF Action — Displays whether the critical event Flag field is set in Information OAM PDUs when the local signal failure threshold is reached: enabled or disabled
Dying Gasp	Peer RDI Rx — Displays the local port action when a dying gasp Flag field is received from the peer: log-only or out-of-service Local SF Action — Displays whether the dying gasp Flag field is set in Information OAM PDUs when the local signal failure threshold is reached: enabled or disabled
Link Fault	Displays the local port action when a link fault flag is received from the peer: log-only or out-of-service
Event Notify	Peer RDI Rx — Displays the local port action when an Event Notification OAM PDU is received from the peer: log-only or out-of-service Link monitoring — Displays whether Event Notification OAM PDUs are transmitted when the signal failure threshold is reached: enabled or disabled
Event Burst	Displays the number of Event Notification OAM PDUs sent to the peer when the local signal failure threshold is reached
Port Action	Displays the local port action when the local signal failure threshold is reached: log-only or out-of-service
Ad Link Mon Cap	Displays whether the link monitoring capability is advertised to the peer: yes or no
Enabled	Displays whether the associated link monitoring function is enabled: yes or no This field applies to Errored Frame, Errored Frame Period, Errored Symbol Period, and Errored Frame Seconds Summary
SF Threshold	Displays the signal failure threshold for the associated link monitoring function

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
SD Threshold	Displays the signal degrade threshold for the associated link monitoring function, or disabled (0) if no threshold is configured
Window	Displays the measurement window for the associated link monitoring function Errored Frame and Errored Symbol Period — Window size in deciseconds (ds) Errored Frame Period — Window size in frames Errored Frame Seconds Summary — Window size in deciseconds

8.7 efm-oam

efm-oam

Syntax

efm-oam

Context

[Tree] (show>system>ethernet efm-oam)

Full Context

show system ethernet efm-oam

Description

This command displays a system-level summary for EFM-OAM enabled ports. It includes the configuration, action, various states, and soft reset precedence for the protocol.

Platforms

All

Output

The following output is an example of EFM-OAM summary information.

Output Example

```
show system ethernet efm-oam
===============================================================================
System Configuration
===============================================================================
Grace Tx Enable              : False
Dying Gasp On Reset          : Disabled
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Active Port Configuration & State Summary
===============================================================================
Fault Header:
  LinkMonitor: F = Frame, FP = Period, FS = Summary, SP = Symbol
  LocalSfAct : CE = Critical, DG = Dying Gasp, EV = Event, PT = Port
  PeerRDIRx  : CE = Critical, DG = Dying Gasp, LF = Link, EV = Event
  Table Legend
  - = Not Configured, c = Configured, * = SF Active, s = Shutdown, l = Log Only
Soft Reset Header:
  Gasp :  T = True, F = False  (A = active, I = inactive)
  Grace:  T = True, F = False  (A = active, I = inactive)
  SR (Action on Soft Reset):  - = None, DG = Dying Gasp, G = Grace TLV
TF (Trigger-Fault):
  - = Not configured, DG = Dying Gasp,  CE = Critical Event
===============================================================================
Port        States  LinkMonitor LocalSfAct    PeerRdiRx     SoftReset    TF
            EFM LM  F FP FS SP  CE DG EV PT  CE DG LF EV  Gasp Grace SR
-------------------------------------------------------------------------------
1/1/1       Up  Dn  - -  -  -   -  -  -  s   s  s  s  l   T(I) T(I)  -   -
1/1/6       Dn  Dn  - -  -  -   -  -  -  s   s  s  s  l   T(I) T(I)  -   -
-------------------------------------------------------------------------------
No. of ports EFM enabled: 2
===============================================================================
```

Output Example

```
show lag 1 efm-member-template
===============================================================================
Ethernet Oam (802.3ah)
===============================================================================
Admin State        : up
Mode               : passive
Transmit Interval  : 100 ms
Multiplier         : 2
Hold Time          : 1
Tunneling          : false
Trigger Fault      : critical-event

Loopback Ignore Rx : Process
Fwd Non-Efm Frames : true
Ignore Efm State   : true
Link Monitoring    : disabled

Peer RDI Rx
  Critical Event   : log-only
  Dying Gasp       : log-only
  Link Fault       : log-only
  Event Notify     : out-of-service

Local SF Action                         Discovery
  Event Burst      : 1                    Ad Link Mon Cap  : yes
  Port Action      : out-of-service
  Dying Gasp       : disabled
  Critical Event   : disabled

Errored Frame                           Errored Frame Period
  Enabled          : no                   Enabled          : no
  Event Notify     : enabled              Event Notify     : enabled
  SF Threshold     : 1                    SF Threshold     : 1
  SD Threshold     : disabled (0)         SD Threshold     : disabled (0)
  Window           : 10 ds                Window           : 1488095 frames

Errored Symbol Period                   Errored Frame Seconds Summary
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Enabled          : no                   Enabled          : no
  Event Notify     : enabled              Event Notify     : enabled
  SF Threshold     : 1                    SF Threshold     : 1
  SD Threshold     : disabled (0)         SD Threshold     : disabled (0)
  Window           : 10 ds                Window           : 600 ds
===============================================================================
```

efm-oam

Syntax

efm-oam

Context

[Tree] (clear>port>ethernet efm-oam)

Full Context

clear port ethernet efm-oam

Description

This command clears EFM-OAM statistics on the port.

Platforms

All

efm-oam

Syntax

efm-oam

Context

[Tree] (show>port>ethernet efm-oam)

Full Context

show port ethernet efm-oam

Description

This command displays EFM-OAM information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.8 egress-if

egress-if

Syntax

egress-if *port-id* [**summary** | **detail**] [*family*]

Context

[Tree] (show>router>ldp>bindings>active egress-if)

Full Context

show router ldp bindings active egress-if

Description

This command displays LDP active bindings by matching the egress interface.

Parameters

port-id

Specifies the port ID.

Values *slot*[/*mda*[/*port*]] or *slot*/*mda*/*port* [.*channel*]

aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-sat-id	**esat**-*id*[/*slot*/[**u**]*port*]	
	esat	keyword
	id	1 to 20
	u	keyword for up-link port
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a to b

family

Specifies the address family.

Values ipv4, ipv6

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

8.9 egress-label

egress-label

Syntax

egress-label *start-label* [*end-label*]

Context

[Tree] (show>service egress-label)

Full Context

show service egress-label

Description

This command displays service information using the range of egress labels.

If only the mandatory *egress-label1* parameter is specified, only services using the specified label are displayed.

If both *start-label* and *end-label* parameters are specified, the services using the range of labels X where *start-label* <= X <= *end-label* are displayed.

Use the **show router ldp bindings** command to display dynamic labels.

Parameters

start-label

The starting egress label value for the label range. If only *start-label* is specified, services only using *start-label* are displayed.

Values 0,18432 to 524287

end-label

The ending egress label value for the label range.

Default The *start-label* value.

Values 18432 to 524287

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of service egress label information.

Output Example

```
*A:ALA-12# show service egress-label 0 10000
===============================================================================
Martini Service Labels
===============================================================================
Svc Id     Sdp Id             Type I.Lbl        E.Lbl
-------------------------------------------------------------------------------
1          10:1               Mesh 0            0
1          20:1               Mesh 0            0
1          30:1               Mesh 0            0
1          100:1              Mesh 0            0
...
1          107:1              Mesh 0            0
1          108:1              Mesh 0            0
1          300:1              Mesh 0            0
1          301:1              Mesh 0            0
1          302:1              Mesh 0            0
1          400:1              Mesh 0            0
1          500:2              Spok 131070       2001
1          501:1              Mesh 131069       2000
100        300:100            Spok 0            0
200        301:200            Spok 0            0
300        302:300            Spok 0            0
400        400:400            Spok 0            0
-------------------------------------------------------------------------------
Number of Bindings Found : 23
===============================================================================
*A:ALA-12#
```

Table 132: Output fields: service egress describes show service egress label output fields.

Table 132: Output fields: service egress

Label	Description
Svc Id	The ID that identifies a service.
Sdp Id	The ID that identifies an SDP.
Type	Indicates whether the SDP binding is a spoke or a mesh.
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP.
E. Lbl	The VC label used by this device to send packets to the far-end device in this service by the SDP.
Number of bindings found	The total number of SDP bindings that exist within the specified egress label range.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.10 egress-lsp

egress-lsp

Syntax

egress-lsp *tunnel-id* [**summary** | **detail**] [*family*]

Context

[Tree] (show>router>ldp>bindings>active egress-lsp)

Full Context

show router ldp bindings active egress-lsp

Description

This command displays LDP active bindings by matching the egress LSP.

Parameters

tunnel-id

Specifies the tunnel ID.

Values 0 to 4294967295

family

Specifies the address family.

Values ipv4, ipv6

Platforms

All

8.11 egress-nh

egress-nh

Syntax

egress-nh [*family*] [**summary** | **detail**] *ip-address*

Context

[Tree] (show>router>ldp>bindings>active egress-nh)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router ldp bindings active egress-nh

Description

This command displays LDP active bindings by matching the egress Next-Hop (NH).

Parameters

family

Specifies the address family.

Values ipv4, ipv6

ip-address

Specifies the IPv4 or IPv6 address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

Platforms

All

8.12 egress-pbr

egress-pbr

Syntax

egress-pbr [**detail**]

Context

[Tree] (tools>dump>filter>resources egress-pbr)

Full Context

tools dump filter resources egress-pbr

Description

This command displays the number of allocated unique egress PBR destinations.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

detail

Displays number of allocated unique egress PBR destinations together with a list of destinations and their ref counts.

Platforms

All

Output

The following output is an example of filter resource egress PBR destination information.

Output Example

```
*A:Dut-C>tools dump filter resources egress-pbr

==============================
Egress PBR destinations
==============================
Name                     Count
------------------------------
All destinations             8
Unique destinations          4
==============================


*A:Dut-C# tools dump filter resources egress-pbr detail

================================================================================
Unique egress PBR destinations
================================================================================
Num Action       Ref. count Parameters
--------------------------------------------------------------------------------
  1 Esi L3       1          esi  00:00:00:00:00:00:00:00:00:01
                            ip   5.5.1.5
                            if   VasToFromAccess
                            rtr  123
--------------------------------------------------------------------------------
  2 Esi L3       2          esi  00:00:00:00:00:00:00:00:00:02
                            ip   5.5.0.5
                            if   VasToFromNetwork
                            rtr  123
--------------------------------------------------------------------------------
  3 Red-pol      3          name egress-pbr
--------------------------------------------------------------------------------
  4 Red-pol      2          name ingress-pbr
================================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.13 egress-rate-distribution

egress-rate-distribution

Syntax

egress-rate-distribution

Context

[Tree] (show>lag egress-rate-distribution)

Full Context

show lag egress-rate-distribution

Description

This command displays adaptive load-balancing egress rate distribution information.

Platforms

All

8.14 egress-statistics

egress-statistics

Syntax

egress-statistics color *color* [**end-point** {*ipv4-address* | *ipv6-address*}]

Context

[Tree] (show>router>segment-routing>sr-policies egress-statistics)

Full Context

show router segment-routing sr-policies egress-statistics

Description

This command displays the egress traffic statistics of the SR policy specified by its color and end-point.

Parameters

color

Displays the color that is configured for this SR policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0 to 4294967295

ipv4-address* | *ipv6-address

Displays the IPv4 or IPv6 address expressed in dotted decimal notation.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

Output

The following output is an example of egress traffic statistics of the SR policy, and Table 133: Output fields: egress statistics describes the output fields.

Output Example Show Router Segment Route Policy Egress Statistics

```
# show router segment-routing sr-policies egress-statistics color 20102011 end-point
 10.8.100.12
===============================================================================
SR-Policies Egress Statistics
===============================================================================

Egress Statistics:

Color           : 20102011              Endpoint Addr   : 10.8.100.12
Segment-List    : 1
TunnelId        : 917548                BSID            : 180001
Pkt Count       : 0                     Octet Count     : 0


Egress Statistics:

Color           : 20102011              Endpoint Addr   : 10.8.100.12
Segment-List    : 2
TunnelId        : 917548                BSID            : 180001
Pkt Count       : 0                     Octet Count     : 0

===============================================================================
#
```

```
show router segment-routing sr-policies egress-statistics color 10 end-point 3ffe::a14:102
===============================================================================
SR-Policies Egress Statistics
===============================================================================

Egress Statistics:

Color           : 10                    Endpoint Addr   : 3ffe::a14:102
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Segment-List    : 1
TunnelId        : 917520                BSID            : 100008
Pkt Count       : 3015                  Octet Count     : 313560

===============================================================================
```

Table 133: Output fields: egress statistics

Label	Description
Color	Indicates the color of the SR policy.
Endpoint Addr	Indicates the endpoint address of the SR policy.
Segment-List	Indicates the index of the segment list.
TunnelId	Indicates the tunnel identifier of the SR policy.
BSID	Indicates the binding SID value.
Pkt Count	Indicates the count of packets for the corresponding segment list.
Octet Count	Indicates the count of octets for the corresponding segment list.

egress-statistics

Syntax

egress-statistics color *color* [**end-point** {*ipv4-address* | *ipv6-address*}]

Context

[Tree] (clear>router>segment-routing>sr-policies egress-statistics)

Full Context

clear router segment-routing sr-policies egress-statistics

Description

This command clears the egress traffic statistics of the SR policy specified by its color and end-point.

Parameters

color

Displays the color that is configured for this SR policy.

Values 0 to 4294967295

ipv4-address* | *ipv6-address

Displays the IPv4 or IPv6 address expressed in dotted decimal notation.

Values ipv4-address:

- a.b.c.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

egress-statistics

Syntax

egress-statistics color [*0..4294967295*] **endpoint** *ip-address* | *ipv6-address* [**interval** *seconds*] [**repeat** *repeat*]

Context

[Tree] (monitor>router>seg-rt>sr-policies egress-statistics)

Full Context

monitor router segment-routing sr-policies egress-statistics

Description

This command monitors SR Policy Egress Statistics.

Parameters

ip-address

Specifies the IPv4 address of the endpoint.

Values 64 characters maximum

ipv6-address

Specifies the IPv6 address of the endpoint.

Values 64 characters maximum

seconds

Configures the interval for each display in seconds.

Values 3 to 60

repeat

Configures how many times the command is repeated.

Values 1 to 999

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

8.15 elmi

elmi

Syntax

elmi

Context

[Tree] (show elmi)

Full Context

show elmi

Description

This command displays Ethernet Link Management Interface (E-LMI) information.

Table 134: Output fields: E-LMI describes the output fields for the **show elmi** command.

Table 134: Output fields: E-LMI

Field	Description
Link Status	Status of the E-LMI protocol when the elmi mode is set to uni-n. Link Status will indicate up if E-LMI mode is set to "none".
T391	Pooling timer used by UNI-C. UNI-N will send the consecutive single EVC asynchronous status messages every (T391/10) rounded to the second interval.
T392	Pooling verification timer for UNI-N
N393	Status counter for UNI-N.
Rx Enq. Time	Last time a status inquiry message was received from UNI-C.
Rx Enq. Msg	Number of status inquiry messages received.
Rx Check Time	Last time a status inquiry E-LMI check message was received.
Rx Inv. SeqNum	Counts the number of E-LMI messages received with invalid sequence number.
Enq Timeouts	Counts the number of T392 timer expired.
Tx Status Time	Last time a status message was sent by UNI-N.
Tx Status Msg	Number of status messages sent by UNI-N.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Tx Check Time	Last time a status E-LMI check message was sent by UNI-N.
Tx Async Status Msg	Counter for single EVC asynchronous status messages sent by UNI-N.
Discard Msg	Counter for the status inquiry messages discarded due to errors.

Platforms

All

8.16 encryption-keygroup

encryption-keygroup

Syntax

encryption-keygroup *keygroup-id* [**spi** *spi*]

Context

[Tree] (show>grp-encryp encryption-keygroup)

Full Context

show group-encryption encryption-keygroup

Description

This command displays NGE information for a key group.

Parameters

keygroup-id

Specifies the key group identifier to use for the output display.

Values 1 to 15 or *keygroup-name* (up to 64 characters)

spi

Specifies the SPI to use for the output display.

Platforms

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

Output

The following output is an example of encryption key group information, and Table 135: Output fields: encryption key group describes the fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
domain1>show>grp-encryp#  encryption-keygroup 2
===============================================================================
Encryption Keygroup Configuration Detail
===============================================================================
Keygroup Id        : 2
Keygroup Name      : KG1_secure
Description        : Most_secure_KG
Authentication Algo: sha256
Encryption Algo    : aes128
Active Outbound SA : 6
Activation Time    : 04/20/2015 20:07:31
-------------------------------------------------------------------------------
Security Associations
-------------------------------------------------------------------------------
Spi                : 2
Install Time       : 04/20/2015 20:08:17
Key CRC            : 0x806fb970
Spi                : 6
Install Time       : 04/20/2015 19:43:40
Key CRC            : 0xa4f2d262
-------------------------------------------------------------------------------
Encryption Keygroup Forwarded Statistics
-------------------------------------------------------------------------------
Encrypted Pkts          : 0             Encrypted Bytes         : 0
Decrypted Pkts          : 0             Decrypted Bytes         : 0
-------------------------------------------------------------------------------
Encryption Keygroup Outbound Discarded Statistics (Pkts)
-------------------------------------------------------------------------------
Total Discard           : 0             Unsupported Uplink      : 0
Enqueue Error           : 0             Other                   : 0
-------------------------------------------------------------------------------
Encryption Keygroup Inbound Discarded Statistics (Pkts)
-------------------------------------------------------------------------------
Total Discard           : 0             Invalid Spi             : 0
Authentication Failure *: 0             Control Word Mismatch   : 0
Padding Error           : 0             Enqueue Error           : 0
Other                   : 0
-------------------------------------------------------------------------------

-------------------------------------------
SDP Keygroup Association Table
-------------------------------------------
SDP ID         Direction
-------------------------------------------
61             Inbound   Outbound
-------------------------------------------
Inbound Keygroup SDP Association Count:  1
Outbound Keygroup SDP Association Count: 1

-------------------------------------------
VPRN Keygroup Association Table
-------------------------------------------
VPRN SVC ID    Direction
-------------------------------------------
12             Inbound   Outbound
-------------------------------------------
Inbound Keygroup VPRN Association Count:  1
Outbound Keygroup VPRN Association Count: 1
-------------------------------------------
===============================================================================
* indicates that the corresponding row element may have been truncated.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
domain1>show>grp-encryp#
```

```
domain1# show group-encryption encryption-keygroup 1 spi 1
===============================================================================
Encryption Keygroup Security Association Detail
===============================================================================
Keygroup Id      : 1                    SPI Id           : 1
Install Time     : 06/16/2015 11:28:49
Key CRC          : 0x36e5af55
-------------------------------------------------------------------------------
Encryption Keygroup Security Association Forwarded Statistics
-------------------------------------------------------------------------------
Encrypted Pkts          : 1662534       Encrypted Bytes         : 837917136
Decrypted Pkts          : 1662333       Decrypted Bytes         : 837815832
-------------------------------------------------------------------------------
Encryption Keygroup Security Association Outbound Discarded Statistics (Pkts)
-------------------------------------------------------------------------------
Total Discard           : 0             Enqueue Error           : 0
Other                   : 0
-------------------------------------------------------------------------------
Encryption Keygroup Security Association Inbound Discarded Statistics (Pkts)
-------------------------------------------------------------------------------
Total Discard           : 0             Authentication Failure  : 0
Control Word Mismatch   : 0             Padding Error           : 0
Enqueue Error           : 0             Other                   : 0
===============================================================================
```

Table 135: Output fields: encryption key group

Label	Description
Encryption Keygroup Configuration Detail	
Keygroup Id	The key group identifier
Keygroup Name	The key group name
Description	The key group description
Authentication Algo	The authentication algorithm used for the key group
Encryption Algo	The encryption algorithm used for the key group
Active Outbound SA	The active outbound SA for the key group
Activation Time	The date and time that the key group was activated
Security Associations	
Spi	The security parameter index for the SA in the key group
Install Time	The date and time that the SA was installed in the key group
Key CRC	The CRC for the key belonging to the SA
Encryption Keygroup Forwarded Statistics	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Encrypted Pkts	The number of encrypted packets forwarded by the key group
Encrypted Bytes	The number of encrypted bytes forwarded by the key group
Decrypted Pkts	The number of decrypted packets forwarded by the key group
Decrypted Bytes	The number of decrypted bytes forwarded by the key group
Encryption Keygroup Outbound Discarded Statistics (Pkts)	
Total Discard	The total number of outbound packets discarded by the key group
Unsupported Uplink	The total number of outbound packets discarded by the key group due to an unsupported uplink
Enqueue Error	The total number of outbound packets discarded by the key group due to an enqueuing error
Other	The total number of outbound packets discarded by the key group due to some other reason, such as an internal configuration error (for example, a key group that points to an SA, but the SA is not valid)
Encryption Keygroup Inbound Discarded Statistics (Pkts)	
Total Discard	The total number of inbound packets discarded by the key group
Invalid Spi	The total number of inbound packets discarded by the key group due to an invalid SPI
Authentication Failure *	The total number of inbound packets discarded by the key group due to an authorization failure
Control Word Mismatch	The total number of inbound packets discarded by the key group due to a control word (CW) mismatch between the encrypted (protected) CW in the ESP payload and the CW that is not encrypted
Padding Error	The total number of inbound packets discarded by the key group due to a padding error
Enqueue Error	The total number of inbound packets discarded by the key group due to an enqueuing error
Other	The total number of inbound packets discarded by the key group due to some other reason (for example, an incoming packet length is incorrect)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
SDP Keygroup Association Table	
SDP ID	The SDP ID
Direction	The direction in which key group authentication and encryption occurs for traffic on the SDP
Inbound Keygroup SDP Association Count	The number of SDPs configured to use inbound SA
Outbound Keygroup SDP Association Count	The number of SDPs configured to use outbound SA
VPRN Keygroup Association Table	
VPRN SVC ID	The VPRN service identifier
Direction	The direction in which key group authentication and encryption occurs for traffic on the VPRN
Inbound Keygroup VPRN Association Count	The number of VPRNs configured to use inbound SA
Outbound Keygroup VPRN Association Count	The number of VPRNs configured to use outbound SA

encryption-keygroup

Syntax

encryption-keygroup *keygroup-id*

encryption-keygroup *keygroup-id* **spi** *spi*

Context

[Tree] (clear>grp-encryp encryption-keygroup)

Full Context

clear group-encryption encryption-keygroup

Description

This command clears NGE information for a key group.

Parameters

keygroup-id

Specifies the key group identifier.

Values 1 to 127, *keygroup-name* (up to 64 characters)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

spi

Specifies the SPI ID.

Values 1 to 127

Platforms

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

8.17 end-sid

end-sid

Syntax

end-sid [**mt** {**0** | **2**}] [**prefix** *ipv6-prefix*[/*prefix-length*]] [**adv-router** *system-id* | *hostname*] [**algo** *algo-id*]

Context

[Tree] (show>router>isis>srv6 end-sid)

Full Context

show router isis segment-routing-v6 end-sid

Description

This command displays IS-IS SRv6 End SIDs.

Parameters

ipv6-prefix[/prefix-length]

Displays routes only matching the specified *ip-address* and length.

Values *ipv6-prefix*[/*prefix*]: x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D
prefix-length: 1 to 128

system-id* | *hostname

Displays information for the specific IS-IS advertising router. The host name can be up to 38 characters.

algo-id

Displays information for the specified algorithm.

Values 0 to 255

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

8.18 endpoint

endpoint

Syntax

endpoint [*endpoint-name*]

Context

[Tree] (show>service>id endpoint)

Full Context

show service id endpoint

Description

This command displays service endpoint information.

Parameters

endpoint-name

Specifies the name of an existing endpoint for the service.

Platforms

All

Output

The following output is an example of service endpoint information and Table 136: Output fields: service endpoint describes the output fields.

Output Example

```
show service id 6 endpoint
```

```
===============================================================================
Service 6 endpoints
===============================================================================
Endpoint name      : x
Revert time        : 0
Act Hold Delay     : 0
Tx Active          : none
-------------------------------------------------------------------------------
Members
-------------------------------------------------------------------------------
No members found.
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Endpoint name      : y
Revert time        : 0
Act Hold Delay     : 0
Tx Active          : none
-------------------------------------------------------------------------------
Members
-------------------------------------------------------------------------------
No members found.
===============================================================================
```

```
show service id 505 endpoint "access"
```

```
===============================================================================
Service 505 endpoints
===============================================================================
Endpoint name                : access
Description                  : (Not Specified)
Creation Origin              : manual
Revert time                  : 0
Act Hold Delay               : 0
Standby Signaling Master     : false
Standby Signaling Slave      : false
Tx Active                    : lag-1:505
Tx Active Up Time            : 0d 00:00:00
Revert Time Count Down       : never
Tx Active Change Count       : 0
Last Tx Active Change        : 09/02/2024 13:25:46
-------------------------------------------------------------------------------
Members
-------------------------------------------------------------------------------
SAP      : lag-1:505                                 Oper Status: Up
SAP      : lag-1:506                                 Oper Status: Down
===============================================================================
```

Table 136: Output fields: service endpoint

Label	Description
Service <ID> endpoints	
Endpoint name	Displays the endpoint name
Description	Displays the endpoint description
Creation Origin	Displays the creation origin method
Revert time	Displays the revert time value
Act Hold Delay	Displays the active hold delay value
Standby Signaling Master	Displays the standby signaling master status
Standby Signaling Slave	Displays the standby signaling slave status
Tx Active	Displays the active SAP ID
Tx Active Up Time	Displays the active up time

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Revert Time Count Down	Displays the revert time countdown status
Tx Active Change Count	Displays the number of active changes
Last Tx Active Change	Displays the date and time of last active change
Members	
SAP	Displays the SAP ID
Oper Status	Displays the operational status

endpoint

Syntax

endpoint [{*ip-address* | *ipv6-address*}] [**detail**]

endpoint [{*ip-address* | *ipv6-address*}] **egress-stats**

Context

[Tree] (show>router>mpls>forwarding-policies endpoint)

Full Context

show router mpls forwarding-policies endpoint

Description

This command displays the MPLS forwarding policy endpoint information.

Parameters

ip-address

Specifies the IPv4 address of the endpoint up to 64 characters.

ipv6-address

Specifies the IPv6 address of the endpoint up to 64 characters.

detail

Specifies detailed information for the endpoint.

egress-stats

Displays the egress statistics, if any, of all the instances of the specified forwarding policy.

Platforms

All

Output

Table 137: Output fields: MPLS endpoint describes MPLS endpoint output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 137: Output fields: MPLS endpoint

Label	Description
Endpoint	Specifies the endpoint IP address.
Preference	Specifies the preference.
Policy Name	Specifies the MPLS forwarding policies binding label name.
Active	Specifies the active state (Y | N).
InactiveReason	Specifies the inactive reason.
Last Updated	Specifies the date and time of the last update.
Num Grps	Specifies the number of groups.
OperState	Specifies the operational state (up | down).
Metric	Specifies the metric value.
TTM Preference	Specifies the TTM preference value.
Revert Timer	Specifies the revert timer value.
Path Pref	Specifies the path preference.
Retry Count	Specifies the retry count.
Next Retry In	Specifies the next retry value.
Next-hop Group	Specifies the next-hop group.
Resolution Type	Specifies the resolution type (direct | indirect).
Oper State	Specifies the operational state (down | up).
Oper Down Reas*	Specifies the reason for being operationally down.
Num Revert	Specifies the number of reverts.
Num Failover	Specifies the number of failovers.
Next Revert In	Specifies the next revert interval.
Weight	Specifies the weight value.
Primary	Specifies the IP address of the primary next-hop.
Resolved	Specifies the resolved status (false | true).
Down Reason	Specifies the down reason.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Backup	Specifies the IP address of the backup next-hop.
StatsOperState	Specifies if a statistic index is allocated to the next-hop.
EgrStatsState	Specifies if all next-hops have a statistic index allocated.

Output Example

```
A:Dut-C# show router mpls forwarding-policies endpoint detail
===============================================================================
Endpoint (Detail)
===============================================================================
Endpoint       : 10.20.1.2             Preference     : 255
Policy Name    : one
Active         : N                     InactiveReason : Not Applicable
Last Updated   : 09/27/2018 22:51:26   Num Grps       : 2
Metric         : 0                     TTM Preference : 255
Revert Timer   : 0                     Path Pref      : 255
Retry Count    : 0                     Next Retry In  : 0
Nexthop Group  : 1                     Resolution Type: direct
Oper State     : Down                  OperDownReason : Not Applicable
Num Revert     : 0                     Num Failover   : 0
Next Revert In : 0                     Weight         : 0
Primary        : 10.10.3.2
Resolved       : False                 Down Reason    : Not Applicable
Backup         : 10.10.12.2
Resolved       : False                 Down Reason    : Not Applicable
Nexthop Group  : 2                     Resolution Type: direct
Oper State     : Down                  OperDownReason : Not Applicable
Num Revert     : 0                     Num Failover   : 0
Next Revert In : 0                     Weight         : 45
Primary        : 10.10.3.3
Resolved       : False                 Down Reason    : Not Applicable
Backup         : 10.10.4.4
Resolved       : False                 Down Reason    : Not Applicable
-------------------------------------------------------------------------------
*A:Dut-B# show router mpls forwarding-policies endpoint
===============================================================================
Endpoint Table
===============================================================================
Endpoint                    Preference              Active
-------------------------------------------------------------------------------
10.20.1.5                   2                       Y
-------------------------------------------------------------------------------
No. of Tunnels: 1
```

```
show router mpls forwarding-policies endpoint 10.20.1.5 egress-stats
===============================================================================
Endpoint (Detail)
===============================================================================
Endpoint       : 10.20.1.5             Preference        : 255
Policy Name    : cc                    Oper State        : Up
EgrStatsState  : Up
 Next-hop Group   : 1
  Primary nexthop : 10.10.5.5
   StatsOperState : Up
   Aggr Pkts: 11000                    Aggr Octets: 11550000
  Backup nexthop  : 10.10.11.4
   StatsOperState : Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   Aggr Pkts: 11000                    Aggr Octets: 11550000
 Next-hop Group   : 2
  Primary nexthop : 10.10.5.5
   StatsOperState : Up
   Aggr Pkts: 11000                    Aggr Octets: 11550000
  Backup nexthop  : 10.10.11.4
   StatsOperState : Up
   Aggr Pkts: 11000                    Aggr Octets: 11550000
Total Aggr        :
   Aggr Pkts: 44000                    Aggr Octets: 46200000
-------------------------------------------------------------------------------
===============================================================================
```

8.19 entry

entry

Syntax

entry *entry-id*

Context

[Tree] (tools>perform>filter>ip-filter entry)

Full Context

tools perform filter ip-filter entry

Description

Commands in this context perform IP filter entry operations.

Parameters

entry-id

Specifies a particular entry ID.

Values *1 to 2097151*

Platforms

All

entry

Syntax

entry *entry-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>perform>filter>ipv6-filter entry)

Full Context

tools perform filter ipv6-filter entry

Description

Commands in this context perform IPv6 filter entry operations.

Parameters

entry-id

Specifies a particular entry ID.

Values *1 to 2097151*

Platforms

All

entry

Syntax

entry *entry-id*

Context

[Tree] (tools>perform>filter>mac-filter entry)

Full Context

tools perform filter mac-filter entry

Description

Commands in this context perform MAC filter entry operations.

Parameters

entry-id

Specifies a particular entry ID.

Values *1 to 2097151*

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.20 epipe

epipe

Syntax

epipe

Context

[Tree] (show>service>id epipe)

Full Context

show service id epipe

Description

This command displays Epipe services associated with the B-VPLS service. The command only applies when the service is a B-VPLS.

Platforms

All

Output

The following output is an example of Epipe service information.

Output Example

```
*A:term17>show>service>id# epipe
===============================================================================
Related Epipe services for bVpls service 2000
===============================================================================
Epipe SvcId         Oper ISID           Admin               Oper
-------------------------------------------------------------------------------
100                 100                 Down                Down
-------------------------------------------------------------------------------
Number of Entries : 1
-------------------------------------------------------------------------------
*A:term17>show>service>id#
```

8.21 epipe-map-access-to-egress-port

epipe-map-access-to-egress-port

Syntax

epipe-map-access-to-egress-port service *service-id* [**end-service** *service-id*] | **lag** *lag-id* **summary**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump epipe-map-access-to-egress-port)

Full Context

tools dump epipe-map-access-to-egress-port

Description

This command will display the egress port that will be used to transmit traffic associated with the displayed Epipe service(s). The information displayed shows the egress port for traffic traveling from SAP to egress SDP or SAP.

This command will support Epipe services with the following combinations:

- SAP to SDP (with no endpoint configuration)
- SAP to SAP (with or without an ICB)
- SAP to SDP using endpoints with 1 or 2 SDPs

The command can be executed by specifying either a service ID, service-ID range or an ingress LAG ID.

This command will not display the egress port for traffic traveling from the SDP to egress SAP. This command also does not work with services that use policers or shared queues and also does not support PBB services.

This command replaces the command tools dump epipe-map-to-network, which has been deprecated.

Parameters

service service-id

Identifies the service ID for which the command will return the egress port. If used in conjunction with the end-service parameter, this value represent the beginning of the service ID range for which the command will be executed against.

Values 1 to 2148278316, *svc-name: 64 characters max*

end-service service-id

This parameter is used to identify the end of the service ID range for which the command will be executed against.

Values 1 to 2148278316, *svc-name: 64 characters max*

lag-id

This parameter caused the command to return the egress port for all service with SAPs associated with the specified LAG ID.

Values 1 to 800

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.22 epipe-sap-template

epipe-sap-template

Syntax

epipe-sap-template

epipe-sap-template *name*

Context

[Tree] (show>service>template epipe-sap-template)

Full Context

show service template epipe-sap-template

Description

This command displays Epipe SAP template information.

Parameters

name

Specifies the Epipe SAP template name, up to 32 characters.

Platforms

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

8.23 error-codes

error-codes

Syntax

error-codes

Context

[Tree] (show>app-assure>http-redirect error-codes)

Full Context

show application-assurance http-redirect error-codes

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays http-error-redirect error-codes.

Platforms

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

Output

The following output is an example of HTTP error redirect error code information, and Table 138: Output fields: application assurance HTTP redirect error codes describes the fields.

Output Example

```
*A:Dut-C>show application-assurance http-error-redirect error-codes
===============================================================================
Application-Assurance http-error-redirect error-codes
===============================================================================
Code      Description                                 Default custom-msg-size
-------------------------------------------------------------------------------
400       Bad Request                                 1024
401       Unauthorized                                1024
402       Payment Required                            1024
403       Forbidden                                   1024
404       Not Found                                   1024
405       Method Not Allowed                          1024
406       Not Acceptable                              1024
407       Proxy Authentication Required               1024
408       Request Timeout                             1024
409       Conflict                                    1024
410       Gone                                        1024
411       Length Required                             1024
412       Precondition Failed                         1024
413       Payload Too Large                           1024
414       URI Too Long                                1024
415       Unsupported Media Type                      1024
416       Range Not Satisfiable                       1024
417       Expectation Failed                          1024
421       Misdirected Request                         1024
422       Unprocessable Entity                        1024
423       Locked                                      1024
424       Failed Dependency                           1024
425       Too Early                                   1024
426       Upgrade Required                            1024
427       Unassigned                                  1024
428       Precondition Required                       1024
429       Too Many Requests                           1024
430       Unassigned                                  1024
431       Request Header Fields Too Large             1024
451       Unavailable For Legal Reasons               1024
500       Internal Server Error                       1024
501       Not Implemented                             1024
502       Bad Gateway                                 1024
503       Service Unavailable                         1024
504       Gateway Timeout                             1024
505       HTTP Version Not Supported                  1024
506       Variant Also Negotiates                     1024
507       Insufficient Storage                        1024
508       Loop Detected                               1024
509       Unassigned                                  1024
510       Not Extended                                1024
511       Network Authentication Required             1024
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
730       Custom Error Code                          1024
731       Custom Error Code                          1024
735       Custom Error Code                          1024
===============================================================================
```

Table 138: Output fields: application assurance HTTP redirect error codes

Label	Description
Description	Describes the error
Default	Indicates what the default is for the error
custom-msg-size (Custom Message Size)	The size of the message

error-codes

Syntax

error-codes

Context

[Tree] (show>app-assure>http-err-redirect error-codes)

Full Context

show application-assurance http-error-redirect error-codes

Description

This command displays HTTP error redirect error codes.

Platforms

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

8.24 error-counters

error-counters

Syntax

error-counters

Context

[Tree] (tools>dump>test-oam>twamp>server error-counters)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump test-oam twamp server error-counters

Description

This command dumps various error counters related to TWAMP server and TWAMP test.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of various error counters related to TWAMP server and TWAMP test.

Output Example

```
tools>dump>test-oam>twamp>server# error-counters
Dropped Connection Stats
------------------------
TCP connection closed                : 0
TCP connection error                 : 0
Unexpected event                     : 0
Error sending message                : 0
Error waiting for message            : 0
Connection not in a prefix           : 0
Max global limit                     : 0
Max prefix limit                     : 0
No mode specified                    : 0
Unsupported mode                     : 0
Invalid command                      : 0
Stop-sessions with bad session count : 0
Connection timeout                   : 0
Internal resource                    : 0
Invalid zero SID                     : 0
Invalid HMAC                         : 0
Dropped Connection States
-------------------------
Idle               : 0
Set-up-wait        : 0
Started            : 0
Active             : 0
Process Start      : 0
Process Stop       : 0
Process TW-session : 0
Rejected Session Stats
----------------------
Invalid address version: 0
Non-local destination : 0
Bad type-p            : 0
Padding too big       : 0
MBZ value is non-zero : 0
SID is non-zero       : 0
Timeout too large     : 0
Max global sessions   : 0
Max prefix sessions   : 0
Socket error          : 0
Source unreachable    : 0
Port in use           : 0
Duplicate session     : 0
Internal resource     : 0
REFWAIT timeout       : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dropped Test Packet Stats
-------------------------
Packet wrong size         : 0
Wrong source address      : 0
Arrived before start time : 0
No Start-sessions         : 0
Invalid error estimate    : 0
Error sending reply       : 0
Invalid Server Octets     : 0
Invalid Symmetric MBZ     : 0
```

8.25 errors

errors

Syntax

errors

Context

[Tree] (clear>subscr-mgmt errors)

Full Context

clear subscriber-mgmt errors

Description

This command clears all errors in the circular buffer.

Platforms

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

errors

Syntax

errors

Context

[Tree] (show>subscr-mgmt errors)

Full Context

show subscriber-mgmt errors

Description

This command clears all errors in the circular buffer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

8.26 es-pbr

es-pbr

Syntax

es-pbr

Context

[Tree] (show>service>id es-pbr)

Full Context

show service id es-pbr

Description

When a filter with an **action forward esi** is successfully added to a VPLS service and the PE receives an EVPN Auto-Discovery route for the configured ESI, this command displays the PBR VXLAN bindings auto-created, including the ESI, the VXLAN VTEP:VNI and the status of the binding.

Platforms

All

Output

Output Example

```
A:PE1# show service id 301 es-pbr
===============================================================================
L2 ES PBR
===============================================================================
ESI                           Users      Status
                                         VTEP:VNI
-------------------------------------------------------------------------------
ff:00:00:00:00:00:00:00:00:01 1          Active
                                         192.0.2.72:7272
-------------------------------------------------------------------------------
Number of entries : 1
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.27 esa

esa

Syntax

esa *esa-id* [**detail**]

esa

esa detail

Context

[Tree] (show esa)

Full Context

show esa

Description

This command displays ESA details.

Parameters

detail

Displays detailed ESA information.

esa-id

Specifies the ESA.

Values 1 to 16

Platforms

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

Output

Table 139: Output fields: ESA detail describes the ESA output fields.

The following output is an example of ESA information.

Output Example

```
A:node-2# show esa
===============================================================================
Extended Services Appliance Summary
===============================================================================
ESA  Description                                          Admin     Oper     Health
                                                          State     State    State
-------------------------------------------------------------------------------
1                                                         up        up       OK
2                                                         up        up       OK
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

The following output is an example of detailed ESA information.

Output Example

```
A:node-2# show esa detail
===============================================================================
ESA 1
===============================================================================
Description                    : (Not Specified)
Admin State                    : up
Operational State              : up
Oper flags                     : none
IOM Host Port(s)               : 2/x1/1/c9/1
                               : 2/x1/1/c10/1
Hardware Health
    Overall Status             : OK
    Power Supply 1 Status      : OK
    Power Supply 2 Status      : OK
    Power Supply Redundancy    : Redundant
    Power Supply Mismatch Stat*: No-Mismatch
    Fan Status                 : OK
    Fan Redundancy             : Redundant
    Temperature Status         : OK
Hardware Data
    System manufacturer        : HPE
    System product name        : ESA 400G AC
    System part number         : 3HE17699BA
    System serial number       : MXQ3210CRM
    Software Version           : TiMOS-H-0.0.I7505 hypervisor/esa Copyright (c)
                                 2000-2023 Nokia. All rights reserved. All
                                 use subject to applicable license agreements.
                                 Built on Tue Sep 12 01:10:57 UTC 2023 by
                                 builder in /builds/00/I7505/panos/hypervisors
    Time of last boot          : 2023/09/12 18:07:38 UTC
    Total Cores available      : 62
    Total Cores allocated      : 30
    Total Cores remaining      : 32
    Total Memory available     : 478 GB
    Total Memory allocated     : 32 GB
    Total Memory remaining     : 446 GB
    Performance enabled        : yes
    Export restricted          : no
    NUMA Cell Topology
        NUMA Cell 0
            Cores Available    : 31
            Cores Allocated    : 30
            Cores Remaining    : 1
            Memory Available   : 239 GB
            Memory Allocated   : 32 GB
            Memory Remaining   : 207 GB
            Socket             : 0
                Host Port(i/f) : 2/x1/1/c9/1 (eth0)
                Host Port(i/f) : 2/x1/1/c10/1 (eth1)
        NUMA Cell 1
            Cores Available    : 31
            Cores Allocated    : 0
            Cores Remaining    : 31
            Memory Available   : 239 GB
            Memory Allocated   : 0 GB
            Memory Remaining   : 239 GB
            Socket             : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
* indicates that the corresponding row element may have been truncated.

===============================================================================
ESA VMs
===============================================================================
ESA   VM    VM Type   Cores   Memory  Host-Port         Admin     Oper
                              (GB)                     State     State
-------------------------------------------------------------------------------
1     1     aa        15      16      2/x1/1/c9/1       up        up/active
1     2     aa        15      16      2/x1/1/c10/1      up        booting
===============================================================================

===============================================================================
ESA 2
===============================================================================
Description                   : (Not Specified)
Admin State                   : up
Operational State             : up
Oper flags                    : none
IOM Host Port(s)              : 1/1/c3/1
Hardware Health
    Overall Status            : OK
    Power Supply 1 Status     : OK
    Power Supply 2 Status     : OK
    Power Supply Redundancy   : Redundant
    Power Supply Mismatch Stat*: No-Mismatch
    Fan Status                : OK
    Fan Redundancy            : Redundant
    Temperature Status        : OK
Hardware Data
    System manufacturer       : HPE
    System product name       : ESA 100G-2 AC
    System part number        : 3HE19113AA
    System serial number      : MXQ3210CB9
    Software Version          : TiMOS-H-0.0.I7505 hypervisor/esa Copyright (c)
                                2000-2023 Nokia. All rights reserved. All
                                use subject to applicable license agreements.
                                Built on Tue Sep 12 01:10:57 UTC 2023 by
                                builder in /builds/00/I7505/panos/hypervisors
    Time of last boot         : 2023/09/12 19:02:51 UTC
    Total Cores available     : 19
    Total Cores allocated     : 15
    Total Cores remaining     : 4
    Total Memory available    : 113 GB
    Total Memory allocated    : 64 GB
    Total Memory remaining    : 49 GB
    Performance enabled       : yes
    Export restricted         : no
    NUMA Cell Topology
        NUMA Cell 0
            Cores Available   : 19
            Cores Allocated   : 15
            Cores Remaining   : 4
            Memory Available  : 113 GB
            Memory Allocated  : 64 GB
            Memory Remaining  : 49 GB
            Socket            : 0
                Host Port(i/f) : 1/1/c3/1 (eth0)
===============================================================================
* indicates that the corresponding row element may have been truncated.

===============================================================================
ESA VMs
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ESA   VM    VM Type   Cores   Memory  Host-Port         Admin     Oper
                              (GB)                     State     State
-------------------------------------------------------------------------------
2     1     aa        15      64      1/1/c3/1         up        up
===============================================================================
```

The following output is an example of information about a specific ESA.

Output Example

```
A:node-2# show esa 1
===============================================================================
ESA 1
===============================================================================
Description                   : (Not Specified)
Admin State                   : up
Operational State             : up
Oper flags                    : none
IOM Host Port(s)              : 2/x1/1/c9/1
                              : 2/x1/1/c10/1
Hardware Health
    Overall Status            : OK
Hardware Data
    System manufacturer       : HPE
    System product name       : ESA 400G AC
    System part number        : 3HE17699BA
    System serial number      : MXQ3210CRM
    Software Version          : TiMOS-H-0.0.I7507 hypervisor/esa Copyright (c)
                                2000-2023 Nokia. All rights reserved. All
                                use subject to applicable license agreements.
                                Built on Thu Sep 14 01:12:52 UTC 2023 by
                                builder in /builds/00/I7507/panos/hypervisors
    Time of last boot         : 2023/09/14 15:25:33 UTC
    Total Cores available     : 62
    Total Cores allocated     : 30
    Total Cores remaining     : 32
    Total Memory available    : 478 GB
    Total Memory allocated    : 32 GB
    Total Memory remaining    : 446 GB
    Performance enabled       : yes
    Export restricted         : no
===============================================================================

===============================================================================
ESA VMs
===============================================================================
ESA   VM    VM Type   Cores   Memory  Host-Port         Admin     Oper
                              (GB)                     State     State
-------------------------------------------------------------------------------
1     1     aa        15      16      2/x1/1/c9/1      up        up/active
1     2     aa        15      16      2/x1/1/c10/1     up        up/active
===============================================================================
```

The following output is an example of detailed information about a specific ESA.

Output Example

```
A:node-2# show esa 2 detail
===============================================================================
ESA 2
===============================================================================
Description                   : (Not Specified)
Admin State                   : up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Operational State              : up
Oper flags                     : none
IOM Host Port(s)               : 1/1/c3/1
Hardware Health
    Overall Status             : OK
    Power Supply 1 Status      : OK
    Power Supply 1 Temperature : 40 Degrees C.
    Power Supply 1 Voltage     : 114 Volts
    Power Supply 1 Output      : 178 Watts
    Power Supply 1 Max Power   : 181 Watts
    Power Supply 2 Status      : OK
    Power Supply 2 Temperature : 45 Degrees C.
    Power Supply 2 Voltage     : 115 Volts
    Power Supply 2 Output      : 199 Watts
    Power Supply 2 Max Power   : 201 Watts
    Power Supply Redundancy    : Redundant
    Power Supply Mismatch Stat*: No-Mismatch
    Fan Status                 : OK
    Fan Redundancy             : Redundant
    CPU 1 Temperature          : 73 Degrees C.
    CPU 1 Temperature Threshold: 96 Degrees C.
    CPU 2 Temperature          : 60 Degrees C.
    CPU 2 Temperature Threshold: 96 Degrees C.
    NIC 1 Temperature          : 94 Degrees C.
    NIC 1 Temperature Threshold: 105 Degrees C.
    NIC 2 Temperature          : 84 Degrees C.
    NIC 2 Temperature Threshold: 105 Degrees C.
    Temperature Status         : OK

Hardware Data
    System manufacturer        : HPE
    System product name        : ESA 100G-2 AC
    System part number         : 3HE19113AA
    System serial number       : MXQ3210CB9
    Software Version           : TiMOS-H-0.0.I7505 hypervisor/esa Copyright (c)
                                 2000-2023 Nokia. All rights reserved. All
                                 use subject to applicable license agreements.
                                 Built on Tue Sep 12 01:10:57 UTC 2023 by
                                 builder in /builds/00/I7505/panos/hypervisors
    Time of last boot          : 2023/09/12 19:02:51 UTC
    Total Cores available      : 19
    Total Cores allocated      : 15
    Total Cores remaining      : 4
    Total Memory available     : 113 GB
    Total Memory allocated     : 64 GB
    Total Memory remaining     : 49 GB
    Performance enabled        : yes
    Export restricted          : no
    NUMA Cell Topology
        NUMA Cell 0
            Cores Available    : 19
            Cores Allocated    : 15
            Cores Remaining    : 4
            Memory Available   : 113 GB
            Memory Allocated   : 64 GB
            Memory Remaining   : 49 GB
            Socket             : 0
                Host Port(i/f) : 1/1/c3/1 (eth0)
===============================================================================
* indicates that the corresponding row element may have been truncated.

===============================================================================
ESA VMs
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ESA   VM    VM Type   Cores   Memory  Host-Port         Admin     Oper
                              (GB)                     State     State
-------------------------------------------------------------------------------
2     1     aa        15      64      1/1/c3/1         up        up
===============================================================================
```

Table 139: Output fields: ESA detail

Label	Description
ESA	ESA identification number
Description	Description for the ESA
Admin State	up — Administratively up
	down — Administratively down
Operational State	up — Operationally up
	down — Operationally down
	booting
	failed
	provisioned
	unprovisioned
	fwUpgrade — Firmware upgrade
Oper flags	Operational flag of the ESA
IOM Host Port(s)	IOM host port or ports in *slot*/*mda*/*port* format
Hardware Health	
Overall Status	Overall ESA server hardware status
	Unknown — ESA status not reported, ESA not connected or not booted yet
	OK — Normal
	Degraded — Aligns with flashing amber of the health LED
	Critical — Aligns with flashing red of the health LED
	Unsupported — ESA hardware status reporting is unsupported by the ESA
Power Supply Status	Current status of the power supply
Power Supply Temperature	Current temperature detected by the specific hardware assembly

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Power Supply Voltage	Line input voltage, in volts
Power Supply Output	Current average power, in watts
Power Supply Max Power	Maximum power draw seen since power on, in watts
Power Supply Redundancy	Redundant power supply in use. In case of failure of one power supply, the server continues to operate without issue. All variants of the ESA servers come with 2 power supplies
	Unknown — The iLO firmware has not received device status information. After the iLO is reset when the server is powered off, some subsystems display the status Unknown. The iLO cannot update the status for these subsystems when the server is powered off.
	Redundant — There is a backup component for the device
	Non-redundant — There is no backup component for the device
Power Supply Mismatch Stat*	Whether different types power supplies are connected to the server
	true — Different types of power supplies are connected to the server
	false — The same types of power supplies are connected to the server
Fan State	Fan status as reported by the ESA server
	Unknown — Fan status not reported, ESA not connected or not booted yet
	OK — Normal
	Degraded — One or more fan is degraded while the system is powered on
	Critical — One or more fan has failed while the system is powered on
Fan Redundancy	Redundant fans in use. In case of failure of one or more fans, the server continues to operate without any issue.
	Unknown — The iLO firmware has not received device status information. After the iLO is reset when the server is powered off, some subsystems display the status Unknown. The iLO cannot update the status for these subsystems when the server is powered off.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Redundant — All 7 backup fans are running
	Non-redundant — One or more fans have failed but at least one fan is running
	Failed — All fans have failed
CPU Temperature	CPU temperature as reported by the ESA
CPU Temperature Threshold	CPU temperature caution threshold as reported by the ESA A temperature threshold of 0 indicates that this functionality is not supported or cannot be retrieved from the ESA. This information is not output for ESA 400G rev AA or AB.
NIC Temperature	NIC temperature as reported by the ESA A temperature of 0 indicates that this functionality is not supported or not possible to retrieve from the ESA.
NIC Temperature Threshold	NIC temperature caution threshold as reported by the ESA A temperature threshold of 0 indicates that this functionality is not supported or cannot be retrieved from the ESA.
Temperature Status	Temperature status as reported by the ESA server
	Ok — Temperature within normal operating range
	Degraded — Temperature is outside the normal operating range
	Failed — Temperature exceeded configured range on the ESA
Hardware Data	Detailed hardware data about the ESA
NUMA Cell Topology	Number of cores, amount of memory, and Ethernet ports available to the NUMA cell
VM	VM identification number
VM Type	VM type (aa, bb, or tunnel)
Cores	Number of cores of the ESA-VM
Memory (GB)	Total memory on the ESA-VM

esa

Syntax

esa *esa-id* [**cold-reboot**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear esa)

Full Context

clear esa

Description

This command resets the ESA hypervisor, which clears the statistics or status information for the specified ESA.

Parameters

esa-id

Specifies the ESA.

Values 1 to 16

cold-reboot

Keyword to perform a cold reboot of the specified ESA, which causes the ESA hardware to physically reboot. If this keyword is not specified, the system performs a warm reboot, which causes the ESA hypervisor to reset.

Platforms

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

esa

Syntax

esa *esa-id*

Context

[Tree] (tools>perform esa)

Full Context

tools perform esa

Description

Commands in this context perform operations for the specified ESA.

Parameters

esa-id

Specifies ESA ID.

Values 1 to 16

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

8.28 esa-vm

esa-vm

Syntax

esa [*esa-id*/*vm-id*] [**detail**]

Context

[Tree] (show esa-vm)

Full Context

show esa-vm

Description

This command displays ESA-VM details.

Parameters

esa-id

Specifies the ESA.

Values 1 to 16

vm-id

Specifies the VM.

Values 1 to 4

detail

Specifies the detailed ESA-VM information.

Platforms

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

Output

The following are output examples for this command.

Output Example

```
*A:Dut-A# show esa-vm 1/1 detail
===============================================================================
ESA     VM      VM Type     Cores     Memory    Admin           Oper
                                      (GB)      State           State
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1       1       aa          23        64        up              up/active
===============================================================================
===============================================================================
ESA/VM 1/1
===============================================================================
Description        : (Not Specified)
IOM Host Port      : 1/1/c1/1
Software Version   : TiMOS-M-0.0.I6237 esav-aa/esavm Nokia 7xxx ESAV Copyright
                     (c) 2000-2020 Nokia.
                     All rights reserved. All use subject to applicable
                     license agreements.
                     Built on Sun Apr 5 18:08:04 PDT 2020 by builder in /
                     builds/c/00/I6237/panos/main/sros
Time of last boot  : 2020/04/06 20:36:12 UTC
Oper flags         : none
===============================================================================
===============================================================================
VM Utilization
===============================================================================
Virtual                          Virtual                15min      All-time
Core Role                        Core Id     Current %  Average %     Peak %
-------------------------------------------------------------------------------
Mgmt-0                             1          8.65        5.91        8.83
Mgmt-1                             2          6.83        5.83        8.84
Mgmt-2                             3          8.22        5.69        8.22
Mgmt-3                             4          8.58        5.96        9.52
Worker-0                           5         27.18       15.56       27.18
Worker-1                           6         27.70       15.81       27.70
Worker-2                           7         27.79       15.88       27.79
Worker-3                           8         27.83       15.88       27.83
Worker-4                           9         28.05       16.01       28.05
Worker-5                           10        28.04       15.98       28.04
Worker-6                           11        28.05       16.04       28.05
Worker-7                           12        28.09       16.02       28.09
Worker-8                           13        28.00       15.99       28.00
Worker-9                           14        28.05       15.99       28.05
Worker-10                          15        27.82       15.89       27.82
Worker-11                          16        27.83       15.87       27.83
Worker-12                          17        27.84       15.88       27.84
Worker-13                          18        27.79       15.83       27.79
Worker-14                          19        27.83       15.91       27.83
Worker-15                          20        27.85       15.90       27.85
Worker-16                          21        27.99       15.98       27.99
Worker-17                          22        28.09       16.03       28.09
Worker-18                          23        28.00       16.00       28.00
Worker-19                          24        27.97       15.95       27.97
Worker-20                          25        27.88       15.92       27.88
Worker-21                          26        27.91       15.93       27.91
Worker-22                          27        27.80       15.89       27.80
Worker-23                          28        27.77       15.84       27.77
Worker-24                          29        27.78       15.86       27.78
Worker-25                          30        27.82       15.86       27.82
Worker-26                          31        27.93       15.93       27.93
Worker-27                          32        27.90       15.91       27.90
Worker-28                          33        27.97       15.98       27.97
Worker-29                          34        28.44       16.19       28.44
Worker-30                          35        28.22       16.13       28.22
Worker-31                          36        28.28       16.13       28.28
Worker-32                          37        28.08       16.05       28.08
Worker-33                          38        28.15       16.06       28.15
Worker-34                          39        27.90       15.92       27.90
Worker-35                          40        27.50       15.68       27.50
Worker-36                          41        27.48       15.70       27.48
Worker-37                          42        27.57       15.72       27.57
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Idle-0                              43         0.00        0.00        0.00
Scheduler-0                         44        41.40       24.36       41.40
Idle-1                              45         0.00        0.00        0.00
Nic-0                               46        57.60       33.47       57.60
-------------------------------------------------------------------------------
===============================================================================
```

Table 140: Output fields: ESA-VM describes the ESA-VM output fields.

Output Example

```
*A:Dut-B# show esa-vm 6/1
===============================================================================
ESA     VM      VM Type     Cores     Memory    Admin           Oper
                                      (GB)      State           State
-------------------------------------------------------------------------------
6       1       aa          4         6         up              up
===============================================================================
===============================================================================
ESA/VM 6/1
===============================================================================
Description        : (Not Specified)
IOM Host Port      : 1/1/2
Software Version   : TiMOS-M-0.0.I6015 esav-aa/esavm Nokia 7xxx ESAV Copyright
                     (c) 2000-2019 Nokia.
                     All rights reserved. All use subject to applicable
                     license agreements.
                     Built on Mon Aug 26 18:04:52 PDT 2019 by builder in /
                     builds/c/00/I6015/panos/main
Time of last boot  : 2019/08/27 15:40:54 UTC
Oper flags         : none
===============================================================================
```

```
*A:Dut-B# show esa-vm 6/2
===============================================================================
ESA     VM      VM Type     Cores     Memory    Admin           Oper
                                      (GB)      State           State
-------------------------------------------------------------------------------
6       2       tunnel      4         6         up              up
===============================================================================
===============================================================================
ESA/VM 6/2
===============================================================================
Description        : (Not Specified)
IOM Host Port      : 1/1/2
Software Version   : TiMOS-M-0.0.I6015 esav-tunnel/esavm Nokia 7xxx ESAV
                     Copyright (c) 2000-2019 Nokia.
                     All rights reserved. All use subject to applicable
                     license agreements.
                     Built on Mon Aug 26 18:04:52 PDT 2019 by builder in /
                     builds/c/00/I6015/panos/main
Time of last boot  : 2019/08/27 15:40:51 UTC
Oper flags         : none
===============================================================================
```

```
*A:Dut-B# show esa-vm 6/3
===============================================================================
ESA     VM      VM Type     Cores     Memory    Admin           Oper
                                      (GB)      State           State
-------------------------------------------------------------------------------
6       3       bb          4         16        up              up
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
ESA/VM 6/3
===============================================================================
Description        : (Not Specified)
IOM Host Port      : 1/1/2
Software Version   : TiMOS-M-0.0.I6015 esav-bb/esavm Nokia 7xxx ESAV Copyright
                     (c) 2000-2019 Nokia.
                     All rights reserved. All use subject to applicable
                     license agreements.
                     Built on Mon Aug 26 18:04:52 PDT 2019 by builder in /
                     builds/c/00/I6015/panos/main
Time of last boot  : 2019/08/27 15:41:00 UTC
Oper flags         : none
===============================================================================
```

Table 140: Output fields: ESA-VM

Label	Description
ESA	The ESA identification number
VM	The VM identification number
VM Type	The VM type (aa, bb, or tunnel)
Cores	The number of cores of the ESA-VM
Memory (GB)	The memory on the ESA-VM
Admin State	up — Administratively up
	down — Administratively down
Operational State	up — Operationally up
	down — Operationally down
	booting
	failed
	provisioned
	unprovisioned
IOM Host Port	The IOM host port in *slot*/*mda*/*port* format
Oper flags	The operational flags for the ESA-VM
Virtual Core Role	The virtual core role (Mgmt-#, Worker-#, Idle-#, Scheduler-#, Nic-#)
Virtual Core Id	The Virtual Core identification number
Current %	The current processing load of the virtual core
15min Average %	The 15 minute average processing load of the virtual core

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
All-time Peak %	The all-time peak processing load of the virtual core

esa-vm

Syntax

esa-vm [*esa-id*/*vm-id*]

Context

[Tree] (clear esa-vm)

Full Context

clear esa-vm

Description

This command clears the statistics or status pertaining to the specified ESA-VM.

Parameters

esa-id

Specifies the ESA.

Values 1 to 16

vm-id

Specifies the VM.

Values 1 to 4

Platforms

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

8.29 est-profile

est-profile

Syntax

est-profile [*name*]

Context

[Tree] (show>certificate est-profile)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show certificate est-profile

Description

This command displays EST profile information. If a profile name is not specified, the command displays information about all the EST profiles.

Parameters

name

Specifies an existing EST profile name, up to 32 characters.

Platforms

All

Output

The following output is an example of the **show certificate est-profile** command

Output Example

```
*A:cses-V27# show certificate est-profile
===============================================================================
EST Profile         Server
                    Address:Port
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of EST Profiles: 0
===============================================================================
```

8.30 eth

eth

Syntax

eth

Context

[Tree] (tools>perform>service>id>loopback eth)

Full Context

tools perform service id loopback eth

Description

Commands in this context configure a loopback on Ethernet SAPs or MPLS SDP bindings.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

8.31 eth-cfm

eth-cfm

Syntax

eth-cfm

Context

[Tree] (show eth-cfm)

Full Context

show eth-cfm

Description

Commands in this context display ETH-CFM information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm

Context

[Tree] (clear eth-cfm)

Full Context

clear eth-cfm

Description

Commands in this context display ETH-CFM information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

eth-cfm

Syntax

eth-cfm

Context

[Tree] (tools>dump eth-cfm)

Full Context

tools dump eth-cfm

Description

Commands in this context configure debugging for Ethernet Connectivity Fault Management.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm

Context

[Tree] (monitor eth-cfm)

Full Context

monitor eth-cfm

Description

Commands in this context monitor statistics for ETH-CFM.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>sdp-using eth-cfm)

Full Context

show service sdp-using eth-cfm

Description

Commands in this context display SDP binding information for a specific ETH-CFM.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm [**tunnel** *tunnel-id*] [**detail**]

Context

[Tree] (show>lag eth-cfm)

Full Context

show lag eth-cfm

Description

This command displays ETH-CFM information.

Parameters

tunnel-id

Filters ETH-CFM MEP information to one tunnel.

Values 1 to 4094

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-cfm

Syntax

eth-cfm [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>port>ethernet eth-cfm)

Full Context

show port ethernet eth-cfm

Description

This command displays ETH-CFM information.

Parameters

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.32 eth-cfm-monitoring

eth-cfm-monitoring

Syntax

eth-cfm-monitoring [{**service-id** *service-id* **sap-id** *sap-id*} | {**service-id** *service-id* **sdp-id** *sdp-id:vc-id*}]

Context

[Tree] (show>system>security>cpu-protection eth-cfm-monitoring)

Full Context

show system security cpu-protection eth-cfm-monitoring

Description

This command displays sources exceeding their eth-cfm-monitoring rate limit.

Parameters

service-id

Specifies the service ID.

Values 1 to 2148278317, svc-name up to 64 characters in length

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

eth-cfm-monitoring

Syntax

eth-cfm-monitoring

Context

[Tree] (clear>cpu-protection eth-cfm-monitoring)

Full Context

clear cpu-protection eth-cfm-monitoring

Description

This command clears records of flows exceeding the ETH-CFM monitoring rate limit.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

8.33 eth-ring

eth-ring

Syntax

eth-ring

Context

[Tree] (tools>perform eth-ring)

Full Context

tools perform eth-ring

Description

This command performs Ethernet ring operations.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

eth-ring

Syntax

eth-ring [**status**]

eth-ring [*ring-index*] **hierarchy**

eth-ring *ring-index* [**path** {**a** | **b**}]

Context

[Tree] (show eth-ring)

Full Context

show eth-ring

Description

This command displays Ethernet Ring information.

Parameters

status

Specifies to display an Ethernet Ring status summary

ring-index

Specifies an Ethernet Ring index

Values 1 to 128

hierarchy

Specifies to display Ethernet Ring hierarchical relationships

path

Specifies to show information for a specific path

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

eth-ring

Syntax

eth-ring *ring-index* [**clear**]

Context

[Tree] (tools>dump eth-ring)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump eth-ring

Description

This command displays Ethernet Ring information.

Parameters

ring-index

Specifies an Ethernet Ring index.

Values 1 to 128

clear

Keyword to clear stored information for the specified Ethernet Ring.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

8.34 eth-sat

eth-sat

Syntax

eth-sat [*sat-id*]

Context

[Tree] (show>system>satellite eth-sat)

Full Context

show system satellite eth-sat

Description

This command displays information about configured Ethernet satellites. If a sat-id is specified, this command displays information only about the specified Ethernet satellite.

Parameters

sat-id

Specifies the Ethernet satellite chassis.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of Ethernet satellite information and Table 141: Output fields: Ethernet satellite describes the output fields.

Output example

```
A:Dut-A# show system satellite eth-sat 1
===============================================================================
Satellite Information
===============================================================================
SatID     Provisioned Type                        Admin         Oper
              Equipped Type (if different)        State         State
-------------------------------------------------------------------------------
esat-1    es48-1gb-sfp                            up            up
Description         : (Not Specified)
MAC Address         : e4:81:84:24:2e:e5
Software Repository : rep1
SyncE               : Disabled
Client-Down-Delay   : Disabled | 5-1800sec
Hardware Data
    Platform type                : N/A
    Part number                  : 82-0825-01
    CLEI code                    :
    Serial number                : 01154100020
    Manufacture date             :
    Manufacturing deviations     : (Not Specified)
    Manufacturing assembly number :
    Administrative state         : up
    Operational state            : up
    Temperature                  : 51C
    Temperature threshold        : 85C
    Software boot (rom) version  : X-9.0.S222 on Thu Feb 16 03:29:00 IST 20xx
                                   by builder
    Software version             : TiMOS-B-8.0.R9 both/hops Nokia SAS-Sx
                                   46F2C4SFP+ 7210 Copyright (c) 2000-2020
                                   Nokia.
                                   All rights reserved. All use subject to
                                   applicable license agreements.
                                   Built on Mon Oct 31 10:10:30 IST 2020 by
                                   builder in /home/builder/8.0B1/R9/panos/
                                   main
    Time of last boot            : 2020/02/28 13:02:41
    Current alarm state          : alarm cleared
    Base MAC address             : e4:81:84:24:2e:e5
===============================================================================
```

The following output is an example of Ethernet satellite information, and Table 141: Output fields: Ethernet satellite describes the output fields.

Output example

```
A:node-2>config>system>sat>eth-sat# /show system satellite eth-sat 1
===============================================================================
Satellite Information
===============================================================================
SatID     Provisioned Type                        Admin         Oper
              Equipped Type (if different)        State         State
-------------------------------------------------------------------------------
esat-1    es48-1gb-sfp                            up            up
Description         : (Not Specified)
MAC Address         : 8c:f7:73:cc:ca:61
Software Repository : rep1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
SyncE               : Enabled
PTP-TC              : Enabled
PTP-IP              : Enabled
PTP IPv4 address    : 139.120.10.34
PTP IPv6 address    : 3ffe::a14:101
Client-Down-Delay   : Disabled
Console Access      : Enabled
Port-Template       : (Not Specified)
```

Table 141: Output fields: Ethernet satellite

Label	Description
SatID	The satellite identification
Provisioned Type	The satellite type that is configured
Equipped Type	The satellite type that is actually populated in the system
Admin State	The administrative state of the satellite: • up – the satellite is administratively up • down – the satellite is administratively down
Oper State	The operational state of the satellite: • up – the satellite is operationally up • down – the satellite is operationally down
Description	Additional information configured by the user
MAC address	The MAC address of the satellite
Software Repository	The software repository
SyncE	The SyncE feature: • enabled – the SyncE features is enabled • disabled – the SyncE feature is disabled
PTP-TC	The Ethernet satellite IEEE1588 transparent clock feature: • enabled – the Ethernet satellite IEEE1588 transparent clock function is enabled • disabled – the Ethernet satellite IEEE1588 transparent clock function is disabled
PTP-IP	The use of PTP over IPv4 or IPv6 with the satellite transparent clock feature: • enabled – the Ethernet satellite PTP IP settings are enabled • disabled – the Ethernet satellite PTP IP settings are disabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
PTP IPv4 address	The IPv4 address used to track the PTP messages crossing the satellite. This must be the address for PTP within the SR OS host system
PTP IPv6 address	IPv6 address used to track the PTP messages crossing the satellite. This must be the address for PTP within the SR OS host system
Client-Down-Delay	The client-down delay feature: • enabled – the client-down delay is enabled • disabled – the client-down delay is disabled
Console Access	The console access: • enabled – console access is enabled • disabled – console access is disabled
Port Template	The port template configured for the satellite. A port template is specific to the specified satellite type.

eth-sat

Syntax

eth-sat *sat-id*

Context

[Tree] (clear>system>satellite eth-sat)

Full Context

clear system satellite eth-sat

Description

Commands in this context clear Ethernet satellite information.

Parameters

sat-id

Specifies the Ethernet satellite ID.

Values 1 to 20

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.35 eth-seg

eth-seg

Syntax

eth-seg [**hunt** | **detail**] [**rd** *rd*] [**community** *comm-id*] [**originator-ip** *ip-address* **|** *ipv6-address*] [**next-hop** *next-hop*] [**esi** *esi*] [**aspath-regex** *reg-exp*]

Context

[Tree] (show>router>bgp>routes>evpn eth-seg)

Full Context

show router bgp routes evpn eth-seg

Description

This command displays BGP-EVPN Ethernet Segment (ES) routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

comm-id

Specifies community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{ *ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535

  – *comm-val1* — 0 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- **type** — target, origin
- *ip-address* — a.b.c.d
- *comm-val2* — 0 to 4294967295
- *as-number2* — 0 to 4294967295

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

ip-address* | *ipv6-address

Specifies the IPv4 or IPv6 originator address, up to 64 characters.

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

esi

Specifies a 10-byte ESI by which to filter the displayed information. For example,ESI-0 | ESI-MAX or 00-11-22-33-44-55-66-77-88-99 with any of these separators('-',':',' ')

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

Platforms

All

8.36 eth-tunnel

eth-tunnel

Syntax

eth-tunnel [**group** *tunnel-group-name*] [**vc-id** *vc-id*]]

Context

[Tree] (show>router>l2tp eth-tunnel)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router l2tp eth-tunnel

Description

This command displays information about configured L2TPv3 Ethernet tunnels. These Ethernet tunnels are the L2TPv3 sessions setup between the local private L2 SAP and the far end device.

If this command is executed without any parameters, then a list of all configured Ethernet tunnels are displayed.

If this command is executed with a tunnel group name or a VC-ID, then a detailed view of the associated Ethernet tunnel is displayed.

Parameters

tunnel-group-name

Specifies the configured tunnel group name used for the associated Ethernet tunnel.

vc-id

Specifies the VC ID for the L2TPv3 Ethernet tunnel.

Values 0 to 4294967295

Platforms

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

Output

The following output is an example of L2TPv3 Ethernet tunnel information

Output Example

```
A:Dut-A# show router 200 l2tp eth-tunnel
===============================================================================
L2TPv3 Ethernet Tunnel Summary
===============================================================================
Tunnel Group name                                                VC ID
-------------------------------------------------------------------------------
v3-group-1                                                       100
-------------------------------------------------------------------------------
No. of ethernet tunnels: 1
===============================================================================

A:Dut-A# show router 200 l2tp eth-tunnel group "v3-group-1"
===============================================================================
L2TPv3 Ethernet Tunnel Status
===============================================================================
Group Name         : v3-group-1
VC ID              : 100
Local Conn ID      : 221122308
Ctrl Conn ID       : 221118464
Matches Cfg        : true
Down Reason        : N/A
Reconnect Time (s) : N/A
Remaining Time (s) : N/A
SAP ID             : tunnel-1.private:100
SAP Service ID     : 100
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of ethernet tunnels: 1
===============================================================================
```

eth-tunnel

Syntax

eth-tunnel

eth-tunnel {**aps** | **status**}

eth-tunnel *tunnel-index* [**path** *path-index*] [**detail**]

Context

[Tree] (show eth-tunnel)

Full Context

show eth-tunnel

Description

This command displays Ethernet tunnel information. Any data SAP missing a tag for a defined path has the EthTunTagMismatch flag generated. In the example provided below, SAP eth-tunnel-1:1 does not have the tag for path 2 configured. Therefore, it is operationally down with the reason indicated by the EthTunTagMismatch flag.

Parameters

aps

Shows APS Ethernet tunnel information.

status

Shows Ethernet tunnel status information.

tunnel-index

Specifies the tunnel index.

Values 1 to 1024

path-index

Specifies the path index.

Values 1 to 16

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of Ethernet tunnel information, and Table 142: Output fields: Ethernet tunnel describes the output fields.

Output Example: show eth-tunnel

```
*A:PE-E# show eth-tunnel
===============================================================================
Ethernet Tunnel Groups
===============================================================================
Tunnel Admin  Oper   Protection    Active Paths
ID     State  State  Type            1  2  3  4  5  6  7  8
-------------------------------------------------------------------------------
1      Up     Up     g.8031-1to1     x  2
2      Up     Up     g.8031-1to1     1  x
===============================================================================
*A:PE-E#
*A:PE-E# show eth-tunnel aps
===============================================================================
Ethernet Tunnel APS Groups
===============================================================================
Tunnel Admin  Oper   Working Path           Path   Active Rx PDU
ID     State  State  Protecting Path        State  Path   Tx PDU
-------------------------------------------------------------------------------
1      Up     Up     1 - 1/1/2 1            Down   No     BF010100 (  SF)
                     2 - 2/1/2 1            Up     Yes    BF010100 (  SF)
2      Up     Up     1 - 2/1/2 2            Up     Yes    0F000000 (  NR)
                     2 - 1/1/2 2            Down   No     EF000000 (SF-P)
===============================================================================
*A:PE-E#

*A:PE-E# show eth-tunnel 1
===============================================================================
Ethernet Tunnel Group 1 Information
===============================================================================
Description        : Eth Tunnel
IfIndex            : 1476395009
Admin State        : Up                 Oper State       : Up
Protection Type    : G.8031-1to1        Max Revert Time  :    1 seconds
MAC Address        : 00:1a:f0:44:d2:03  Time to Revert   : N/A
                                        Hold Down Time   :    0 centiseconds
-------------------------------------------------------------------------------
Ethernet Tunnel Group APS Information
-------------------------------------------------------------------------------
APS PDU Rx         : BF010100 (  SF)    Switchover Time  : 05/28/2009 10:10:17
APS PDU Tx         : BF010100 (  SF)
Defect Status      :
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Ethernet Tunnel Group Path Summary
-------------------------------------------------------------------------------
Path ID   Member   Control-Tag Precedence      Admin/Oper      Active  Mgmt
-------------------------------------------------------------------------------
   1      1/1/2    1           primary           Up/Down      No      Yes
   2      2/1/2    1           secondary         Up/Up        Yes     No
===============================================================================
*A:PE-E#

*A:PE-E# show eth-tunnel 1 path 1
===============================================================================
Ethernet Tunnel Group 1 Path Information
===============================================================================
Description        : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Member             : 1/1/2              Control-Tag      : 1
Admin State        : Up                 Oper State       : Down
-------------------------------------------------------------------------------
Ethernet Tunnel Group Path APS Information
-------------------------------------------------------------------------------
Active Count       : 2                  Active Time      : 0d 00:12:09
-------------------------------------------------------------------------------
Eth-Cfm Configuration Information
-------------------------------------------------------------------------------
Md-index           : 1                  Direction        : Down
Ma-index           : 1                  Admin            : Enabled
MepId              : 1                  CCM-Enable       : Enabled
LowestDefectPri    : macRemErrXcon      HighestDefect    : defRemoteCCM
Defect Flags       : bDefRemoteCCM
Mac Address        : 00:16:4d:c0:c1:ca  ControlMep       : True
===============================================================================
*A:PE-E#

*A:PE-E# show eth-tunnel 1 path 1 detail
===============================================================================
Ethernet Tunnel Group 1 Detailed Path Information
===============================================================================
Description        : (Not Specified)
Member             : 1/1/2              Control-Tag      : 1
Admin State        : Up                 Oper State       : Down
-------------------------------------------------------------------------------
Ethernet Tunnel Group Path APS Information
-------------------------------------------------------------------------------
Active Count       : 2                  Active Time      : 0d 00:12:09
-------------------------------------------------------------------------------
Eth-Cfm Configuration Information
-------------------------------------------------------------------------------
Md-index           : 1                  Direction        : Down
Ma-index           : 1                  Admin            : Enabled
MepId              : 1                  CCM-Enable       : Enabled
LowestDefectPri    : macRemErrXcon      HighestDefect    : defRemoteCCM
Defect Flags       : bDefRemoteCCM
Mac Address        : 00:16:4d:c0:c1:ca  ControlMep       : True
CcmLtmPriority     : 7
CcmTx              : 0                  CcmSequenceErr   : 0
Eth-Ais:           : Disabled
Eth-Tst:           : Disabled
LbRxReply          : 0                  LbRxBadOrder     : 0
LbRxBadMsdu        : 0                  LbTxReply        : 0
LbNextSequence     : 1                  LtNextSequence   : 1
LtRxUnexplained    : 0
===============================================================================
*A:PE-E#
```

Table 142: Output fields: Ethernet tunnel

Field	Description
Tunnel Id	Numeric value from 1 to 64.
Admin State	Up — The eth tunnel is administratively up. Down — The eth tunnel is administratively down.
Oper State	Up — The eth tunnel is operationally up. Down — The eth tunnel is operationally down.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Protection Type	Two options: g8031-1to1 — Two members are allowed, but only one of them is active at one point in time. loadsharing — Multiple members can be active at one point in time.
Active Paths	Only two paths are supported.

eth-tunnel

Syntax

eth-tunnel *tunnel-index* [**clear**]

Context

[Tree] (tools>dump eth-tunnel)

Full Context

tools dump eth-tunnel

Description

This command displays Ethernet tunnel information.

Parameters

tunnel-id

Specifies the tunnel ID.

Values 1 to 128

clear

Clears statistics after reading.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of Ethernet tunnel information.

Output Example

```
*A:PE-E# tools dump eth-tunnel 1

TunnelId 1 (Up/Up), Port eth-tunnel-1 (Up/Up): type g8031-1to1
 NumMems 2/2, Up/Dn 0/0, active 0x1, present 0x3 baseMemPort 1/1/2
  memId 1 (P), port 1/1/2 (Up), tag 1.0(Up) status (Up/Up)
    ccCnt-sf/ok 1/1 idx 0 tunId 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  memId 2 (S), port 2/1/2 (Up), tag 1.0(Up) status (Up/Up)
    ccCnt-sf/ok 0/0 idx 1 tunId 1

  TunId = 1, state = Running, Active =  Work, Now = 000 00:16:48.140
   revert = 1, ReqState = NR-NULL, Pdu(Tx/Rx): 0x0f0000/0x0f0000
   Defects =
   Running Timers = PduReTx
    Work MemId = 1 (1/1/2:1.0), state = Ok, cc = 000 00:16:23.510U
      ActiveCnt = 4, ActiveSeconds = 791
    Protect MemId = 2 (2/1/2:1.0), state = Ok, cc = 000 00:09:47.560U
      ActiveCnt = 3, ActiveSeconds = 308
   DbgCnts: swoEv = 2, wMemSts = 2, pMemSts =  0
      rxPdu (valid/Invalid) = 4/0, wSfClr = 1, pSfClr = 0, wtrExp =  1
      cm = 0, cmClr = 0, pm = 0, pmClr = 0, nr = 0, nrClr = 0
  Seq  Event     TxPdu           RxPdu        Dir    Act          Time
  ===  ========  ============  ============  =====  ====  ===============
  000   wMemSts  0xbf0101 wSF  0x0f0000  NR  Tx-->  Prot  000 00:16:12.450
  001     RxPdu  0xbf0101 wSF  0x0f0101  NR  Rx<--  Prot  000 00:16:12.450
  002     RxPdu  0xbf0101 wSF  0xbf0101 wSF  Rx<--  Prot  000 00:16:12.480
  003     RxPdu  0xbf0101 wSF  0x0f0101  NR  Rx<--  Prot  000 00:16:24.890
  004    wSFClr  0x5f0101 WTR  0x0f0101  NR  Tx-->  Prot  000 00:16:25.030
  005       WTR  0x0f0000  NR  0x0f0101  NR  Tx-->  Work  000 00:16:26.630
  006     RxPdu  0x0f0000  NR  0x0f0000  NR  Rx<--  Work  000 00:16:26.630
*A:PE-E#
```

8.37 ethernet

ethernet

Syntax

ethernet

Context

[Tree] (clear>port ethernet)

Full Context

clear port ethernet

Description

Commands in this context clear Ethernet port statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ethernet

Syntax

ethernet

Context

[Tree] (show>system ethernet)

Full Context

show system ethernet

Description

Commands in this context display system-specific Ethernet information.

Platforms

All

ethernet

Syntax

ethernet

ethernet associations

ethernet [**detail**]

Context

[Tree] (show>port ethernet)

Full Context

show port ethernet

Description

Commands in this context display Ethernet port information.

Parameters

associations

Displays Ethernet port associations.

detail

Displays detailed information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.38 ethernet-segment

ethernet-segment

Syntax

ethernet-segment *name* **evi** *evi* **df**

ethernet-segment *name* **isid** *isid* **df**

ethernet-segment *name* **local-bias**

Context

[Tree] (tools>dump>service>system>bgp-evpn ethernet-segment)

Full Context

tools dump service system bgp-evpn ethernet-segment

Description

This command shows the computed DF PE for a specified EVI or ISID when the **evi** or **isid** parameters are selected, respectively. When the **local-bias** parameter is used, the output lists the PEs that are in the candidate DF Election list for the ES, and whether local bias procedures are enabled on them.

The PE can only enable local bias procedures on up to three PEs that are attached to the same ES and use multihomed VXLAN services. If more than three PEs exists, the PEs are ordered by either lowest IP (if **service-carving auto** is used in the ES) or lowest preference (if preference-based service-carving is used) and only the top three PEs are considered for local bias.

Parameters

name

Specifies the name of the Ethernet Segment, up to 32 characters.

evi

Specifies the EVI.

Values 1 to 65535

isid

Specifies the ISID.

Values 1 to 16777215

local-bias

Specifies that output lists the PEs that are in the candidate DF Election list for the ES, and whether local bias procedures are enabled on them.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of Ethernet Segment information.

Output Example

```
# tools dump service system bgp-evpn ethernet-segment "ESI-71" evi 1 df
[07/15/2015 21:52:08] Computed DF: 192.0.2.72 (Remote) (Boot Timer Expired: Yes)

# tools dump service system bgp-evpn ethernet-segment "ESI-71" isid 20001 df
[07/15/2015 21:52:21] Computed DF: 192.0.2.72 (Remote) (Boot Timer Expired: Yes)

# /tools dump service system bgp-evpn ethernet-segment "ESI-71" local-bias

-------------------------------------------------------------------------------
[02/05/2019 20:54:20] Vxlan Local Bias Information
-------------------------------------------------------------------+--------
Peer                                                               | Enabled
-------------------------------------------------------------------+--------
220.0.0.1                                                          | Yes
220.0.0.2                                                          | Yes
220.0.0.3                                                          | Yes
220.0.0.4                                                          | No
-------------------------------------------------------------------+--------
```

```
# tools dump service system bgp-evpn ethernet-segment "eslag1" local-bias
-------------------------------------------------------------------------------
[04/22/2018 15:40:22] Vxlan Local Bias Information
-------------------------------------------------------------------+--------
Peer                                                               | Enabled
-------------------------------------------------------------------+--------
10.20.1.1                                                          | Yes
10.20.1.2                                                          | Yes
10.20.1.4                                                          | Yes
10.20.1.5                                                          | No
-------------------------------------------------------------------------------
```

```
# tools dump service system bgp-evpn ethernet-segment "ES23" evi 20211 df
[01/17/2022 17:00:39] Computed DF: 2001:db8::3 (Remote) (Boot Timer Expired: Yes)
[01/17/2022 17:00:39] Computed Backup: 2001:db8::2 (This Node)

# tools dump service system bgp-evpn ethernet-segment "ES23" evi 20212 df
[01/17/2022 17:00:46] Evi not active on ethernet-segment
```

ethernet-segment

Syntax

ethernet-segment [*name*]

Context

[Tree] (show>service>sdp-using ethernet-segment)

Full Context

show service sdp-using ethernet-segment

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays Ethernet Segment information associated with SDPs.

Parameters

name

Specifies the Ethernet segment name, up to 32 characters.

Platforms

All

8.39 etree

etree

Syntax

etree

Context

[Tree] (show>service>id etree)

Full Context

show service id etree

Description

This command displays the same information shown in the show service ID base context, with the addition of the role of each object in the VPLS E-Tree service.

The following labels identify the configuration of the SAPs and SDP bindings:

- (L) indicates leaf-ac
- (RL) indicates root-leaf-tag

Platforms

All

Output

The following output is an example of VPLS E-Tree information.

Output Example

```
*A:PE-6# show service id 2005 etree

===============================================================================
Service Basic Information
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service Id        : 2005               Vpn Id            : 0
Service Type      : VPLS
Name              : etree-2005
Description       : (Not Specified)
Customer Id       : 1                  Creation Origin   : manual
Last Status Change: 05/08/2018 09:49:54
Last Mgmt Change  : 05/08/2018 09:51:09
Etree Mode        : Enabled
Admin State       : Up                 Oper State        : Up
MTU               : 1514
SAP Count         : 2                  SDP Bind Count    : 1
Snd Flush on Fail : Disabled           Host Conn Verify  : Disabled
SHCV pol IPv4     : None
Propagate MacFlush: Disabled           Per Svc Hashing   : Disabled
Allow IP Intf Bind: Disabled
Fwd-IPv4-Mcast-To*: Disabled           Fwd-IPv6-Mcast-To*: Disabled
Mcast IPv6 scope  : mac-based
Def. Gateway IP   : None
Def. Gateway MAC  : None
Temp Flood Time   : Disabled           Temp Flood        : Inactive
Temp Flood Chg Cnt: 0
SPI load-balance  : Disabled
TEID load-balance : Disabled
Src Tep IP        : N/A
Vxlan ECMP        : Disabled

-------------------------------------------------------------------------------
Service Access & Destination Points
-------------------------------------------------------------------------------
Identifier                              Type         AdmMTU  OprMTU  Adm  Opr
-------------------------------------------------------------------------------
sap:1/1/c1/1:2005 (L)                    q-tag        9000    9000    Up   Up
sap:1/1/c1/1:2006 (RL)                   q-tag        9000    9000    Up   Up
sdp:65:2005 (RL) S(192.0.2.5)            Spok         0       8974    Up   Down
-------------------------------------------------------------------------------
Legend: (L): Leaf-Ac, (RL): Root-Leaf-Tag
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

8.40 eval-group-interface-template

eval-group-interface-template

Syntax

eval-group-interface-template *name*

Context

[Tree] (tools>perform>subscr-mgmt eval-group-interface-template)

Full Context

tools perform subscriber-mgmt eval-group-interface-template

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command reapplies the specified group-interface template to all the group interfaces that were created using this template. This command can be used after changing the group-interface template, because not all the changed parameters are automatically applied to the existing group interfaces.

This command reports the total number of group interfaces linked to the template, the number of group interfaces that were changed or did not require a change, and the number of group interfaces for which a change was attempted but failed.

Parameters

name

Specifies a group-interface template name, up to 32 characters, as configured under **configure subscriber-mgmt group-interface-template**.

Platforms

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

Output

The following output is an example of the command information.

Output Example

```
A:BNG-UPF# /tools perform subscriber-mgmt eval-group-interface-template "default"
Group interface instances:
- total submitted : 1
- changed         : 1
- change failed   : 0
```

8.41 eval-ipoe-session

eval-ipoe-session

Syntax

eval-ipoe-session [**svc-id** *service-id*] [**sap** *sap-id*] [**mac** *mac-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**subscriber** *sub-ident-string*]

Context

[Tree] (tools>perform>subscr-mgmt eval-ipoe-session)

Full Context

tools perform subscriber-mgmt eval-ipoe-session

Description

This command re-evaluates the mapping between authentication strings such as the SLA profile string and the actual profiles for the identified IPoE sessions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

service-id

Specifies an existing subscriber service ID.

Values 1 to 2147483647

sap-id

Specifies a SAP ID, up to 255 characters.

mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers.

circuit-id

Specifies the circuit ID up to 127 characters.

remote-id

Specifies that information that goes into the remote-id sub-option in the DHCP relay packet, up to 255 characters.

sub-ident-string

Specifies an existing subscriber identification profile.

Platforms

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

8.42 eval-lease-state

eval-lease-state

Syntax

eval-lease-state [**svc-id** *service-id*] [**sap** *sap-id*] [**subscriber** *sub-ident-string*] [**ip** *ip-address*] [**mac** *mac-address*]

Context

[Tree] (tools>perform>subscr-mgmt eval-lease-state)

Full Context

tools perform subscriber-mgmt eval-lease-state

Description

This command evaluates lease state.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

ip-address

Specifies the server's IP address. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

sub-ident-string

Specifies the subscriber ID string, up to 32 characters.

service-id

Specifies an existing service ID.

Values 1 to 2147483647

Platforms

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

8.43 eval-msap

eval-msap

Syntax

eval-msap {**policy** *msap-policy-name* | **msap** *sap-id*}

Context

[Tree] (tools>perform>subscr-mgmt eval-msap)

Full Context

tools perform subscriber-mgmt eval-msap

Description

This command re-applies the managed SAP policy to the managed SAP identified by the specified *sap-id* or to all managed SAPs associated with the specified *msap-policy name*.

Parameters

msap-policy-name

Specifies an existing MSAP policy. The MSAP policy is re-applied to all associated managed SAPs.

sap-id

Specifies an MSAP SAP ID. The MSAP policy is re-applied to the specified MSAP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values [*port-id* | lag-*id*]:*qtag1*
[*port-id* | lag-*id*]:*qtag1.qtag2*

Platforms

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

8.44 eval-ppp-session

eval-ppp-session

Syntax

eval-ppp-session [**svc-id** *service-id*] [**user-name** *user-name*] [**sap** *sap-id*] [**ip** *ip-address*] [**subscriber** *sub-ident-string*]

eval-ppp-session [**svc-id** *service-id*] [**user-name** *user-name*] [**sap** *sap-id*] **mac** *mac-address* [**session-id** *session-id*] [**ip** *ip-address*] [**subscriber** *sub-ident-string*]

Context

[Tree] (tools>perform>subscr-mgmt eval-ppp-session)

Full Context

tools perform subscriber-mgmt eval-ppp-session

Description

This command evaluates PPP sessions.

Parameters

service-id

Specifies an existing subscriber service ID.

Values 1 to 2147483647

user-name

Specifies the PPP user name up to 253 characters.

sap-id

Specifies a SAP ID up to 255 characters.

ip-address

Specifies the peer’s IP address.

sub-ident-string

Specifies an existing subscriber identification profile.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mac-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers.

session-id

Specifies information about the ID of the PPP session.

Values 1 to 65535

Platforms

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

8.45 eval-rates

eval-rates

Syntax

eval-rates

Context

[Tree] (tools>perform>subscr-mgmt>bonding eval-rates)

Full Context

tools perform subscriber-mgmt bonding eval-rates

Description

This command evaluates all bonding contexts and recalculates all reference rates. This command can be useful in handling changes that are not automatically tracked, such as adapting a scheduler rate in a QoS policy.

Platforms

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

8.46 eval-sap-template

eval-sap-template

Syntax

eval-sap-template *name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>perform>subscr-mgmt eval-sap-template)

Full Context

tools perform subscriber-mgmt eval-sap-template

Description

This command reapplies the SAP template to all the SAPs that were created using this template. This command can be used after changing the SAP template because not all the changed parameters are automatically applied to the existing SAPs.

This command reports the total number of SAPs linked to the template, the number of SAPs that changed or did not require a change, and the number of SAPs for which a change was attempted but failed.

Parameters

name

Specifies a SAP template name, up to 32 characters, as configured under **configure subscriber-mgmt sap-template**.

Platforms

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

Output

The following output is an example of the command information.

Output Example

```
A:BNG-UPF# /tools perform subscriber-mgmt eval-sap-template "default"
Sap instances:
- total submitted : 1
- changed         : 1
- change failed   : 0
```

8.47 eval-slaac-host

eval-slaac-host

Syntax

eval-slaac-host [**svc-id** *service-id*] [**sap** *sap-id*] [**subscriber** *sub-ident-string*] [**ipv6-address** *ipv6-prefix*] [**mac** *ieee-address*]

Context

[Tree] (tools>perform>subscr-mgmt eval-slaac-host)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform subscriber-mgmt eval-slaac-host

Description

This command evaluates the SLAAC host.

Parameters

service-id

Specifies an existing subscriber service ID.

Values 1 to 2147483647

sap-id

Specifies a SAP ID, up to 255 characters.

sub-ident-string

Specifies an existing subscriber identification profile.

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers.

ipv6-prefix

Specifies an IPv6 prefix and prefix length.

Values

ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d

Platforms

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

8.48 evaluate-script

evaluate-script

Syntax

evaluate-script sap *sap-id* **control-session** *acct-session-id* **action** *script-action* [**dynsvc-policy** *name*] [**param-string** *string*]

Context

[Tree] (tools>perform>service>dynamic-services evaluate-script)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform service dynamic-services evaluate-script

Description

This tools command performs the execution of a dynamic service script action as if the corresponding RADIUS attributes were received from RADIUS. It is possible to setup, modify or teardown a dynamic service associated with the specified control channel.

Note:
This command is not available in the MD-CLI.

Parameters

sap sap-id

specifies the dynamic service SAP id.

control-session *acct-session-id*

Specifies the accounting session id of the control channel associated with this dynamic service.

action *script-action*

Specifies the requested action: setup, modify or teardown.

dynsvc-policy *name*

Specifies the dynamic services policy to use for this action. Mandatory parameter for setup and modify actions. In case of a modify action, the dynamic services policy must be the same as the policy used at setup.

param-string *string*

Specifies the dynamic service parameter list. Mandatory parameter for setup and modify actions.

Platforms

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

8.49 evc

evc

Syntax

evc [*port-id* [**vlan** *vlan-id*]]

Context

[Tree] (show>elmi evc)

Full Context

show elmi evc

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays Ethernet Virtual Connections (EVC). No argument displays all the EVC on the service router. The port and VLAN arguments display information related to EVC associated with the port and VLAN.

Parameters

port-id

Displays information related to the EVCs configured on the port.

Values *slot*/*mda*/*port*

vlan-id

Specifies the VLAN Identifier of the EVC.

Values 0 to 4094, *

Platforms

All

Output

The following output is an example of E-LMI EVC information, and Table 143: Output fields: E-LMI EVC describes the output fields.

Output Example

```
*A:Dut-C# show elmi evc
===============================================================================
ELMI EVC Table
===============================================================================
Port     Vlan  Status    Type  Evc Id
-------------------------------------------------------------------------------
1/1/1    10    New-Act   P2p   EVC11110
1/1/3    30    New-Act   P2p   EVC11220
1/1/5    100   Act       P2p   EVC115100
1/1/5    200   Act       P2p   EVC115200
-------------------------------------------------------------------------------
Number of Evcs : 4
===============================================================================
*A:Dut-C#


A:Dut-C# show elmi evc 1/1/5
===============================================================================
ELMI EVC Table
===============================================================================
Port     Vlan  Status    Type  Evc Id
-------------------------------------------------------------------------------
1/1/5    100   Act       P2p   EVC115100
1/1/5    200   Act       P2p   EVC115200
-------------------------------------------------------------------------------
Number of Evcs : 2
===============================================================================
A:Dut-C#


*A:Dut-C# show elmi evc 1/1/5 vlan 100
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Evc Detailed Information
===============================================================================
Port          : 1/1/5                   vlanId        : 100
Evc Status    : Act                     Evc Type      : P2p
Evc Identifier: EVC115100
===============================================================================
*A:Dut-C#
```

Table 143: Output fields: E-LMI EVC

Field	Description
Port	Port identifier.
Vlan	Vlan identifier.
Status	New-Act — New and active. Act — Active.
Type	Connection type.
EVC Id	EVC identifier.

8.50 event-control

event-control

Syntax

event-control [*application-id* [*event-name* | *event-number*]]

event-control *application-id event-name* **detail**

Context

[Tree] (show>log event-control)

Full Context

show log event-control

Description

This command displays event control settings for events including whether the event is suppressed or generated and the severity level for the event.

If no options are specified all events, alarms and traps are listed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

application-id

Only displays event control for the specified application.

Default All applications.

The following are some sample applications:

Values anysec, application_assurance, aps, atm, auto_prov, bfd, bgp, bier, bmp, ccag, cflowd, chassis, cpmhwfilter, cpmhwqueue, debug, dhcp, dhcps, diameter, dot1x, dynsvc, efm_oam, elmi, ering, eth_cfm, etun, filter, fpe, gsmp, gtp, gtungrp, icl, igh, igmp, igmp_snooping, ip, ipfix, ipsec, ipsec_cpm, isis, l2tp, lag, ldap, ldp, li, lldp, logger, macsec, mcac, mcpath, mc_redundancy, mgmt_core, mirror, mld, mld_snooping, mpls, mpls_tp, mpls_lmgr, mrp, msdp, nat, nge, ntp, oam, open_flow, ospf, pcap, pcep, pfcp, pim, im_snooping, port, ppp, pppoe, pppoe_clnt, profile, ptp, pxc, python, qos, radius, rib_api, rip, rip_ng, route_next_hop, route_policy, rpki, rsvp, security, sflow, snmp, sr_policy, stp, subscr_mgmt, sub_host_trk, svcmgr, system, tip, tls, user, user_db, video, vrrp, vrtr, wlan_gw, wpp

event-name

Only displays event control for the named application event, up to 32 characters.

Default All events for the application.

event-number

Only displays event control for the specified application event number.

Default All events for the application.

Platforms

All

Output

The following output is an example of event control information.

Table 144: Output fields: event control describes the output fields for the event control.

Output Example

```
A:gal171# show log event-control
===============================================================================
Log Events
===============================================================================
Application
 ID#    Event Name                       P   g/s     Logged     Dropped
-------------------------------------------------------------------------------
BGP:
   2001 bgpEstablished                    MI  gen          0           0
   2002 bgpBackwardTransition             WA  gen          0           0
   2003 tBgpMaxPrefix90                   WA  gen          0           0
   2004 tBgpMaxPrefix100                  CR  gen          0           0
L  2005 sendNotification                  WA  gen          0           0
L  2006 receiveNotification               WA  gen          0           0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
L  2007 bgpInterfaceDown                  WA  gen          0          0
L  2008 bgpConnNoKA                       WA  gen          0          0
L  2009 bgpConnNoOpenRcvd                 WA  gen          0          0
L  2010 bgpRejectConnBadLocAddr           WA  gen          0          0
L  2011 bgpRemoteEndClosedConn            WA  gen          0          0
L  2012 bgpPeerNotFound                   WA  gen          0          0
L  2013 bgpConnMgrTerminated              WA  gen          0          0
L  2014 bgpTerminated                     WA  gen          0          0
L  2015 bgpNoMemoryPeer                   CR  gen          0          0
L  2016 bgpVariableRangeViolation         WA  gen          0          0
L  2017 bgpCfgViol                        WA  gen          0          0
CFLOWD:
   2001 cflowdCreated                     MI  gen          0          0
   2002 cflowdCreateFailure               MA  gen          0          0
   2003 cflowdDeleted                     MI  gen          0          0
   2004 cflowdStateChanged                MI  gen          0          0
   2005 cflowdCleared                     MI  gen          0          0
   2006 cflowdFlowCreateFailure           MI  gen          0          0
   2007 cflowdFlowFlushFailure            MI  gen          0          0
   2008 cflowdFlowUnsuppProto             MI  sup          0          0
CCAG:
CHASSIS:
   2001 cardFailure                       MA  gen          0          0
   2002 cardInserted                      MI  gen          4          0
   2003 cardRemoved                       MI  gen          0          0
   2004 cardWrong                         MI  gen          0          0
   2005 EnvTemperatureTooHigh             MA  gen          0          0
...

DEBUG:
L  2001 traceEvent                        MI  gen          0          0
DOT1X:
FILTER:
   2001 filterPBRPacketsDropped           MI  gen          0          0
IGMP:
   2001 vRtrIgmpIfRxQueryVerMismatch      WA  gen          0          0
   2002 vRtrIgmpIfCModeRxQueryMismatch    WA  gen          0          0
IGMP_SNOOPING:
IP:
L  2001 clearRTMError                     MI  gen          0          0
L  2002 ipEtherBroadcast                  MI  gen          0          0
L  2003 ipDuplicateAddress                MI  gen          0          0
L  2004 ipArpInfoOverwritten              MI  gen          0          0
L  2005 fibAddFailed                      MA  gen          0          0
L  2006 qosNetworkPolicyMallocFailed      MA  gen          0          0
L  2007 ipArpBadInterface                 MI  gen          0          0
L  2008 ipArpDuplicateIpAddress           MI  gen          0          0
L  2009 ipArpDuplicateMacAddress          MI  gen          0          0
ISIS:
   2001 vRtrIsisDatabaseOverload          WA  gen          0          0
   2002 vRtrIsisManualAddressDrops        WA  gen          0          0
   2003 vRtrIsisCorruptedLSPDetected      WA  gen          0          0
   2004 vRtrIsisMaxSeqExceedAttempt       WA  gen          0          0
   2005 vRtrIsisIDLenMismatch             WA  gen          0          0
   2006 vRtrIsisMaxAreaAddrsMismatch      WA  gen          0          0
....
USER:
L  2001 cli_user_login                    MI  gen          2          0
L  2002 cli_user_logout                   MI  gen          1          0
L  2003 cli_user_login_failed             MI  gen          0          0
L  2004 cli_user_login_max_attempts       MI  gen          0          0
L  2005 ftp_user_login                    MI  gen          0          0
L  2006 ftp_user_logout                   MI  gen          0          0
L  2007 ftp_user_login_failed             MI  gen          0          0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
L  2008 ftp_user_login_max_attempts      MI  gen          0           0
L  2009 cli_user_io                      MI  sup          0          48
L  2010 snmp_user_set                    MI  sup          0           0
L  2011 cli_config_io                    MI  gen       4357           0
VRRP:
   2001 vrrpTrapNewMaster                MI  gen          0           0
   2002 vrrpTrapAuthFailure              MI  gen          0           0
   2003 tmnxVrrpIPListMismatch           MI  gen          0           0
   2004 tmnxVrrpIPListMismatchClear      MI  gen          0           0
   2005 tmnxVrrpMultipleOwners           MI  gen          0           0
   2006 tmnxVrrpBecameBackup             MI  gen          0           0
L  2007 vrrpPacketDiscarded              MI  gen          0           0
VRTR:
   2001 tmnxVRtrMidRouteTCA              MI  gen          0           0
   2002 tmnxVRtrHighRouteTCA             MI  gen          0           0
   2003 tmnxVRtrHighRouteCleared         MI  gen          0           0
   2004 tmnxVRtrIllegalLabelTCA          MA  gen          0           0
   2005 tmnxVRtrMcastMidRouteTCA         MI  gen          0           0
   2006 tmnxVRtrMcastMaxRoutesTCA        MI  gen          0           0
   2007 tmnxVRtrMcastMaxRoutesCleared    MI  gen          0           0
   2008 tmnxVRtrMaxArpEntriesTCA         MA  gen          0           0
   2009 tmnxVRtrMaxArpEntriesCleared     MI  gen          0           0
   2011 tmnxVRtrMaxRoutes                MI  gen          0           0
===============================================================================
A:ALA-1#
```

```
A:ALA-1# show log event-control ospf
===============================================================================
Log Events
===============================================================================
Application
 ID#    Event Name                       P   g/s     Logged     Dropped
-------------------------------------------------------------------------------
   2001 ospfVirtIfStateChange            WA  gen          0           0
   2002 ospfNbrStateChange               WA  gen          1           0
   2003 ospfVirtNbrStateChange           WA  gen          0           0
   2004 ospfIfConfigError                WA  gen          0           0
   2005 ospfVirtIfConfigError            WA  gen          0           0
   2006 ospfIfAuthFailure                WA  gen          0           0
   2007 ospfVirtIfAuthFailure            WA  gen          0           0
   2008 ospfIfRxBadPacket                WA  gen          0           0
   2009 ospfVirtIfRxBadPacket            WA  gen          0           0
   2010 ospfTxRetransmit                 WA  sup          0           0
   2011 ospfVirtIfTxRetransmit           WA  sup          0           0
   2012 ospfOriginateLsa                 WA  sup          0         404
   2013 ospfMaxAgeLsa                    WA  gen          3           0
   2014 ospfLsdbOverflow                 WA  gen          0           0
   2015 ospfLsdbApproachingOverflow      WA  gen          0           0
   2016 ospfIfStateChange                WA  gen          2           0
   2017 ospfNssaTranslatorStatusChange   WA  gen          0           0
   2018 vRtrOspfSpfRunsStopped           WA  gen          0           0
   2019 vRtrOspfSpfRunsRestarted         WA  gen          0           0
   2020 vRtrOspfOverloadEntered          WA  gen          1           0
   2021 vRtrOspfOverloadExited           WA  gen          0           0
   2022 ospfRestartStatusChange          WA  gen          0           0
   2023 ospfNbrRestartHelperStatusChange WA  gen          0           0
   2024 ospfVirtNbrRestartHelperStsChg   WA  gen          0           0
===============================================================================
A:ALA-1#

A:ALA-1# show log event-control ospf ospfVirtIfStateChange
===============================================================================
Log Events
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Application
 ID#    Event Name                       P   g/s     Logged     Dropped
-------------------------------------------------------------------------------
   2001 ospfVirtIfStateChange            WA  gen          0           0
===============================================================================
A:ALA-1#
```

```
A:dut-c# show log event-control "BGP" tBgpMaxNgPfxLmtThresholdReached detail
===============================================================================
Log event "tBgpMaxNgPfxLmtThresholdReached"
===============================================================================
Severity                            : major
Generated                           : true
Count                               : 0
Drop count                          : 1
Throttle                            : false
Specific throttle                   : false
Specific throttle limit             : 0
Specific throttle interval (s)      : 0
Specific throttle by default        : false
Specific throttle limit default     : 0
Specific throttle interval default(s) : 0
Repeat                              : false
Source stream                       : main
```

```
A:node-2# show log event-control "mgmt_core"
===============================================================================
Log Events
===============================================================================
Application
 ID#    Event Name                       P   g/s     Logged     Dropped
-------------------------------------------------------------------------------
 L 2001 mdConfigChange                   MI  sup          0         197
 L 2002 mdOcConfigChange                 MI  sup          0           0
 L 2003 mdBofConfigChange                MI  sup          0          23
 L 2004 mdDebugConfigChange              MI  sup          0           0
===============================================================================
```

Table 144: Output fields: event control

Label	Description
Application	The application name.
ID#	The event ID number within the application L ID# - An "L" in front of an ID represents local events that do not generate an associated SNMP trap. Most events do generate a trap, only the exceptions are marked with a preceding "L”.
Event Name	The event name.
P	CL — The event has a cleared severity or priority. CR — The event has critical severity or priority. IN — The event has indeterminate severity or priority. MA — The event has major severity or priority.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	MI — The event has minor severity or priority. WA — The event has warning severity or priority.
g/s	gen — The event will be generated or logged by event control. sup — The event will be suppressed or dropped by event control. thr — Specifies that throttling is enabled.
Logged	The number of events logged or generated.
Dropped	The number of events dropped/suppressed.
Severity	The severity level of the event (cleared, indeterminate, critical, major, minor, or warning).
Generated	Indicates whether the log event is enabled (true) or suppressed (false).
Count	The number of events logged or generated.
Drop count	The number of events dropped/suppressed.
Throttle	Indicates whether the event is subject to global throttling (true or false).
Specific throttle	Indicates whether the event is subject to specific per event throttling (true or false).
Specific throttle limit	The configured number of events per interval for specific throttling.
Specific throttle interval (s)	The configured interval over which the specific throttling limit is applied.
Specific throttle by default	Indicates whether the specific throttling is enabled or not when it has not been explicitly configured.
Specific throttle limit default	The default number of events per-interval for specific throttling of this event.
Specific throttle interval default (s)	The default interval over which the specific default throttling limit is applied.
Repeat	Specifies that the log event should be repeated every minute until the underlying condition is cleared.
Source stream	Specifies the event source (main, security, change, debug or li).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.51 event-handling

event-handling

Syntax

event-handling

Context

[Tree] (show>log event-handling)

Full Context

show log event-handling

Description

Commands in this context display Event Handling System (EHS) information.

Platforms

All

event-handling

Syntax

event-handling

Context

[Tree] (clear>log event-handling)

Full Context

clear log event-handling

Description

Commands in this context clear Event Handling System (EHS) information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.52 event-log

event-log

Syntax

event-log *event-log-name* **syslog**

Context

[Tree] (show>app-assure>group event-log)

Full Context

show application-assurance group event-log

Description

This command displays event log information.

Parameters

event-log-name

Specifies the event log name, up to 32 characters.

syslog

Specifies to display syslog information.

Platforms

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

Output

The following is an output example displaying event log information:

Output Example

```
*A:Dut-B# show  application-assurance group 1:1 event-log "sampleLog" syslog
===============================================================================
Application Assurance Group 1:1 Event Log "sampleLog" Syslog
===============================================================================
Event-log admin status : down
Description            : (Not Specified)
Address                : (Not Specified)
Port                   : 514
VLAN ID                : (Not Specified)
Facility               : local7
Severity               : info
-------------------------------------------------------------------------------
ISA                                 Events Sent                Events Failed
-------------------------------------------------------------------------------
1/2                                           0                           0
2/1                                           0                           0
2/2                                           0                           0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-B#
```

event-log

Syntax

event-log *log-event* **url** *file-url*

event-log *log-event* **isa** *mda-id* [**url** *file-url*]

Context

[Tree] (tools>dump>app-assure>group event-log)

Full Context

tools dump application-assurance group event-log

Description

This command displays application-assurance event-log information.

Platforms

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

event-log

Syntax

event-log *event-log-name*

Context

[Tree] (clear>app-assure>group event-log)

Full Context

clear application-assurance group event-log

Description

This command clears the application assurance event log.

Parameters

event-log-name

Specifies the event log name, up to 32 characters.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.53 event-logs

event-logs

Syntax

event-logs [**failure** | **degrade**] [**active** | **cleared**]

Context

[Tree] (show>port>ethernet>efm-oam event-logs)

Full Context

show port ethernet efm-oam event-logs

Description

This command displays all event logs.

Parameters

failure | degrade

Only show logs with the specified severity.

active | cleared

Only show logs with the specified state.

Platforms

All

8.54 event-parameters

event-parameters

Syntax

event-parameters [*application-id* [*event-name* | *event-number*]]

Context

[Tree] (show>log event-parameters)

Full Context

show log event-parameters

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays an event's (or all events) common parameters and specific parameters. This allows a user to know what parameters can be passed from a triggering event to the triggered EHS script.

There is a common event parameter for all log events called 'timestamp' that contains the same information as 'gentime', but in a different format and unit. The 'timestamp' parameter is only available to Python applications.

Parameters

application-id

Displays event parameters for the specified application.

The following are some sample applications:

Values adp, anysec, application_assurance, auto_prov, bfd, bgp, bier, bmp, calltrace, cflowd, chassis, cpmhwfilter, cpmhwqueue, debug, dhcp, dhcps, diameter, dot1x, dynsvc, efm_oam, elmi, ering, eth_cfm, etun, filter, fpe, gsmp, gtp, igmp, igmp_snooping, ip, ipfix, ipsec, ipsec_cpm, isis, l2tp, lag, ldap, ldp, li, lldp, logger, maffilter, macsec, mcac, mcpath, mc_redundancy, mgmt_core, mirror, mld, mld_snooping, mpls, mpls_tp, mpls_lmgr, mrp, msdp, nat, nge, ntp, oam, ospf, pcap, pcep, pfcp, pim, pim_snooping, pools, port, pppoe, pppoe_clnt, profile, ptp, pxc, python, qos, radius, rib_api, rip, rip_ng, route_next_hop, route_policy, rpki, rsvp, satellite, security, sflow, snmp, sr_mpls, sr_policy, srv6, stp, subscr_mgmt, sub_host_trk, svcmgr, system, telemetry, tip, tls, tree_sid, user, user_db, video, vrrp, vrtr, wlan_gw, wpp

event-name

Displays event parameters for the named application event up to 32 characters in length.

event-number

Displays event parameters for the specified application event number.

Values 0 — 4294967295

Platforms

All

Output

The following output is an example of log event parameter information.

Output Example

```
# show log event-parameters "oam" 2001
===============================================================================
Common Event Parameters
        appid
        name
        eventid
        severity
        subject
        gentime
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Event Specific Parameters
        tmnxOamPingCtlOwnerIndex
        tmnxOamPingCtlTestIndex
        tmnxOamPingCtlTgtAddrType
        tmnxOamPingCtlTgtAddress
        tmnxOamPingResultsTestRunIndex
        tmnxOamPingResultsOperStatus
        tmnxOamPingResultsMinRtt
        tmnxOamPingResultsMaxRtt
        tmnxOamPingResultsAverageRtt
        tmnxOamPingResultsRttSumOfSquares
        tmnxOamPingResultsRttOFSumSquares
        tmnxOamPingResultsMtuResponseSize
        tmnxOamPingResultsSvcPing
        tmnxOamPingResultsProbeResponses
        tmnxOamPingResultsSentProbes
        tmnxOamPingResultsLastGoodProbe
        tmnxOamPingCtlTestMode
        tmnxOamPingHistoryIndex
===============================================================================
```

8.55 events

events

Syntax

events [**local** | **remote**]

Context

[Tree] (clear>port>eth>efm-oam events)

Full Context

clear port ethernet efm-oam events

Description

This command clears all link monitoring events on the port.

Parameters

local

Clears the local events only.

remote

Clears the remote events only.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.56 evpn

evpn

Syntax

evpn mac-dup-detect *ieee-address*

evpn mac-dup-detect all

Context

[Tree] (clear>service>id evpn)

Full Context

clear service id evpn

Description

This command clears a duplicate MAC and restarts the MAC duplication process. It also clears black-hole MACs.

Parameters

ieee-address

Specifies the MAC address, up to 30 characters.

all

Specifies that the **clear** command applies to all duplicate MACs.

Platforms

All

evpn

Syntax

evpn usage

Context

[Tree] (tools>dump>service evpn)

Full Context

tools dump service evpn

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the consumed EVPN resources in the system. The VXLAN destinations include static VXLAN destinations as well as Ethernet Segment (ES) VXLAN destinations.

Platforms

All

Output

The following output is an example of consumed EVPN resources information and, Table 145: Output fields: EVPN usage describes the output fields.

Output Example

```
A:PE-2# tools dump service evpn usage

vxlan-srv6-evpn-mpls usage statistics at 05/24/2024 11:23:38:

MPLS-TEP                                          :             0
VXLAN-TEP                                         :             0
SRV6-TEP                                          :             5
Total-TEP                                         :      5/ 16383

Mpls Dests (TEP, Egress Label + ES + ES-BMAC)     :             0
Mpls Etree Leaf Dests                             :             0
Vxlan Dests (TEP, Egress VNI + ES)                :             0
Srv6 Dests (TEP, SID  + ES)                       :             7
Total-Dest                                        :      7/196607

Sdp Bind +  Evpn Dests                            :      7/245759
ES L2/L3 PBR                                      :      0/ 32767
Evpn Etree Remote BUM Leaf Labels                 :             0
Evpn Rvpls Mcast Dests                            :      0/102400
Evpn Etree MLDP Leaf Intf                         :      0/  4096
EVPN ES Labels on MLDP Leaf Intf                  :      0/ 16380
```

Table 145: Output fields: EVPN usage

Label	Description
MPLS-TEP	Specifies the number of MPLS tunnel endpoints (TEPs)
VXLAN-TEP	Specifies the number of VXLAN TEPs
SRV6-TEP	Specifies the number of SRv6 TEPs
Total-TEP	Specifies the total number of TEPs
Mpls Dests (TEP, Egress Label + ES + ES-BMAC)	Specifies the number of MPLS destinations
Mpls Etree Leaf Dests	Specifies the number of MPLS E-Tree leaf destinations
Vxlan Dests (TEP, Egress VNI + ES)	Specifies the number of VXLAN destinations

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Srv6 Dests (TEP, SID + ES)	Specifies the number of SRv6 destinations
Total-Dest	Specifies the total number of destinations
Sdp Bind + Evpn Dests	Specifies the number of SDP bind and EVPN destinations
ES L2/L3 PBR	Specifies the number of elementary stream (ES) Layer 2 or Layer 3 policy-based routing (PBR)
Evpn Etree Remote BUM Leaf Labels	Specifies the number of EVPN E-Tree remote BUM leaf labels
Evpn Rvpls Mcast Dests	Specifies the number of R-VPLS multicast destinations
EVPN Etree MLDP Leaf Intf	Specifies the number of mLDP interfaces on an mLDP Leaf (receiving P2MP traffic) where the interfaces are part of EVPN E-Tree services. Leaf, in this context, refers to mLDP leaf. This number also refers to the number of roots in E-Tree services that are joinable from an mLDP leaf (for example, the number of mLDP leaf interfaces). Since each root joined potentially causes an E-Tree leaf label from that root to be programmed against the mLDP leaf, it implicitly also indicates the number of programmable labels. An entry here is counted as soon as an mLDP leaf is created in an E-Tree service.
EVPN ES Labels on MLDP Leaf Intf	Specifies the number of upstream ES labels programmed against mLDP leafs. This does not include unique upstream ES labels since these labels must be programmed on all mLDP leafs joining a specific root PE.

evpn

Syntax

evpn *evpn-type*

Context

[Tree] (show>router>bgp>routes evpn)

Full Context

show router bgp routes evpn

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context displays BGP EVPN routes.

Platforms

All

evpn

Syntax

evpn usage

Context

[Tree] (tools>dump>service>id evpn)

Full Context

tools dump service id evpn

Description

This command shows the maximum number of EVPN-tunnel interface IP next hops per R-VPLS as well as the current usage for a specified R-VPLS service.

Platforms

All

Output

The following output is an example of tools dump EVPN usage information.

Output Example

```
*A:PE71# tools dump service id 504 evpn usage
Evpn Tunnel Interface IP Next Hop: 1/8189
```

8.57 evpn-l2-oper-attrs

evpn-l2-oper-attrs

Syntax

evpn-l2-oper-attrs

Context

[Tree] (show>service>id>bgp-evpn evpn-l2-oper-attrs)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id bgp-evpn evpn-l2-oper-attrs

Description

This command displays information of all the TEPs for which the peer advertised a Layer 2 extended community.

Platforms

All

Output

The following command displays an example of all the TEPs for which the peer advertised a Layer 2 extended community and Table 146: Output fields: EVPN Layer 2 TEP describes the output fields.

Output Example

```
show service id 110 bgp-evpn evpn-l2-oper-attrs
```

```
===============================================================================
EVPN P2MP L2 Attributes
===============================================================================
TEP Address                             Oper State Oper Flags
-------------------------------------------------------------------------------
192.0.2.4                               Down       no-L2-comm
2001:db8::2                             Up         None
-------------------------------------------------------------------------------
Number of entries : 2
-------------------------------------------------------------------------------
===============================================================================
```

Table 146: Output fields: EVPN Layer 2 TEP

Label	Description
EVPN P2MP L2 Attributes	
TEP Address	The TEP address
Oper State	The operational state
Oper Flags	The operational flags
Number of entries	The total number of matching entries

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

8.58 evpn-mcast-gateway

evpn-mcast-gateway

Syntax

evpn-mcast-gateway {**all** | **pim** | **mvpn**}

Context

[Tree] (show>service>id evpn-mcast-gateway)

Full Context

show service id evpn-mcast-gateway

Description

This command displays the EVPN multicast gateway information.

Parameters

all

Displays EVPN mulitcast gateway information for the MVPN-to-EVPN Gateway (MEG) and PIM-to-EVPN Gateway (PEG) cases.

pim

Displays EVPN mulitcast gateway information for the PEG case.

mvpn

Displays EVPN mulitcast gateway information for the MEG case.

Platforms

All

Output

The following output is an example of EVPN multicast gateway information, and Table 147: Output fields: EVPN multicast gateway describes the output fields.

Output Example

```
# show  service  id 2 evpn-mcast-gateway {all|pim|mvpn}

===============================================================================
Service Evpn Multicast Gateway
===============================================================================
Type                 : mvpn-pim
Admin State          : Disabled
DR Activation Timer  : 3 secs (default)
Mvpn Evpn Gateway DR : Yes
Pim Evpn Gateway DR  : No
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following output is an example of information displayed when the **all** or **mvpn** options are specified.

```
===============================================================================
Mvpn Evpn Gateway
===============================================================================
DR Activation Timer Remaining : 1 sec
DR                            : Yes
DR Last Change                : 10/30/2019 14:03:30
===============================================================================
-------------------------------------------------------------------------------
Candidate list
-------------------------------------------------------------------------------
Orig-Ip                                                 Time Added
-------------------------------------------------------------------------------
10.20.1.2                                               10/30/2019 14:03:30
10.20.1.3                                               10/30/2019 14:14:12
-------------------------------------------------------------------------------
Number of entries: 2
-------------------------------------------------------------------------------
```

The following output is an example of information displayed when the **all** or **pim** options are specified.

```
===============================================================================
Pim Evpn Gateway
===============================================================================
DR Activation Timer Remaining : 0 sec
DR                            : No
DR Last Change                : 10/30/2019 14:03:30
===============================================================================
-------------------------------------------------------------------------------
Candidate list
-------------------------------------------------------------------------------
Orig-Ip                                                 Time Added
-------------------------------------------------------------------------------
10.20.1.2                                               10/30/2019 14:03:30
10.20.1.3                                               10/30/2019 14:14:12
-------------------------------------------------------------------------------
Number of entries: 2
-------------------------------------------------------------------------------
```

Table 147: Output fields: EVPN multicast gateway describes the EVPN multicast gateway output fields.

Table 147: Output fields: EVPN multicast gateway

Label	Description
Service Evpn Multicast Gateway	
Type	Displays the EVPN multicast gateway type
Admin State	Displays the administrative state
DR Activation Timer	Displays the DR activation timer value
Mvpn Evpn Gateway	Displays MVPN EVPN gateway designated router type
Pim Evpn Gateway DR	Displays the PIM EVPN gateway designated router type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Mvpn Evpn Gateway/Pim Evpn Gateway	
DR Activation Timer Remaining	Displays the number of seconds remaining for the DR activation timer
DR	Indicates DR status
DR Last Change	Displays the date and time of the last DR change
Candidate list	
Orig-Ip	Displays the originating IP address
Time Added	Displays the date and time of the candidate list entry
Number of entries	Displays the number of entries

8.59 evpn-mpls

evpn-mpls

Syntax

evpn-mpls [*tep-ip-address*]

Context

[Tree] (show>service evpn-mpls)

Full Context

show service evpn-mpls

Description

This command shows the remote EVPN-MPLS tunnel endpoints in the system.

Parameters

tep-ip-address

Specifies the IP address of a tunnel endpoint.

Values a.b.c.d

Platforms

All

Output

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:PE70(4)# show service evpn-mpls
===============================================================================
EVPN MPLS Tunnel Endpoints
===============================================================================
EvpnMplsTEP Address EVPN-MPLS Dest      ES Dest             ES BMac Dest
-------------------------------------------------------------------------------
192.0.2.69          3                   1                   1
192.0.2.71          2                   0                   0
192.0.2.72          3                   1                   1
192.0.2.73          2                   1                   0
192.0.2.254         1                   0                   0
-------------------------------------------------------------------------------
Number of EvpnMpls Tunnel Endpoints: 5
-------------------------------------------------------------------------------
===============================================================================
*A:PE70(4)# show service evpn-mpls
<TEP ip-address>
 192.0.2.69   192.0.2.71   192.0.2.72   192.0.2.73   192.0.2.254


*A:PE70(4)# show service evpn-mpls 192.0.2.69
===============================================================================
BGP EVPN-MPLS Dest
===============================================================================
Service Id                              Egr Label
-------------------------------------------------------------------------------
1                                       262140
1                                       262141
20000                                   262138
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest
===============================================================================
Service Id          Eth Seg Id                              Egr Label
-------------------------------------------------------------------------------
1                   01:00:00:00:00:71:00:00:00:01           262141
-------------------------------------------------------------------------------
===============================================================================
===============================================================================
BGP EVPN-MPLS ES BMac Dest
===============================================================================
Service Id               ES BMac                 Egr Label
-------------------------------------------------------------------------------
20000                    00:00:00:00:71:71       262138
-------------------------------------------------------------------------------
===============================================================================
```

evpn-mpls

Syntax

evpn-mpls esi *esi* [**detail**]

evpn-mpls esi *esi* **instance** *instance-id* [**detail**]

evpn-mpls es-bmac *ieee-address*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

evpn-mpls [**detail**]

evpn-mpls instance *instance-id* [**detail**]

evpn-mpls fxc [**sap** *sap-id*]

Context

[Tree] (show>service>id evpn-mpls)

Full Context

show service id evpn-mpls

Description

This command displays the existing EVPN-MPLS destinations for a specified service and all related information. The command allows filtering based on **esi** (for EVPN multihoming) and **es-bmac** (for PBB-EVPN multihoming) to display the EVPN-MPLS destinations associated to an Ethernet Segment Identifier (ESI).

Parameters

esi

Specifies a 10-byte ESI by which to filter the displayed information. For example, ESI-0 | ESI-MAX or 00-11-22-33-44-55-66-77-88-99 with any of these separators ('-',':',' ')

ieee-address

Specifies a 48-bit MAC address for which to display information. The parameter is entered in the form xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx, where xx represents a hexadecimal number.

instance-id

Specifies the instance ID.

Values 1,2

detail

Keyword that displays detailed information.

fxc

Keyword that displays Flexible Cross Connect (FXC) information.

sap-id

Specifies the port ID portion of the SAP definition.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | eth-sat-id	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id* | eth-sat-id:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id* | *eth-sat-id:[qtag1* | *cp-conn-prof-id].[qtag2* | ***cp****-conn-prof-id]*	
	cp	keyword
	conn-prof-id	1 to 8000

© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

port-id	*slot/mda/port*[.channel]	
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | lag-string	
	lag	keyword
	id	1 to 800
	string	23 characters max.
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	null | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 64
	tag	0 to 4094
eth-sat-id	**esat**-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 40
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 256
	sub-port	a, b

Platforms

All

Output

The following output is an example of EVPN MPLS information, and Table 148: Output fields: service EVPN-MPLS describes the output fields.

© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show service id 110 evpn-mpls
```

```
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
2001:db8::2                     ldp:65542         524244     Up    bum    0
2001:db8::3                     ldp:65540         524250     Up    bum    0
-------------------------------------------------------------------------------
Number of entries : 2
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
01:b6:47:ff:00:00:00:00:01:00   1                      02/02/2023 12:48:43
-------------------------------------------------------------------------------
Number of entries: 1
===============================================================================
```

```
show service id 110 evpn-mpls detail
```

```
===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
2001:db8::2                     ldp:65542         524244     Up    bum    0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 02/02/2023 12:44:07
2001:db8::3                     ldp:65540         524250     Up    bum    0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 02/02/2023 12:44:07
-------------------------------------------------------------------------------
Number of entries : 2
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
01:b6:47:ff:00:00:00:00:01:00   1                      02/02/2023 12:48:43
-------------------------------------------------------------------------------
Number of entries: 1
===============================================================================
```

```
show service id 110 evpn-mpls esi 01:b6:47:ff:00:00:00:00:01:00 detail
```

```
===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance: 1)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Eth SegId                       Num. Macs               Last Update
-------------------------------------------------------------------------------
01:b6:47:ff:00:00:00:00:01:00   1                       02/02/2023 12:48:43
===============================================================================

===============================================================================
BGP EVPN-MPLS Dest TEP Info (Instance 1)
===============================================================================
TEP Address                             Egr Label         Transport:Tnl-  Oper
                                                          Id              State
-------------------------------------------------------------------------------
2001:db8::2                             524246            ldp:65542       Up
  Oper Flags       : None
  Last Update      : 02/02/2023 12:48:43
-------------------------------------------------------------------------------
Number of entries : 1
===============================================================================
```

```
show service id 20000 evpn-mpls es-bmac 00:00:00:00:71:71
```

```
===============================================================================
BGP EVPN-MPLS ES BMAC Dest
===============================================================================
vBmacAddr                       Num. Macs               Last Change
-------------------------------------------------------------------------------
00:00:00:00:71:71               1                       07/15/2015 19:44:10
===============================================================================
===============================================================================
BGP EVPN-MPLS ES BMAC Dest TEP Info
===============================================================================
TEP Address               Egr Label               Last Change
                          Transport
-------------------------------------------------------------------------------
192.0.2.69                262138                  07/15/2015 19:44:10
                          ldp
-------------------------------------------------------------------------------
Number of entries : 1
-------------------------------------------------------------------------------
===============================================================================
```

```
show  service  id 100 evpn-mpls
```

```
===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address             Egr Label             Num Saps      Last Change
                          Transport:Tnl-id
-------------------------------------------------------------------------------

10.20.1.2               524285                      3     08/15/2023 23:18:50
                           ldp:65543
10.20.1.2               524286                      2     08/15/2023 23:18:50
                            ldp:65543
10.20.1.3                524285                     1     08/15/2023 23:18:50
                            ldp:50000
-------------------------------------------------------------------------------
Number of entries : 3
===============================================================================

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                                 Num Saps      Last Change
-------------------------------------------------------------------------------
00:00:11:11:00:00:11:11:11:11                    1      08/15/2023 23:18:50
00:00:11:11:00:00:11:11:22:22                    1      08/15/2023 23:18:50
-------------------------------------------------------------------------------
Number of entries : 2
===============================================================================
```

```
show service id 505 evpn-mpls
```

```
===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                       Egr Label          Num  Last Change
                                   Transport:Tnl-id  Saps
-------------------------------------------------------------------------------
2001:db8::4                       524271             1    09/02/2024 15:23:38
                                  ldp:65538
2001:db8::4                       524272             1    09/02/2024 14:58:23
                                  ldp:65538
-------------------------------------------------------------------------------
Number of entries : 2
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
BGP EVPN-MPLS Dest (Instance 2)
===============================================================================
TEP Address                       Egr Label          Num  Last Change
                                   Transport:Tnl-id  Saps
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                            Num Saps Last Change
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 2)
===============================================================================
Eth SegId                            Num Saps Last Change
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```

```
show service id 10 evpn-mpls fxc
```

```
===============================================================================
FXC SAP Connections (Instance 1)
===============================================================================
Dest Identifier          Sap (Normalized Tags)      RFC9744         Last Change
   Transport:Tnl-id                                 Encoding
-------------------------------------------------------------------------------
mpls-1:10.20.1.3:524283  1/1/c1/1:1 (100.10)        Yes             05/04/2026
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                                                    14:15:37
   ldp:65537
                        1/1/c2/1:1 (100.10)        No              05/04/2026
                                                                    14:15:37
                        1/1/c3/1:1  (1)            Yes             05/04/2026
                                                                    14:15:37
-------------------------------------------------------------------------------
Number of Entries : 3
-------------------------------------------------------------------------------
===============================================================================
```

The following table describes the EVPN-MPLS output fields.

Table 148: Output fields: service EVPN-MPLS

Label	Description
vBmacAddr	Displays the vBmac address
Num. Macs	Displays the number of MACs
Last Change	Indicates the time of the most recent state changes
TEP Address	Displays the TEP address
Egr Label	Displays the egress label
Transport	Displays the transport type
Number of entries	Indicates the number of entries
Eth SegId	Displays the Ethernet Segment ID
Transport:Tnl-Id	Displays the tunnel type and tunnel ID of the EVPN-MPLS entry
Transport:Tnl	Displays the transport tunnel
Num. MAC	Displays the number of MACs
Oper State	Disaplays the operational state
Oper Flags	Displays the operational flags
Mcast	Displays the multicast information
Sup BCast Domain	Displays the Sup BCast Domain
FXC SAP Connections	
Dest Identifier	Displays the destination ID
Sap (Normalized Tags)	Displays the SAP ID
RFC9744 Encoding	Displays whether the S-tag is encoded in compliance with RFC 9744

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Last Change	Displays the date and time of the last change
Transport:Tnl-id	Displays the transport tunnel ID
Number of Entries	Displays the total number of entries

8.60 evpn-proxy-db

evpn-proxy-db

Syntax

evpn-proxy-db [**detail**]

evpn-proxy-db [**group** *grp-ip-address*]

Context

[Tree] (show>service>id>igmp-snooping evpn-proxy-db)

[Tree] (show>service>id>mld-snooping evpn-proxy-db)

Full Context

show service id igmp-snooping evpn-proxy-db

show service id mld-snooping evpn-proxy-db

Description

This command displays the EVPN proxy database that is created when **config>service>vpls> igmp**/**mld-snooping**>**evpn-proxy** is enabled in the service. The EVPN proxy database is populated with local reports received on SAP or SDP binds but not with the received SMET routes. The output shows the IGMP and MLD versions of the database entries that are conveyed in the SMET routes advertised for the entries.

Parameters

grp-ip-address

Specifies the group IP address, in dotted decimal notation.

detail

Specifies detailed information for the EVPN proxy database.

Platforms

All

Output

The following output is an example of EVPN proxy database information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:PE-2# show service id 4000 igmp-snooping evpn-proxy-db

===============================================================================
IGMP Snooping Evpn-Proxy-reporting DB for service 4000
===============================================================================
Group Address    Mode     Up Time        Num Sources    V1   V2   V3
-------------------------------------------------------------------------------
239.0.0.1        exclude  0d 00:53:55    0                     V3
239.0.0.2        include  0d 00:53:55    1                     V3
-------------------------------------------------------------------------------
Number of groups: 2
===============================================================================
```

Table 149: Output fields: IGMP snooping EVPN proxy describes EVPN proxy output fields.

Table 149: Output fields: IGMP snooping EVPN proxy

Field	Description
Group Address	Group IP address
Mode	IGMPv3 or MLDv2 mode
Up Time	Time that the group is added
Num Sources	Number of sources
V1	IGMP/MLD version of the database
V2	IGMP/MLD version of the database
V3	IGMP version of the database

8.61 excessive-sources

excessive-sources

Syntax

excessive-sources [**service-id** *service-id* **sap-id** *sap-id*]

Context

[Tree] (show>system>security>cpu-protection excessive-sources)

Full Context

show system security cpu-protection excessive-sources

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays sources exceeding their per-source rate limit.

Parameters

service-id

Displays information for services exceeding their per-source rate limit.

sap-id

Displays information for SAPs exceeding their per-source rate limit.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

excessive-sources

Syntax

excessive-sources

Context

[Tree] (clear>cpu-protection excessive-sources)

Full Context

clear cpu-protection excessive-sources

Description

This command clears the records of sources exceeding their per-source rate limit.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

8.62 exercise

exercise

Syntax

exercise *aps-id* {**protect** | **working**}

Context

[Tree] (tools>perform>aps exercise)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform aps exercise

Description

This command performs an exercise request on the protection or working circuit.

Parameters

aps-id

Specifies the APS ID.

Values

aps-id	aps-*group-id*	
	aps	keyword
	group-id	1 to 128

protect

This command clears a physical port that is acting as the protection circuit for the APS group.

working

This command clears a physical port that is acting as the working circuit for this APS group.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

8.63 expand-wildcard-path

expand-wildcard-path

Syntax

expand-wildcard-path *path*

Context

[Tree] (tools>dump>system>telemetry expand-wildcard-path)

Full Context

tools dump system telemetry expand-wildcard-path

Description

This command expands XML Paths (XPaths) to include multiple wildcards.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

path

Specifies the XPath that contains the wildcards.

Platforms

All

Output

Output Example

```
# tools dump system telemetry expand-wildcard-path "/state/card/.../oper-state"
===============================================================================
Expanded paths
===============================================================================
/state/card[slot-number=*]/hardware-data/oper-state
/state/card[slot-number=*]/mda[mda-slot=*]/hardware-data/oper-state
/state/card[slot-number=*]/mda[mda-slot=*]/flex[group-index=*]/oper-state
===============================================================================
```

8.64 explicit-subscriber-map

explicit-subscriber-map

Syntax

explicit-subscriber-map

Context

[Tree] (show>subscr-mgmt explicit-subscriber-map)

Full Context

show subscriber-mgmt explicit-subscriber-map

Description

This command displays explicit subscriber mappings.

Platforms

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

Output

The following output is an example of subscriber management explicit subscriber map information.

Output Example

```
B:Dut-A>show>subscr-mgmt# explicit-subscriber-map
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Explicit Subscriber Map
===============================================================================
Key                             Sub profile
                                SLA profile
-------------------------------------------------------------------------------
sub_ident_A_1                   sub_prof80
                                sla_prof80
-------------------------------------------------------------------------------
Number of Explicit Subscriber Mappings : 1
===============================================================================
B:Dut-A>show>subscr-mgmt#
```

Table 150: Output fields: explicit subscriber map describes subscriber management explicit subscriber map output fields.

Table 150: Output fields: explicit subscriber map

Field	Description
Key	The explicit subscriber mapping
Number of Explicit Subscriber Mappings	The number of configured explicit subscriber mappings

8.65 export

export

Syntax

export

Context

[Tree] (clear>router>isis export)

Full Context

clear router isis export

Description

This command re-evaluates route policies participating in the export mechanism, either as importers or exporters of routes.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

export

Syntax

export

Context

[Tree] (clear>router>ospf3 export)

[Tree] (clear>router>ospf export)

Full Context

clear router ospf3 export

clear router ospf export

Description

This command re-evaluates all effective export policies.

Platforms

All

export

Syntax

export

Context

[Tree] (clear>router>rip export)

Full Context

clear router rip export

Description

This command re-evaluates RIP export policies.

Platforms

All

export

Syntax

export

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>router>ripng export)

Full Context

clear router ripng export

Description

This command re-evaluates RIPng export policies.

Platforms

All

8.66 extranet-interface

extranet-interface

Syntax

extranet-interface

Context

[Tree] (show>router>pim extranet-interface)

Full Context

show router pim extranet-interface

Description

This command displays extranet interface information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9 f Commands

9.1 failover

failover

Syntax

failover

Context

[Tree] (tools>perform>router>dhcp6>server failover)

[Tree] (tools>perform>router>dhcp>server>pool failover)

[Tree] (tools>perform>router>dhcp6>server>pool failover)

[Tree] (tools>perform>router>dhcp>server failover)

Full Context

tools perform router dhcp6 local-dhcp-server failover

tools perform router dhcp local-dhcp-server pool failover

tools perform router dhcp6 local-dhcp-server pool failover

tools perform router dhcp local-dhcp-server failover

Description

Commands in this context perform local DHCP or DHCP6 server failover tasks.

Platforms

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

9.2 failover-pool-stats

failover-pool-stats

Syntax

failover-pool-stats [*pool-name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>dhcp>local-dhcp-server failover-pool-stats)

[Tree] (show>router>dhcp6>local-dhcp-server failover-pool-stats)

Full Context

show router dhcp local-dhcp-server failover-pool-stats

show router dhcp6 local-dhcp-server failover-pool-stats

Description

This command displays failover pool statistics.

Parameters

pool-name

Specifies the pool name which is defined in the system.

Platforms

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

Output

The following output is an example of failover pool stats information

Output Example

```
*A:cses-V22>show>router>dhcp>server# failover-pool-stats
===============================================================
Failover config for pool         test
===============================================================
Failover Admin State             outOfService
Failover Oper State              shutdown
Failover Persist Key             0xFFFFFFFF
Administrative MCLT              0h10m0s
Operational MCLT                 0h10m0s
Startup Wait Time                0h2m0s
Partner Down Delay               23h59m59s
  Ignore MCLT                    disabled
Failover statistics for pool     test
---------------------------------------------------------------
Dropped Invalid Packets          0
Failover Shutdown                0
Lease Already Expired            0
Maximum Lease Count Reached      0
Subnet Not Found                 0
Range Not Found                  0
Host Conflict                    0
Address Conflict                 0
Peer Conflict                    0
Persistence Congestion           0
No Lease Hold Time Configured    0
Invalid Prefix Length            0
Lease Not Found                  0
---------------------------------------------------------------
Number of pools found            1
===============================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:cses-V22>show>router>dhcp>server#
```

```
*A:vsim-2# show router 500 dhcp6 local-dhcp-server "d6" failover-pool-stats
===============================================================
Failover config for pool         v6-1
===============================================================
Failover Admin State             inService
Failover Oper State              preNormal
Failover Persist Key             0xFFFFFFFF
Administrative MCLT              0h10m0s
Operational MCLT                 0h10m0s
Startup Wait Time                0h2m0s
Partner Down Delay               23h59m59s
  Ignore MCLT                    disabled
Failover statistics for pool     v6-1
---------------------------------------------------------------
Dropped Invalid Packets          0
Failover Shutdown                0
Lease Already Expired            0
Maximum Lease Count Reached      0
Subnet Not Found                 0
Range Not Found                  0
Host Conflict                    0
Address Conflict                 0
Peer Conflict                    0
Persistence Congestion           0
No Lease Hold Time Configured    0
Lease Not Found                  0
---------------------------------------------------------------
Number of pools found            1
===============================================================
```

Table 151: Output fields: failover pool statistics describes failover pool statistics output fields.

Table 151: Output fields: failover pool statistics

Field	Description
Failover Admin State	Identifies the failover state of the DHCP server instance inService — The failover admin state is in service outOfService — The failover admin state is out of service
Failover Oper State	The operational state of a DHCP server instance
Failover Persist Key	The maximum amount of time that one server can extend a lease for a client's binding beyond the time known by the partner server
Administrative MCLT	The administrative Maximum Client Lead Time (MCLT)
Operational MCLT	Indicates the operational MCLT
Startup Wait Time	The startup wait time. The startup wait time is the time that one IP address pool attempts to contact the partner IP address pool. During this time, the IP address pool is unresponsive to DHCP client requests.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Partner Down Delay	The minimum safe-time after the beginning of COMMUNICATIONS-INTERRUPTED state. After the expiry of this time, the server enters the PARTNER-DOWN state.
Ignore McLT	The ignore McLT status. If, after the transition COMMUNICATIONS-INTERRUPTED-to-PARTNER-DOWN state, the DHCP server instance ignores the safety period with a duration of Maximum Client Lead Time; a 'true' value has the effect that the DHCP server starts offering IP addresses from the partner's scope immediately after this transition, without waiting for existing leases allocated by the partner and not known by this system to time out. A 'true' value increases the risk that duplicate addresses are offered; if the transition to PARTNER-DOWN state is likely to be caused by a failure of the partner system rather than a communications problem, this risk is reduced.
Failover statistics for pool	The failover statistics for each pool
Dropped Invalid Packets	The number of BNDUPD packets that were dropped because the packet was malformed
Failover Shutdown	The number of BNDUPD packets that were dropped because the failover state if the DHCP server instance is shut down
Lease Already Expired	The number of BNDUPD packets that were dropped because the corresponding lease has expired
Maximum Lease Count Reached	The number of BNDUPD packets that were dropped because the maximum number of leases were reached
Subnet Not Found	The number of BNDUPD packets that were dropped because a valid subnet could not be found for the lease
Range Not Found	The number of BNDUPD packets that were dropped because a valid include range could not be found for the lease
Host Conflict	The number of BNDUPD packets that were dropped because this DHCP server instance has already leased this address to another host
Address Conflict	The number of BNDUPD packets that were dropped because this DHCP server instance has already leased another address to this host
Peer Conflict	The number of BNDUPD packets that were dropped because the failover peer has leased an address within a

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
	subnet range of which the failover control is set to **local** on this local DHCP server instance
Persist Congestion	The number of BNDUPD packets that were dropped because of persistence congestion on this DHCP server instance
No Lease Hold Time Configured	The number of BNDUPD packets that were dropped because the lease hold time is zero on this DHCP server instance
Lease Not Found	The number of Binding Database Update (BNDUPD) remove packets were dropped because the corresponding lease could not be found.
Number of pools found	The total number of pools found

failover-pool-stats

Syntax

failover-pool-stats [*pool-name*]

Context

[Tree] (clear>router>dhcp6>server failover-pool-stats)

[Tree] (clear>router>dhcp>server failover-pool-stats)

Full Context

clear router dhcp6 local-dhcp-server failover-pool-stats

clear router dhcp local-dhcp-server failover-pool-stats

Description

This command clears failover pool statistics.

Parameters

pool-name

Clears information about the pool name which is defined in the system.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.3 failover-server-stats

failover-server-stats

Syntax

failover-server-stats

Context

[Tree] (show>router>dhcp>local-dhcp-server failover-server-stats)

[Tree] (show>router>dhcp6>local-dhcp-server failover-server-stats)

Full Context

show router dhcp local-dhcp-server failover-server-stats

show router dhcp6 local-dhcp-server failover-server-stats

Description

This command displays failover server statistics.

Platforms

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

Output

The following output is an example of failover server stats information.

Output Example

```
show>router>dhcp# local-dhcp-server "y" failover-server-stats
===============================================================
Failover config for server       y
===============================================================
Failover Admin State             outOfService
Failover Oper State              shutdown
Failover Persist Key             0xFFFFFFFF
Administrative MCLT              0h10m0s
Operational MCLT                 0h10m0s
Startup Wait Time                0h2m0s
Partner Down Delay               23h59m59s
  Ignore MCLT                    disabled

Failover statistics for server   y
---------------------------------------------------------------
Dropped Invalid Packets          0
Failover Shutdown                0
Lease Already Expired            0
Maximum Lease Count Reached      0
Subnet Not Found                 0
Range Not Found                  0
Host Conflict                    0
Address Conflict                 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Peer Conflict                     0
Persistence Congestion            0
No Lease Hold Time Configured     0
Invalid Prefix Length             0
Lease Not Found                   0
===============================================================
```

```
*A:cses-V26>show>router>dhcp6>server# failover-server-stats
===============================================================
Failover config for server       test1
===============================================================
Failover Admin State             outOfService
Failover Oper State              shutdown
Failover Persist Key             0xFFFFFFFF
Administrative MCLT              0h10m0s
Operational MCLT                 0h10m0s
Startup Wait Time                0h2m0s
Partner Down Delay               23h59m59s
  Ignore MCLT                    disabled
Failover statistics for server   test1
---------------------------------------------------------------
Dropped Invalid Packets          0
Failover Shutdown                0
Lease Already Expired            0
Maximum Lease Count Reached      0
Subnet Not Found                 0
Range Not Found                  0
Host Conflict                    0
Address Conflict                 0
Peer Conflict                    0
Persistence Congestion           0
No Lease Hold Time Configured    0
Invalid Prefix Length            0
Lease Not Found                  0
===============================================================
*A:cses-V26>show>router>dhcp6>server#
```

Table 152: Output fields: failover server statistics describes failover server stats fields.

Table 152: Output fields: failover server statistics

Field	Description
Failover Admin State	Identifiers the failover state of the DHCP server instance inService — The failover admin state is in service outOfService — The failover admin state is out of service
Failover Oper State	The operational state of a DHCP server instance
Failover Persist Key	The maximum amount of time that one server can extend a lease for a client's binding beyond the time known by the partner server
Administrative MCLT	The administrative Maximum Client Lead Time (MCLT)
Operational MCLT	Indicates the operational MCLT

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Startup Wait Time	The startup wait time. The startup wait time is the time that one IP address pool attempts to contact the partner IP address pool. During this time, the IP address pool is unresponsive to DHCP client requests.
Partner Down Delay	The minimum safe-time after the beginning of COMMUNICATIONS-INTERRUPTED state. After the expiry of this time, the server enters the PARTNER-DOWN state.
Ignore McLT	The ignore McLT status. If, after the transition COMMUNICATIONS-INTERRUPTED-to-PARTNER-DOWN state, the DHCP server instance ignores the safety period with a duration of Maximum Client Lead Time; a 'true' value has the effect that the DHCP server starts offering IP addresses from the partner's scope immediately after this transition, without waiting for existing leases allocated by the partner and not known by this system to time out. A 'true' value increases the risk that duplicate addresses are offered; if the transition to PARTNER-DOWN state is likely to be caused by a failure of the partner system rather than a communications problem, this risk is reduced.
Failover statistics for server	The failover statistics for each pool
Dropped Invalid Packets	The number of BNDUPD packets that were dropped because the packet was malformed
Failover Shutdown	The number of BNDUPD packets that were dropped because the failover state if the DHCP server instance is shut down
Lease Already Expired	The number of BNDUPD packets that were dropped because the corresponding lease has expired
Maximum Lease Count Reached	The number of BNDUPD packets that were dropped because the maximum number of leases were reached
Subnet Not Found	The number of BNDUPD packets that were dropped because a valid subnet could not be found for the lease
Range Not Found	The number of BNDUPD packets that were dropped because a valid include range could not be found for the lease.
Host Conflict	The number of BNDUPD packets that were dropped because this DHCP server instance has already leased this address to another host

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Address Conflict	The number of BNDUPD packets that were dropped because this DHCP server instance has already leased another address to this host
Peer Conflict	The number of BNDUPD packets that were dropped because the failover peer has leased an address within a subnet range of which the failover control is set to **local** on this local DHCP server instance
Persist Congestion	The number of BNDUPD packets that were dropped because of persistence congestion on this DHCP server instance
No Lease Hold Time Configured	The number of BNDUPD packets that were dropped because the lease hold time is zero on this DHCP server instance
Lease Not Found	The number of Binding Database Update (BNDUPD) remove packets were dropped because the corresponding lease could not be found.

9.4 failure-recovery

failure-recovery

Syntax

failure-recovery {**start** | **abort** | **clear-hold-down**}

Context

[Tree] (tools>perform>system>switch-fabric failure-recovery)

Full Context

tools perform system switch-fabric failure-recovery

Description

This command controls the automatic switch-fabric failure recovery.

Parameters

start

Forces the initiation of the recovery process.

abort

Terminates a running recovery process.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

clear-hold-down

Clears the hold-down condition and allows the recovery to run immediately when the trigger condition occurs.

Platforms

7450 ESS, 7750 SR-7, 7750 SR-12e, 7950 XRS

9.5 fate-sharing

fate-sharing

Syntax

fate-sharing

Context

[Tree] (show>service>id>spb fate-sharing)

Full Context

show service id spb fate-sharing

Description

This command displays SPB fate-sharing information on User B-VPLS service, in correspond to associated Control B-VPLS service.

Platforms

All

Output

The following output is an example of service SPB fate sharing information.

Output Example

```
*A:Dut-A# Node show service id spb fate-sharing
===============================================================================
User service fate-shared sap/sdp-bind information
===============================================================================
Control   Control Sap/             FID       User      User Sap/
SvcId     SdpBind                            SvcId     SdpBind
-------------------------------------------------------------------------------
500       1/1/20:500               502       502       1/1/20:502
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.6 fdb

fdb

Syntax

fdb [**sap** *sap-id* [**expiry**]] | [**sdp** *sdp-id* [**expiry**]] | [**mac** *ieee-address* [**expiry**]] | **endpoint** *endpoint* | [**detail**] [**expiry**] [**pbb**]

Context

[Tree] (show>service>id fdb)

Full Context

show service id fdb

Description

This command displays FDB entries for a specified MAC address.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP

detail

Displays detailed information

expiry

Displays time until MAC is aged out

pbb

Displays PBB related information. This keyword is only applicable to B-VPLS or I-VPLS services. This parameter applies to the 7450 ESS or 7750 SR only.

endpoint-name

Specifies an endpoint name up to 32 characters in length. This parameter applies to the 7450 ESS or 7750 SR only.

Platforms

All

Output

The following output is an example of service FDB information.

```
show service id 1 fdb
```

Output Example

```
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service Id        : 1                   Mac Move          : Disabled
Primary Factor    : 3                   Secondary Factor  : 2
Mac Move Rate     : 2                   Mac Move Timeout  : 10
Mac Move Retries  : 3
Table Size        : 250                 Allocated Count   : 4
Total In Use      : 4
Learned Count     : 2                   Static Count      : 0
OAM MAC Count     : 0                   DHCP MAC Count    : 0
Host MAC Count    : 0                   Intf MAC Count    : 0
Spb Count         : 0                   Cond MAC Count    : 0
BGP EVPN Count    : 0                   EVPN Static Cnt   : 2
EVPN Dup Det Cnt  : 0
Remote Age        : 900                 Local Age         : 300
High Watermark    : 95%                 Low Watermark     : 90%
Mac Learning      : Enabled             Discard Unknown   : Disabled
Mac Aging         : Enabled             Relearn Only      : False
Mac Subnet Len    : 48
Sel Learned FDB   : Disabled
===============================================================================
```

The following output is an example of service FDB details information.

```
show service id 1 fdb detail
```

Output Example

```
===============================================================================
Forwarding Database, Service 1
===============================================================================
ServId    MAC               Source-Identifier        Type     Last Change
                                                     Age
-------------------------------------------------------------------------------
1         00:00:00:00:00:01 sap:1/1/1                LP/0     02/24/12 11:40:07
-------------------------------------------------------------------------------
No. of MAC Entries: 1
-------------------------------------------------------------------------------
Legend:  L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf
         T=Trusted
===============================================================================
```

The following output is an example of service FDB details information.

```
show service id 510 fdb detail
```

Output Example

```
===============================================================================
Forwarding Database, Service 510
===============================================================================
ServId    MAC               Source-Identifier        Type     Last Change
                                                     Age
-------------------------------------------------------------------------------
510       00:00:00:aa:aa:aa sap:1/1/22:510           CStatic  06/14/13 20:16:19
510       00:00:00:bb:bb:bb sap:1/1/22:510           CStatic  06/14/13 20:14:49
510       00:00:00:dd:dd:dd sdp:7:2                  Spb      06/14/13 20:03:23
510       d8:da:ff:00:00:00 sap:1/1/22:510           CStatic  06/14/13 21:06:38
510       d8:e0:ff:00:00:00 sdp:7:2                  Spb      06/14/13 21:09:29
-------------------------------------------------------------------------------
No. of MAC Entries: 5
-------------------------------------------------------------------------------
Legend:  L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
         T=Trusted
===============================================================================
```

The following output is an example of service FDB MAC details information.

```
show service id fdb mac detail
```

Output Example

```
===============================================================================
Service Forwarding Database
===============================================================================
ServId    MAC               Source-Identifier     Type/Age  Last Change
-------------------------------------------------------------------------------
6         00:aa:00:00:00:00 sap:lag-2             L/0       06/27/2006 15:04:31
6         00:aa:00:00:00:01 sap:lag-2             L/0       06/27/2006 15:04:31
6         00:aa:00:00:00:02 sap:lag-2             L/0       06/27/2006 15:04:31
6         00:aa:00:00:00:03 sap:lag-2             L/0       06/27/2006 15:04:31
6         00:aa:00:00:00:04 sap:lag-2             L/0       06/27/2006 15:04:31
10        12:12:12:12:12:12 sap:1/1/1:100         S         06/26/2006 10:03:29
===============================================================================
```

The following output is an example of service FDB details information.

```
show service id 1 fdb detail
```

Output Example

```
===============================================================================
Forwarding Database, Service 1
===============================================================================
ServId    MAC               Source-Identifier        Type     Last Change
                                                     Age
-------------------------------------------------------------------------------
1         00:ca:ca:ba:ca:01 eES:                     Evpn     06/29/15 23:21:34
                            01:00:00:00:00:71:00:00:00:01
1         00:ca:ca:ba:ca:06 eES:                     Evpn     06/29/15 23:21:34
                            01:74:13:00:74:13:00:00:74:13
1         00:ca:00:00:00:00 sap:1/1/1:2              CStatic  06/29/15 23:20:58
1         00:ca:fe:ca:fe:00 black-hole               EvpnD:P  06/29/15 23:20:00
1         00:ca:fe:ca:fe:69 eMpls:                   EvpnS    06/29/15 20:40:13
                            192.0.2.69:262133
1         00:ca:fe:ca:fe:70 eMpls:                   EvpnS    06/29/15 20:43:29
                            192.0.2.70:262132
1         00:ca:fe:ca:fe:72 eMpls:                   EvpnS    06/29/15 20:47:39
                            192.0.2.72:262132
-------------------------------------------------------------------------------
No. of MAC Entries: 7
-------------------------------------------------------------------------------
Legend:  L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf
         T=Trusted
===============================================================================
```

The following output is an example of service FDB details information.

```
show service id 200 fdb detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
===============================================================================
Forwarding Database, Service 200
===============================================================================
ServId     MAC               Source-Identifier       Type     Last Change
           Transport:Tnl-Id                          Age
-------------------------------------------------------------------------------
200        00:ca:ca:ba:ca:61 eMpls:                  EvpnS:P  02/25/19 21:13:27
                             192.0.2.6:524278
           sr-policy:917509
200        00:ca:ca:ba:ca:62 eMpls:                  EvpnS:P  02/25/19 21:13:27
                             192.0.2.6:524278
           sr-policy:917506
200        00:ca:fe:ca:fe:01 sap:1/1/c1/1:200        L/30     02/25/19 21:13:22
200        00:ca:fe:ca:fe:06 eMpls:                  Evpn     02/25/19 21:13:27
                             192.0.2.6:524278
           sr-policy:917507
-------------------------------------------------------------------------------
No. of MAC Entries: 4
-------------------------------------------------------------------------------
Legend:  L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf
         T=Trusted
===============================================================================
```

The following output is an example of service FDB details information.

```
show service id "900" fdb detail
```

Output Example

```
===============================================================================
Forwarding Database, Service 900
===============================================================================
ServId     MAC               Source-Identifier       Type     Last Change
           Transport:Tnl-Id                          Age
-------------------------------------------------------------------------------
900        00:ca:ca:de:ba:ca sap:pxc-3.a:900         LT/0     05/12/22 19:25:03
900        00:ca:ca:de:ba:cb mpls-1:                 Evpn     05/12/22 19:24:58
                             192.0.2.5:524249
           ldp:65538
-------------------------------------------------------------------------------
No. of MAC Entries: 1
-------------------------------------------------------------------------------
Legend:  L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf
         T=Trusted
===============================================================================
```

The following output is an example of service FDB PBB information.

```
show service id 2000 fdb pbb
```

Output Example

```
===============================================================================
Forwarding Database, bVpls Service 2000
===============================================================================
MAC               Source-Identifier     iVplsMACs  Type/Age Last Change
-------------------------------------------------------------------------------
00:f4:f4:f4:f4:f4 sdp:100:2000          10         L/0      09/25/2007 15:34:19
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

The following output is an example of service FDB PBB information.

```
show service id 2100 fdb pbb
```

Output Example

```
===============================================================================
Forwarding Database, iVpls Service 2100
===============================================================================
MAC               Source-Identifier     B-Svc     bVpls MAC         Type/Age
-------------------------------------------------------------------------------
76:55:ff:00:01:a4 b-sdp:100:2000        2000      00:f4:f4:f4:f4:ff L/0
76:55:ff:00:01:bb sap:1/1/1:2100        2000      N/A               Static
===============================================================================
```

The following output is an example of service FDB PBB information.

```
show service id 2100 fdb pbb
```

Output Example

```
===============================================================================
Forwarding Database, iVpls Service 2100
===============================================================================
MAC               Source-Identifier     B-Svc     bVpls MAC         Type/Age
-------------------------------------------------------------------------------
00:f4:f4:f4:00:00 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:01 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:02 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:03 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:04 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:05 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:06 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:07 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:08 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f4:f4:f4:00:09 b-sdp:100:2000        2000      00:f4:f4:f4:f4:f4 L/0
00:f7:f7:f7:00:00 sap:lag-1:2100        2000      N/A               L/0
00:f7:f7:f7:00:01 sap:lag-1:2100        2000      N/A               L/0
00:f7:f7:f7:00:02 sap:lag-1:2100        2000      N/A               L/0
00:f7:f7:f7:00:03 sap:lag-1:2100        2000      N/A               L/0
00:f7:f7:f7:00:04 sap:lag-1:2100        2000      N/A               L/0
00:f7:f7:f7:00:06 sap:lag-1:2100        2000      N/A               L/0
00:f7:f7:f7:00:07 sap:lag-1:2100        2000      N/A               L/0
00:f7:f7:f7:00:08 sap:lag-1:2100        2000      N/A               L/0
00:f7:f7:f7:00:09 sap:lag-1:2100        2000      N/A               L/0
===============================================================================
```

The following output is an example of service FDB PBB information.

```
show service id 2100 fdb pbb
```

Output Example

```
===============================================================================
Forwarding Database, iVpls Service 2100
===============================================================================
MAC               Source-Identifier     B-Svc     bVpls MAC         Type/Age
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
76:55:ff:00:01:a4 b-sdp:100:2000        2000      00:f4:f4:f4:f4:ff L/0
76:55:ff:00:01:bb sap:1/1/1:2100        2000      N/A               Static
===============================================================================
```

Table 153: Output fields: service ID FDB describes service FDB output fields.

Table 153: Output fields: service ID FDB

Label	Description
ServID	Displays the service ID.
MAC	Displays the associated MAC address.
Transport:Tnl-Id	Displays the tunnel type and tunnel ID of the FDB entry.
Source Identifier	Displays the id of the source MAC.
Type/Age	Type — Specifies the number of seconds used to age out TLS FDB entries learned on local SAPs. Age — Specifies the number of seconds used to age out TLS FDB entries learned on an SDP. These entries correspond to MAC addresses learned on remote SAPs. L — Learned - Dynamic entries created by the learning process. OAM — Entries created by the OAM process. P — Indicates the MAC is protected by the MAC protection feature. H — Host, the entry added by the system for a static configured subscriber host. D or DHCP — DHCP-installed MAC. Learned addresses can be temporarily frozen by the DHCP snooping application for the duration of a DHCP lease. Static — Statically configured. T — Trusted.
Last Change	Indicates the time of the most recent state changes.

fdb

Syntax

fdb {**all** | **mac** *ieee-address* | **sap** *sap-id* | **mesh-sdp** *sdp-id* [: *vc-id*] | **spoke-sdp** *sdp-id* [:*vc - id*] | **vxlan-instance** *instance* [**vtep** *ip- address*]}

Context

[Tree] (clear>service>id fdb)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear service id fdb

Description

This command clears the FDB entries for the service.

Parameters

all

Clears all FDB entries.

ieee-address

Clears only FDB entries in the FDB table with the specified 48-bitaddress. The MAC address can be expressed in the form aa:bb:cc:dd:ee:ff or aa-bbcc-dd-ee-ff where aa, bb, cc, dd, ee and ff are hexadecimal numbers.

sap-id

Clears the physical port identifier portion of the SAP definition.

mesh-sdp

Clears only the service FDB entries associated with the specified mesh SDP ID. For a mesh SDP, the VC ID is optional.

spoke-sdp

Clears only the service FDB entries associated with the specified spoke-SDP ID. For a spoke-SDP, the VC ID must be specified.

sap-id

Specifies the SDP ID for which the associated FDB entries will be cleared.

vc-id

Specifies the virtual circuit ID on the SDP ID for which the associated FDB entries are cleared.

Values sdp-id[:vc-id] sdp-id: 1 to 32767
vc-id: 1 to 4294967295
sdp-id:vc-id sdp-id: 1 to 32767
vc-id: 1 to 4294967295

instance

Clears only the service FDB entries associated with the specified static VXLAN instance.

Values 1, 2

vtep *ip-address*

Specifies, optionally and along with the VXLAN instance, a specific configured static egress VTEP to clear the FDB entries associated only with the VTEP.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

fdb

Syntax

fdb

Context

[Tree] (show>service>id>spb fdb)

Full Context

show service id spb fdb

Description

This command displays SPB Forwarding database information (FDB).

Platforms

All

Output

The following output is an example of service SPB FDB information.

Output Example

```
*A:Dut-A# show service id 100001 spb fdb
===============================================================================
User service FDB information
===============================================================================
MacAddr           UCast Source          State   MCast Source          State
-------------------------------------------------------------------------------
00:10:00:01:00:02 1/2/2:1.1             ok      1/2/2:1.1             ok
00:10:00:01:00:03 1/2/3:1.1             ok      1/2/3:1.1             ok
00:10:00:01:00:04 1/2/2:1.1             ok      1/2/2:1.1             ok
-------------------------------------------------------------------------------
Entries found: 3
===============================================================================
```

fdb

Syntax

fdb

Context

[Tree] (tools>dump>service>id fdb)

Full Context

tools dump service id fdb

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context dump selective learned FDB information.

Platforms

All

9.7 fdb-info

fdb-info

Syntax

fdb-info

Context

[Tree] (show>service fdb-info)

Full Context

show service fdb-info

Description

Displays global FDB usage information.

Platforms

All

Output

The following output is an example of service FDB information.

Output Example

```
*A:PE1# show service fdb-info
===============================================================================
Forwarding Database(FDB) Information
===============================================================================
Service Id        : 1                   Mac Move          : Disabled
Primary Factor    : 3                   Secondary Factor  : 2
Mac Move Rate     : 2                   Mac Move Timeout  : 10
Mac Move Retries  : 3
Table Size        : 250                 Allocated Count   : 3
Total In Use      : 3
Learned Count     : 2                   Static Count      : 0
OAM MAC Count     : 0                   DHCP MAC Count    : 0
Host MAC Count    : 0                   Intf MAC Count    : 0
Spb Count         : 0                   Cond MAC Count    : 0
BGP EVPN Count    : 0                   EVPN Static Cnt   : 2
EVPN Dup Det Cnt  : 0
Remote Age        : 900                 Local Age         : 300
High Watermark    : 95%                 Low Watermark     : 90%
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Mac Learning      : Enabled             Discard Unknown   : Disabled
Mac Aging         : Enabled             Relearn Only      : False
Mac Subnet Len    : 48
Sel Learned FDB   : Disabled
Service Id        : 2                   Mac Move          : Disabled
Primary Factor    : 3                   Secondary Factor  : 2
Mac Move Rate     : 2                   Mac Move Timeout  : 10
Mac Move Retries  : 3
Table Size        : 250                 Allocated Count   : 2
Total In Use      : 2
Learned Count     : 4                   Static Count      : 0
OAM MAC Count     : 0                   DHCP MAC Count    : 0
Host MAC Count    : 0                   Intf MAC Count    : 0
Spb Count         : 0                   Cond MAC Count    : 0
BGP EVPN Count    : 0                   EVPN Static Cnt   : 0
EVPN Dup Det Cnt  : 0
Remote Age        : 900                 Local Age         : 300
High Watermark    : 95%                 Low Watermark     : 90%
Mac Learning      : Enabled             Discard Unknown   : Disabled
Mac Aging         : Enabled             Relearn Only      : False
Mac Subnet Len    : 48
Sel Learned FDB   : Disabled
-------------------------------------------------------------------------------
Total Service FDBs : 2
Total FDB Configured Size : 500
Total FDB Entries In Use  : 5
PBB MAC Address Indices In Use  : 0
-------------------------------------------------------------------------------
===============================================================================
*A:PE1#
```

Table 154: Output fields: FDB information describes show FDB-Info command output.

Table 154: Output fields: FDB information

Label	Description
ServID	Displays the service ID.
MAC	Displays the associated MAC address.
Mac Move	Displays the administrative state of the MAC movement feature associated with this service.
Primary Factor	Displays a factor for the primary ports defining how many MAC-relearn periods should be used to measure the MAC-relearn rate.
Secondary Factor	Displays a factor for the secondary ports defining how many MAC-relearn periods should be used to measure the MAC-relearn rate.
Mac Move Rate	Displays the maximum rate at which MACs can be re-learned in this service, before the SAP where the moving MAC was last seen is automatically disabled in order to protect the system against undetected loops or duplicate MAs. The rate is computed as the maximum number of re-learns

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	allowed in a 5 second interval: for example, the default rate of 2 re-learns per second corresponds to 10 re-learns in a 5 second period.
Mac Move Timeout	Displays the time in seconds to wait before a SAP that has been disabled after exceeding the maximum re-learn rate is re-enabled. A value of zero indicates that the SAP will not be automatically re-enabled after being disabled. If after the SAP is re-enabled it is disabled again, the effective retry timeout is doubled in order to avoid thrashing.
Mac Move Retries	Displays the number of times retries are performed for re-enabling the SAP/SDP.
Table Size	Specifies the maximum number of learned and static entries allowed in the FDB of this service.
Allocated Count	Displays the total number of allocated entries in the FDB of this service.
Total In Use	Displays the total number of entries in use in the FDB of this service.
Learned Count	Displays the current number of learned entries in the FDB of this service.
Static Count	Displays the current number of static entries in the FDB of this service.
OAM MAC Count	Displays the current number of OAM entries in the FDB of this service.
DHCP MAC Count	Displays the current number of DHCP-learned entries in the FDB of this service.
Host MAC Count	Displays the current number of host-learned entries in the FDB of this service.
Intf MAC Count	Displays the total number of interface MAC entries in the FDB of this service.
SPB Count	Displays the total number of SPB entries in the FDB of this service.
Cond MAC Count	Displays the total number of conditional static MAC entries in the FDB of this service.
BGP EVPN Count	Displays the total number of BGP EVPN entries in the FDB of this service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
EVPN Static Cnt	Displays the total number of BGP EVPN MAC entries with the sticky bit set in the FDB of this service.
EVPN Dup Det Cnt	Displays the total number of times a BGP EVPN duplicate MAC address has been detected in this service.
Remote Age	Displays the number of seconds used to age out FDB entries learned on an SDP. These entries correspond to MAC addresses learned on remote SAPs.
Local Age	Displays the number of seconds used to age out FDB entries learned on local SAPs.
High Watermark	Displays the utilization of the FDB table of this service at which a table full alarm will be raised by the agent.
Low Watermark	Displays the utilization of the FDB table of this service at which a table full alarm will be cleared by the agent.
Mac Learning	Specifies whether the MAC learning process is enabled.
Discard Unknown	Specifies whether frames received with an unknown destination MAC are discarded.
Mac Aging	Indicates whether the MAC aging process is enabled.
Relearn Only	When one of the FDB table size limits (service, line card, system) has been reached, the learning of new MAC addresses is temporary disabled and only MAC relearns are allowed. When in this state, the Relearn Only flag is True, otherwise it is False.
Mac Subnet Len	Displays the number of bits to be considered when performing MAC-learning or MAC-switching.
Source-Identifier	The location where the MAC is defined.
Type/Age	Type — Specifies the number of seconds used to age out TLS FDB entries learned on local SAPs. Age — Specifies the number of seconds used to age out TLS FDB entries learned on an SDP. These entries correspond to MAC addresses learned on remote SAPs. L — Learned - Dynamic entries created by the learning process. OAM — Entries created by the OAM process. H — Host, the entry added by the system for a static configured subscriber host. D or DHCP — DHCP-installed MAC. Learned addresses can be temporarily frozen by the DHCP snooping application for the duration of a DHCP lease.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	P — Indicates the MAC is protected by the MAC protection feature. Static — Statically configured.
Last Change	Indicates the time of the most recent state changes.
Sel Learned FDB	Displays the administrative state of the selective learned FDB feature associated with this service.

9.8 fdb-mac

fdb-mac

Syntax

fdb-mac *ieee-address* [**expiry**]

Context

[Tree] (show>service fdb-mac)

Full Context

show service fdb-mac

Description

This command displays the FDB entry for a specified MAC address.

Parameters

ieee-address

The 48-bit MAC address for which the FDB entry will be displayed in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd-ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers.

expiry

Shows the time until the MAC is aged out.

Platforms

All

Output

The following output is an example of FDB MAC information.

Output Example

```
*A:ian2# show service fdb-mac
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service Forwarding Database
===============================================================================
ServId    MAC               Source-Identifier        Type   Last Change
                                                     Age
-------------------------------------------------------------------------------
1         00:00:00:00:00:01 sap:1/1/1                LP/0   01/07/2011 20:25:34
1         00:00:00:00:00:02 sap:1/1/2                L/0    01/07/2011 20:26:25
1         00:00:00:00:00:03 sap:1/1/1                A/0    01/07/2011 20:25:34
-------------------------------------------------------------------------------
No. of Entries: 2
-------------------------------------------------------------------------------
Legend: L=Learned; P=MAC is protected; A=Auto learn protected
===============================================================================
*A:ian2#
```

The following shows the protected MACs in the FDB.

```
A:term17>config>service>vpls>sap>arp-host# show service id  12 fdb detail

===============================================================================
Forwarding Database, Service 12
===============================================================================
ServId    MAC               Source-Identifier        Type     Last Change
                                                     Age
-------------------------------------------------------------------------------
12        00:00:07:00:00:00 sdp:8:1                  LP/0     10/03/11 10:46:00
12        00:00:07:00:00:01 sdp:8:1                  LP/0     10/03/11 10:46:00
12        00:00:07:00:00:62 sdp:8:1                  LP/0     10/03/11 10:46:01
12        00:00:07:00:00:63 sdp:8:1                  LP/0     10/03/11 10:46:01
12        00:11:11:11:11:11 sap:lag-100:12           Static:P 10/03/11 09:42:02
12        00:11:11:11:11:22 sap:lag-1:123            Static   10/03/11 09:42:02
12        00:11:11:11:11:33 sdp:8:1                  Static:P 10/03/11 09:42:02
12        00:11:11:11:11:44 sap:2/1/3:13             Static   10/03/11 09:42:02
12        00:11:11:11:11:55 a(8:80)                  Static   10/03/11 09:42:02
12        00:11:11:11:11:66 sdp:8:10                 Static   10/03/11 09:42:02
12        00:11:11:11:11:77 sap:2/1/3:15             Static   10/03/11 09:42:02
12        00:11:11:11:11:88 sap:2/1/3:14             Static   10/03/11 09:42:02
12        76:1e:ff:00:00:b2 cpm                      Host     10/03/11 09:42:02
-------------------------------------------------------------------------------
No. of MAC Entries: 109
```

The following output is an example of whether restrict-protected-src is enabled on an SDP.

```
*A:PE# show service id 1 sdp 1:1 detail
===============================================================================
Service Destination Point (Sdp Id : 1:1) Details
===============================================================================
-------------------------------------------------------------------------------
 Sdp Id 1:1  -(1.1.1.2)
-------------------------------------------------------------------------------
…
RestMacProtSrc Act : SDP-oper-down
```

Table 155: Output fields: FDB MAC describes the show FDB-MAC command output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 155: Output fields: FDB MAC

Label	Description
Service ID	The service ID number.
MAC	The specified MAC address.
Source-Identifier	The location where the MAC is defined.
Type/Age	Static — FDB entries created by management.
	Learned — Dynamic entries created by the learning process.
	OAM — Entries created by the OAM process.
	H — Host, the entry added by the system for a static configured subscriber host.
	D or DHCP — DHCP-installed MAC. Learned addresses can be temporarily frozen by the DHCP snooping application for the duration of a DHCP lease.
	P — Indicates the MAC is protected by the MAC protection feature.

9.9 fdb-usage

fdb-usage

Syntax

fdb-usage [**card** *slot-id*]

Context

[Tree] (show>service>system fdb-usage)

Full Context

show service system fdb-usage

Description

This command displays the FDB usage, excluding the pending updates (which can be seen using the tools dump service id *id* fdb {card-status | mac-status} command) for the system and all line cards.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

slot-id

Displays the information for the line card in the specified slot IDs, expressed as an integer.

Values 1 to 20

Platforms

All

Output

The following output is an example of FDB usage information.

Output Example

```
*A:PE1# show service system fdb-usage
===============================================================================
FDB Usage
===============================================================================
System
-------------------------------------------------------------------------------
Limit:     511999
Allocated: 8
Free:      511991
Global:    2
-------------------------------------------------------------------------------
Line Cards
-------------------------------------------------------------------------------
Card        Selective         Allocated         Limit             Free
-------------------------------------------------------------------------------
1           0                 2                 511999            511997
2           4                 6                 511999            511993
5           2                 4                 511999            511995
-------------------------------------------------------------------------------
===============================================================================
*A:PE1#
*A:PE1# show service system fdb-usage card 1
===============================================================================
FDB Usage
===============================================================================
Card        Selective         Allocated         Limit             Free
-------------------------------------------------------------------------------
1           0                 2                 511999            511997
===============================================================================
===============================================================================
*A:PE1#
```

9.10 fec

fec

Syntax

fec vc-type *vc-type* **agi** *agi*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

fec p2mp-id *identifier* **root** *ip-address*

fec prefix *ip-address*[/*mask*]

fec root *ip-address* **source** *ip-address* **group** *mcast-address* [**rd** *rd*]

fec root *ip-address* **source** *ip-address* **group** *mcast-address* **inner-root** *ip-address*

fec vc-type *vc-type* **vc-id** *vc-id*

fec vc-type *vc-type* **agi** *agi* **saii-type2** *global-id:prefix:ac-id* **taii-type2** *global-id:prefix:ac-id*

Context

[Tree] (tools>dump>router>ldp fec)

Full Context

tools dump router ldp fec

Description

This command dumps information for an LDP FEC.

Parameters

p2mp-id *identifier*

Dumps LDP active P2MP identifier bindings information.

Values 0 to 4294967295

inner-root *ip-address*

Dumps inner root IP address information.

root *ip-address*

Dumps root IP address information.

prefix *ip-address*[*/mask*]

Dumps LDP active prefix and mask information.

Values ip-address[/mask]:

ipv4-prefix	a.b.c.d
ipv4-prefix-le	0 to 32
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF] H
	d: [0 to 255] D
ipv6-prefix-le	0 to 128

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

source *ip-address*

Dumps source IP address information.

group *mcast-address*

Dumps the group multicast address bindings.

rd *rd*

Dumps information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

vc-type *vc-type*

Dumps information for the specified VC type.

Values ethernet, vlan, framerelay, atm-all5, atm-cell, hdlc, ppp, cem, atm-vcc, atm-vpc, ipipe, atm-vcc-1-1, atm-vpc-1-1, atm-aal5-pdu, fr, cep, e1-satop, t1-satop, e3-satop, t3-satop, cesopsn, tdmoip, cesopsn-cas, tdmoip-cas, fr-dlci, mirror

vc-id *vc-id*

Dumps information for the specified VC-ID.

Values 1 to 4294967295

agi *agi*

Specifies the Attachment Group identifier TLV associated with this service FEC.

Values <ip-addr:comm-val> | <2byte-asnumber:ext-comm-val> | <4byte-asnumber:comm-val>

ip-addr - a.b.c.d

comm-val - [0 to 65535]

2byte-asnumber - [1 to 65535]

ext-comm-val - [0 to 4294967295]

4byte-asnumber - [1 to 4294967295]

null - means all value is 0

saii-type2 *global-id*:*prefix:ac-id*

Dumps Source Attachment Individual Identifier (SAII) information.

Values <number>:<number> | <a.b.c.d>:<number>

taii-type2 *global-id:prefix:ac-id*

Dumps Target Attachment Individual Identifier (TAII)

svc-fec-type

Specifies the FEC type.

Values fec128, fec129

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

LDP FEC Output

Output Example

```
A:Dut-A# tools dump router ldp fec root 10.20.1.3 source 10.0.101.10 group
192.168.1.1 inner-root 10.20.1.6
P2MP: root: 10.20.1.3, T: 7, L: 21 (InnerRoot: 10.20.1.6 T: 3, L:8, Src:
10.0.101.10, Grp: 192.168.1.1)
  Create Time   : 01/27/16 16:39:04.097 (elapsed: 0d 03:20:24)
  Last Mod. Time: 01/27/16 16:39:04.097 (elapsed: 0d 03:20:24)
  FEC Flags     : Pop UprStitched
  TunlIfId: 73728   (OperState : up)
  LSP ID        : 0
  LSP ID Acct.  : 0
  isIngressMttm : No         HasLeaf     : Yes
  isIngrItermdte: No
  CanProgIngress: No
  InPhopFrr     : No
  isStitchedUpr : Yes
  RslvdPhop(p)  : 10.20.1.2:0 (seqNum 2)
  RslvdPhop(b)  : 0.0.0.0:0 (seqNum 0)
  pri Upstream  : 10.20.1.2:0, AdvLabel 262139
  mbb Upstream  : None
  bkp Upstream  : None
  AdvInLabel(p) : 262139
  AdvInLabel(b) : 0
  PrgInLabel(p) : 1
  Num Resolved   Nhops  : 1
  Num MBB Req.   Nhops  : 0
  Num Programmed Nhops  : 1
    Programmed Nhop[01] : 0.0.0.0:0, OutLabel 0 (Leaf)(StitchedFec)
  Metric        : 0          Mtu         : 0
  Num of Peers : 1
  FEC Peer: 10.20.1.2:0
    Peer Flags: none  (0x0)
    ModTime   : 01/27/16 16:39:04.097 (elapsed.: 0d 03:20:24)
    ->Num Egress Labels:
      None
    <-Num Ingress Labels:
      <- (Label: 262139    Status: UsePop)
      Rej Status: OK
      Flow Label Tx: no, Rx: no
      Flow Label Tx Sent: no, Rx Sent: no
    <Resolved as CUR Upstream>
```

Output Example

```
tools dump router ldp fec prefix  10.20.1.1/32
Prefix: 10.20.1.1/32
  Create Time   : 06/08/20 13:06:49.980 (elapsed: 0d 00:13:42)
  Last Mod. Time: 06/08/20 13:19:51.740 (elapsed: 0d 00:00:40)
  FEC Flags     : Push Swap Ttm PropTtlLcl PropTtlTra Frr
  FEC typedFlags: NeedTtm
  default label : 524283
  LSP ID        : 65537
  LSP ID Acct.  : 13
  IsResolved    : Yes IsLocal: No IsLocalMHSec: No RsvldAsNLStitch: No
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                isStatic: No isMate: No
                IsOverTunnel/Direct/Shortcut/CBF: No/No/No/none
                inFrr: No
inLabel       : 524283 metric: 100 bkp-metric: 200  mtu: 1556
Route         : IPv4: 10.20.1.1/32 owner: ISIS(12)
              : R-LFA PQ RtrId: 10.20.1.4 nhop: 1.0.35.5 ifIdx: 3 metric: 200
Resolution    :
     [01]: Next Hop: 1.0.35.5    Interface: 3 Inner Label: 524283 (Bkp)
           owner   : 10.20.1.5:0  egress label: 524281
     [02]: Next Hop: 1.0.13.1    Interface: 2 Inner Label: 0
           owner   : 10.20.1.1:0  egress label: 524287
```

Table 156: Output fields: LDP FEC describes the LDP FEC parameters output fields.

Table 156: Output fields: LDP FEC

Label	Description
LSP ID	Specifies the LSP identifier.
Metric	Specifies the metric type of the LSP.
inLabel	Specifies the incoming MPLS label on which to match.
egress Label	Specifies the egress label associated with this next-hop entry.

9.11 fec-egress-stats

fec-egress-stats

Syntax

fec-egress-stats [*ip-prefix/mask*]

fec-egress-stats [**active**] [**family**]

Context

[Tree] (show>router>ldp fec-egress-stats)

Full Context

show router ldp fec-egress-stats

Description

This command displays LDP prefix FECs egress statistics.

Parameters

ip-prefix

Specify information for the specified IP prefix. Host bits must be 0.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mask

Specifies the address mask used to indicate the bits of an IP address that are being used for the subnet address.

Values IPv4: 0 to 32

IPv6: 0 to 128

family

Displays either IPv4 or IPv6 LDP session information.

Platforms

All

Output

The following output is an example of LDP FEC egress statistics information.

Output Example

```
*A:Dut-C>config>router>ldp# show router ldp fec-egress-stats 3ffe::a14:101/128
===============================================================================
LDP IPv6 FEC Egress Statistics
===============================================================================
-------------------------------------------------------------------------------
FEC Prefix/Mask    : 3ffe::a14:101/128
-------------------------------------------------------------------------------
Collect Stats      : Enabled              Accounting Plcy.     : Default
Admin State        : Up
FC BE
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC L2
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC AF
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC L1
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC H2
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC EF
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC H1
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC NC
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0

Aggregate Packets  : 0
Aggregate Octets   : 0
===============================================================================
LDP IPv6 FEC Egress Statistics: 1
===============================================================================
*A:Dut-C>config>router>ldp#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-C>config>router>ldp# show router ldp fec-egress-stats active
===============================================================================
LDP IPv4 FEC Egress Statistics
===============================================================================
No Matching Entries Found
===============================================================================
===============================================================================
LDP IPv6 FEC Egress Statistics
===============================================================================
-------------------------------------------------------------------------------
FEC Prefix/Mask    : 3ffe::a14:101/128
-------------------------------------------------------------------------------
Collect Stats      : Enabled              Accounting Plcy.     : Default
Admin State        : Up
FC BE
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC L2
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC AF
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC L1
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC H2
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC EF
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC H1
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC NC
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
===============================================================================
LDP IPv6 FEC Egress Statistics: 1
===============================================================================


*A:Dut-C>config>router>ldp# show router ldp fec-egress-stats active ipv6
===============================================================================
LDP IPv6 FEC Egress Statistics
===============================================================================
-------------------------------------------------------------------------------
FEC Prefix/Mask    : 3ffe::a14:101/128
-------------------------------------------------------------------------------
Collect Stats      : Enabled              Accounting Plcy.     : Default
Admin State        : Up
FC BE
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC L2
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC AF
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC L1
InProf Pkts        : 0                    OutProf Pkts         : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
InProf Octets      : 0                    OutProf Octets       : 0
FC H2
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC EF
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC H1
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
FC NC
InProf Pkts        : 0                    OutProf Pkts         : 0
InProf Octets      : 0                    OutProf Octets       : 0
===============================================================================
LDP IPv6 FEC Egress Statistics: 1
===============================================================================
*A:Dut-C>config>router>ldp#


*A:Dut-C>config>router>ldp# show router ldp statistics-summary
===============================================================================
Statistics Summary
===============================================================================
LDP FEC IPv4 Prefix Egress statistics  : 0
LDP FEC IPv6 Prefix Egress statistics  : 1
===============================================================================
*A:Dut-C>config>router>ldp#
```

fec-egress-stats

Syntax

fec-egress-stats *ip-prefix/mask* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>ldp fec-egress-stats)

Full Context

monitor router ldp fec-egress-stats

Description

This command monitors egress statistics for LDP FEC prefixes.

Parameters

ip-prefix/mask

Specifies information for the specified IP prefix and mask length.

Values

ipv4-prefix	a.b.c.d
ipv4-prefix-le	0 to 32

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x: [0 to FFFF] H d: [0 to 255] D
ipv6-prefix-le	0 to 128

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

9.12 fec-originate

fec-originate

Syntax

fec-originate [*ip-prefix/mask*] [*operation-type*]

Context

[Tree] (show>router>ldp fec-originate)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router ldp fec-originate

Description

This command displays LDP static prefix FECs.

Parameters

ip-prefix

Specify information for the specified IP prefix. Host bits must be 0.

mask

Specifies the 32-bit address mask used to indicate the bits of an IP address that are being used for the subnet address.

Values 0 to 32

operation-type

Specify the operation type to display.

Values pop, swap

Platforms

All

Output

FEC Originate Output

Table 157: Output fields: FEC originate describes the FEC originate parameters output fields.

Table 157: Output fields: FEC originate

Label	Description
Prefix	Specifies the static prefix FEC.
NHType	Specifies the type of next-hop represented by this row entry: unknown — The next-hop type has not been set. IP Addr — The next-hop is an IP address. pop — There is no next-hop (pop the label and route).
NextHop	The IP address of the next-hop.
NHIfName	The name of the next-hop.
IngLabel	Specifies the label that is advertised to the upstream peer. If this variable is set to the default value of 4294967295, the ingress label will be dynamically assigned by the label manager.
EgrLabel	Specifies the egress label associated with this next-hop entry. The LSR will swap the incoming label with the configured egress label. If this

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	egress label has a value of 4294967295, the LSR will pop the incoming label.
OprInLbl OperIngLabel	Specifies the actual or operational value of the label that was advertised to the upstream peer.

Output Example

```
*A:SRU4>config>router>ldp# show router ldp fec-originate
===============================================================================
LDP Static Prefix FECs
===============================================================================
Prefix              NHType  NextHop         IngLabel   EgrLabel   OperIngLabel
-------------------------------------------------------------------------------
10.1.0.0/16         Pop     n/a               --         --       0
10.1.0.1/32         Pop     n/a               --         --       0
10.1.0.2/32         Pop     n/a               --         --       0
10.1.0.3/32         Pop     n/a               --         --       0
10.1.0.4/32         Pop     n/a               --         --       0
10.1.0.5/32         Pop     n/a               --         --       0
10.1.0.6/32         Pop     n/a               --         --       0
10.1.0.7/32         Pop     n/a               --         --       0
10.1.0.8/32         Pop     n/a               --         --       0
10.1.0.9/32         Pop     n/a               --         --       0
...
10.251.0.0/16       Pop     n/a               --         --       0
10.252.0.0/16       Pop     n/a               --         --       0
10.253.0.0/16       Pop     n/a               --         --       0
10.254.0.0/16       Pop     n/a               --         --       0
-------------------------------------------------------------------------------
No. of FECs: 508
===============================================================================
*A:SRU4>config>router>ldp#

*A:Dut-C>config>router>ldp# show router ldp fec-originate 3ffe::0b0b:0101/128
===============================================================================
LDP IPv6 Static Prefix FECs
===============================================================================
Prefix                                    NHType   IngLbl   EgrLbl   OprInLbl
 NextHop
 NHIfName
-------------------------------------------------------------------------------
3ffe::b0b:101/128                         Pop        --       --     0
  n/a
    --
-------------------------------------------------------------------------------
No. of IPv6 Static Prefix FECs: 1
===============================================================================
*A:Dut-C>config>router>ldp#

*A:Dut-C>config>router>ldp# show router ldp fec-originate 3ffe::0b0b:0101/128 pop
===============================================================================
LDP IPv6 Static Prefix FECs
===============================================================================
Prefix                                    NHType   IngLbl   EgrLbl   OprInLbl
 NextHop
 NHIfName
-------------------------------------------------------------------------------
3ffe::b0b:101/128                         Pop        --       --     0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  n/a
    --
-------------------------------------------------------------------------------
No. of IPv6 Static Prefix FECs: 1
===============================================================================
*A:Dut-C>config>router>ldp#

*A:Dut-C>config>router>ldp# show router ldp fec-originate pop
===============================================================================
LDP IPv4 Static Prefix FECs
===============================================================================
Prefix                  NHType   NextHop             IngLbl   EgrLbl   OprInLbl
 NHIfName
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP IPv6 Static Prefix FECs
===============================================================================
Prefix                                      NHType   IngLbl   EgrLbl   OprInLbl
 NextHop
 NHIfName
-------------------------------------------------------------------------------
3ffe::b0b:101/128                           Pop        --       --     0
  n/a
    --
-------------------------------------------------------------------------------
No. of IPv6 Static Prefix FECs: 1
===============================================================================
*A:Dut-C>config>router>ldp# show router ldp fec-originate pop ipv6
===============================================================================
LDP IPv6 Static Prefix FECs
===============================================================================
Prefix                                      NHType   IngLbl   EgrLbl   OprInLbl
 NextHop
 NHIfName
-------------------------------------------------------------------------------
3ffe::b0b:101/128                           Pop        --       --     0
  n/a
    --
-------------------------------------------------------------------------------
No. of IPv6 Static Prefix FECs: 1
===============================================================================
*A:Dut-C>config>router>ldp# show router ldp fec-originate pop ipv4
===============================================================================
LDP IPv4 Static Prefix FECs
===============================================================================
Prefix                  NHType   NextHop             IngLbl   EgrLbl   OprInLbl
 NHIfName
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
*A:Dut-C>config>router>ldp#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.13 fetch-ahs-log

fetch-ahs-log

Syntax

fetch-ahs-log period *days* **file-url** *file-url*

Context

[Tree] (tools>perform>esa fetch-ahs-log)

Full Context

tools perform esa fetch-ahs-log

Description

This command retrieves the ESA instance AHS log for a specified number of past days and copies it to a local or remote destination.

Note: To retrieve an AHS log that includes all AHS log events saved on the ESA, configure the **period** keyword to use a value of *all*. This is helpful when trying to retrieve a record of AHS log events occurring over 31 days ago.

Parameters

period *days*

Specifies the number of past days for which AHS log events are retrieved.

Values 1 to 31, all

file-url *file-url*

Specifies a local or remote destination for the AHS log.

Values

local-url | *remote-url*

local-url	[*cflash-id*/]*file-path* 200 characters maximum, including cflash-id directory length 99 characters maximum each
remote-url	{ftp | tftp}://[*login*:*pswd*@]*remote-locn*/[*filepath*] 255 characters maximum, *filepath* 199 characters maximum
remote-locn	{*hostname* | *ipv4-address* | "["*ipv6-address*"]" }[:*port*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*] *x:x:x:x:x:x:d.d.d.d*[-*interface*] *x* - [0 to FFFF]H *d* - [0 to 255]D interface - 32 characters maximum, for link local addresses
port	[0 to 65535]
cflash-id	cf1: | cf1-A: | cf1-B: | cf2: | cf2-A: | cf2-B: | cf3: | cf3-A: | cf3-B:

Platforms

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

Output

Use the following command to copy the AHS log to a local destination.

```
tools perform esa 1 fetch-ahs-log period 1 file-url cf3:/test.ahs
```

Output Example

```
Updating (1 day) AHS Log @09/19/2022 21:28:25 on esa-1 ... DONE @ 09/19/2022
21:30:50 - File Name: /tmp/HPE_CZ21520FD6_20220919.ahs Size: 54104161 bytes

Transferring file /tmp/HPE_CZ21520FD6_20220919.ahs from esa-1 to cf3:/test.ahs ...

100%... DONE @09/19/2022 21:32:21 File Size: 54104161 bytes md5 cksum:
3f761a3a3d9c15b8ce3079ecb2015c3d
```

Use the following command to copy the AHS log to a remote destination.

```
tools perform esa 1 fetch-ahs-log period 1 file-url ftp://exuser:expassword@192.0.2.1/exuser/
Public/esa.ahs
```

Output Example

```
Updating (1 day) AHS Log @09/19/2022 21:34:45 on esa-1 ... DONE @ 09/19/2022
21:37:10 - File Name: /tmp/HPE_CZ21520FD6_20220919.ahs Size: 54110350 bytes

Transferring file /tmp/HPE_CZ21520FD6_20220919.ahs from esa-1 to
ftp://exuser:expassword@192.0.2.1/exuser/Public/esa.ahs ...

100%... DONE @09/19/2022 21:38:37 File Size: 54110350 bytes md5 cksum:
ddf47e27b40dbd9f87a9348e6bb9b55d
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.14 fetch-hardware-data

fetch-hardware-data

Syntax

fetch-hardware-data file-url *file-url*

Context

[Tree] (tools>perform>esa fetch-hardware-data)

Full Context

tools perform esa fetch-hardware-data

Description

This command generates a retrievable file containing the ESA server iLO event log, integrated management log, and key server information.

Parameters

file-url

Specifies a local or remote destination for the generated log file.

Values

local-url | *remote-url*	
local-url	[*cflash-id*/]*file-path* 200 characters maximum, including cflash-id
	directory length 99 characters maximum each
remote-url	{ftp | tftp}://[*login*:*pswd*@]*remote-locn*/[*filepath*]
	255 characters maximum, *filepath* 199 characters maximum
remote-locn	{*hostname* | *ipv4-address* | "["*ipv6-address*"]" }[:*port*]
ipv4-address	*a.b.c.d*
ipv6-address	*x:x:x:x:x:x:x:x*[-*interface*]
	x:x:x:x:x:x:d.d.d.d[-*interface*]
	x - [0 to FFFF]H
	d - [0 to 255]D

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	interface - 32 characters maximum, for link local addresses
port	[0 to 65535]
cflash-id	cf1: | cf1-A: | cf1-B: | cf2: | cf2-A: | cf2-B: | cf3: | cf3-A: | cf3-B:

Platforms

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

9.15 fib

fib

Syntax

fib [**family**] **summary all**

fib *slot-number* [*ip-prefix/prefix-length* [**longer**] [*family*] [**secondary**] [**qos**] [**accounting-class**] [**all**]

fib *slot-number* [*family*] [**secondary**] [**qos**] [**accounting-class**] [**all**]

fib *slot-number* [**family**] **extensive** [**all**]

fib *slot-number* **nh-table-usage**

fib [**family**] **summary**

Context

[Tree] (show>router fib)

Full Context

show router fib

Description

This command displays the active FIB entries for a specific IOM or line card.

Parameters

family

Keyword that displays the router IP interface table.

Values **ipv4** — Displays IPv4 routes installed in the FIB.

ipv6 — Displays IPv6 routes installed in the FIB.

summary

Keyword that displays summary FIB information for the specified slot number.

© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

all

Keyword that displays all information.

slot-number

Displays routes that match only the specified chassis slot number.

Values 1 to 20

Note:
The actual range can be less depending on the platform.

ip-prefix/prefix-length

Displays FIB entries that match only the specified *ip-prefix* and length.

Values

ipv4-prefix:	a.b.c.d (host bits must be 0)
ipv4-prefix-length:	0 to 32
ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-length:	0 to 128

Note:
It is possible that a specific platform only supports a subset of the preceding values.

longer

Keyword that displays FIB entries matching the *ip-prefixlmask* and routes with longer masks.

secondary

Keyword that displays secondary VRF ID information.

qos

Keyword that displays the QoS priority and FC values.

accounting-class

Keyword that displays the accounting class information.

Note:
Not all platforms support this parameter.

extensive

Keyword that displays extensive FIB information.

nh-table-usage

Keyword that displays next-hop table usage.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of router FIB information:

- Output example: FIB information for a specific IP address using the OSPF protocol, Table 158: Output fields: FIB
- Output example: FIB information for a specific IP address using the BGP protocol, Table 158: Output fields: FIB
- Output example: FIB information for a specific slot, Table 158: Output fields: FIB
- Output example: extensive FIB information for a specific IP address, Table 158: Output fields: FIB
- Output example: extensive FIB information for a specific IP address, Table 158: Output fields: FIB
- Output example: extensive FIB information for a specific static IP address, Table 158: Output fields: FIB
- Output example: FIB information for a specific IP address, Table 158: Output fields: FIB
- Output example: FIB information for a specific IP address, Table 158: Output fields: FIB
- Output example: FIB information for a specific IP address, Table 158: Output fields: FIB
- Output example: FIB information for a specific IPv6 address, Table 158: Output fields: FIB
- Output example: FIB information for a specific IPv6 address, Table 158: Output fields: FIB
- Output example: FIB information for a specific IP address, Table 158: Output fields: FIB
- Output example: FIB information for a specific IP address, Table 158: Output fields: FIB
- Output example: FIB information for a specific IP address, Table 158: Output fields: FIB

Output example: FIB information for a specific IP address using the OSPF protocol

```
A:node-2# show router fib 1 10.132.133.134/32
===============================================================================
FIB Display
===============================================================================
Prefix                                                    Protocol
    NextHop
-------------------------------------------------------------------------------
10.132.133.134/32                                        OSPF
    10.66.66.66 (loop7)
    Next-hop type: tunneled, Owner: RSVP, Tunnel-ID: <out-ifindex-from-route>
-------------------------------------------------------------------------------
Total Entries : 1
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FIB information for a specific IP address using the BGP protocol

```
A:node-2# show router fib 1 10.1.1.1/32
===============================================================================
FIB Display
===============================================================================
Prefix                                                    Protocol
    NextHop
-------------------------------------------------------------------------------
10.1.1.1/32                                               BGP
    10.20.1.1 (Transport:RSVP LSP:1)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Total Entries : 1
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FIB information for a specific slot

```
A:node-2# show router fib 1
===============================================================================
FIB Display
===============================================================================
Prefix                                                  Protocol
    NextHop
-------------------------------------------------------------------------------
10.1.2.0/24                                             ISIS
    10.1.3.1 (to_Dut-A)
    10.2.3.2 (to_Dut-B)
10.1.3.0/24                                             LOCAL
    10.1.3.0 (to_Dut-A)
10.1.9.0/24                                             ISIS
    10.1.3.1 (to_Dut-A)
10.2.3.0/24                                             LOCAL
    10.2.3.0 (to_Dut-B)
10.2.9.0/24                                             ISIS
    10.2.3.2 (to_Dut-B)
10.12.0.0/24                                            LOCAL
    10.12.0.0 (itfToArborCP_02)
10.20.1.1/32                                            ISIS
    10.1.3.1 (to_Dut-A)
10.20.1.2/32                                            ISIS
    10.2.3.2 (to_Dut-B)
10.20.1.3/32                                            LOCAL
    10.20.1.3 (system)
10.12.0.43/32                                           STATIC
    vprn1:mda-1-1
10.12.0.44/32                                           STATIC
    vprn1:mda-2-1
10.12.0.45/32                                           STATIC
    vprn1:mda-2-2
10.12.0.46/32                                           STATIC
    vprn1:mda-3-1
10.203.71.202/32                                        STATIC
    10.12.0.2 (itfToArborCP_02)
-------------------------------------------------------------------------------
Total Entries : 15
-------------------------------------------------------------------------------
===============================================================================
```

Output example: extensive FIB information for a specific IP address

```
A:node-2>config>router>mpls>lsp# show router fib 1 10.3.0.1/32 extensive
===============================================================================
FIB Display (Router: Base)
===============================================================================
Dest Prefix             : 10.3.0.1/32
  Protocol              : BGP
  Indirect Next-Hop     : 10.0.0.1
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 1
    Resolving Next-Hop  : 10.0.0.2 (RSVP tunnel:115)
      ECMP-Weight       : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Resolving Next-Hop  : 10.0.0.2 (RSVP tunnel:61443)
      ECMP-Weight       : 1
  Indirect Next-Hop     : 10.0.1.2
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 30
    Resolving Next-Hop  : 10.0.0.3 (RSVP tunnel:94)
      ECMP-Weight       : 20
    Resolving Next-Hop  : 10.0.0.3 (RSVP tunnel:61442)
      ECMP-Weight       : 1
===============================================================================
Total Entries : 1
===============================================================================
```

Output example: extensive FIB information for a specific IP address

```
A:node-2> show router fib 1 10.0.0.2/32 extensive
===============================================================================
FIB Display (Router: Base)
===============================================================================
Dest Prefix             : 10.0.0.2/32
  Protocol              : OSPF
  Next-Hop              : 10.0.0.3 (RSVP tunnel:94)
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 20
  Next-Hop              : 10.0.0.3 (RSVP tunnel:61442)
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 1
===============================================================================
Total Entries : 1
===============================================================================
```

Output example: extensive FIB information for a specific static IP address

```
A:node-2# show router route-table 10.1.0.5/32 extensive
===============================================================================
Route Table (Router: Base)
===============================================================================
Dest Prefix             : 10.1.0.5/32
  Protocol              : STATIC
  Age                   : 00h01m37s
  Preference            : 5
  Next-Hop              : 10.0.0.2 (RSVP tunnel:128)
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    Metric              : 1
    ECMP-Weight         : 10
  Next-Hop              : 10.0.0.2 (RSVP tunnel:132)
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    Metric              : 1
    ECMP-Weight         : 1
-------------------------------------------------------------------------------
No. of Destinations: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: FIB information for a specific IP address

```
A:node-2# show router fib 1 10.1.0.5/32 extensive
===============================================================================
FIB Display (Router: Base)
===============================================================================
Dest Prefix             : 10.1.0.5/32
  Protocol              : STATIC
  Next-Hop              : 10.0.0.2 (RSVP tunnel:128)
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 10
  Next-Hop              : 10.0.0.2 (RSVP tunnel:132)
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 1
===============================================================================
Total Entries : 1
===============================================================================
```

Output example: FIB information for a specific IP address

```
A:node-2# show router fib 1 10.15.1.0/24
===============================================================================
FIB Display
===============================================================================
Prefix [Flags]                                                  Protocol
  NextHop
-------------------------------------------------------------------------------
10.15.1.0/24                                                    BGP
  10.20.1.3 (Transport:SR)
-------------------------------------------------------------------------------
Total Entries : 1
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FIB information for a specific IP address

```
A:node-2# show router fib 1 10.15.1.0/24 extensive
===============================================================================
FIB Display (Router: Base)
===============================================================================
Dest Prefix             : 10.15.1.0/24
  Protocol              : BGP
  Installed             : Y
  Indirect Next-Hop     : 10.20.1.3
    Label               : 262123
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 1
    Resolving Next-Hop  : 10.20.1.3 (SR tunnel)
      ECMP-Weight       : 1
===============================================================================
Total Entries : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: FIB information for a specific IPv6 address

```
A:node-2# show router fib 1 3ffe::100:100:100:6/128
===============================================================================
FIB Display
===============================================================================
Prefix [Flags]                                                  Protocol
  NextHop
-------------------------------------------------------------------------------
3ffe::100:100:100:6/128                                         OSPF3
10.20.1.4 (Transport:RSVP LSP:1)
-------------------------------------------------------------------------------
Total Entries : 1
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FIB information for a specific IPv6 address

```
A:node-2# show router fib 1 3ffe::100:100:100:6/128 extensive
===============================================================================
FIB Display (Router: Base)
===============================================================================
Dest Prefix             : 3ffe::100:100:100:6/128
  Protocol              : OSPF3
  Installed             : Y
  Next-Hop              : 10.20.1.4 (RSVP tunnel:1)
    Label               : 2
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 1
===============================================================================
Total Entries : 1
===============================================================================
```

Output example: FIB information for a specific IP address

```
A:node-2# show router fib 1 extensive 200.200.200.200/32
===============================================================================
FIB Display (Router: Base)
===============================================================================
Dest Prefix             : 200.200.200.200/32
  Protocol              : BGP
  Indirect Next-Hop     : 10.0.0.2
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 9
    Resolving Next-Hop  : 10.0.0.2
      Interface         : to_bridge_br2
      ECMP-Weight       : 1
  Indirect Next-Hop     : 192.0.2.2
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 5
    Resolving Next-Hop  : 192.0.2.2
      Interface         : to_bridge_br3
      ECMP-Weight       : 1
===============================================================================
Total Entries : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Output example: FIB information for a specific IP address

```
A:node-2# show router fib 1 20.20.20.20/32
===============================================================================
FIB Display
===============================================================================
Prefix [Flags]                                                  Protocol
  NextHop
-------------------------------------------------------------------------------
20.20.20.20/32                                                  BGP
  3ffe::a14:102 (Transport:SRV6-Policy:917510)
-------------------------------------------------------------------------------
Total Entries : 1
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FIB information for a specific IP address

```
A:node-2# show router fib 1 20.20.20.20/32 extensive
===============================================================================
FIB Display (Router: Base)
===============================================================================
Dest Prefix             : 20.20.20.20/32
  Protocol              : BGP
  Installed             : Y
  Indirect Next-Hop     : 3ffe::a14:102
    Label               : 67
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 1
    Resolving Next-Hop  : 3ffe::a14:102 (SRV6-Policy tunnel:917510)
      ECMP-Weight       : 1
===============================================================================
Total Entries : 1
===============================================================================
```

Table 158: Output fields: FIB

Label	Description
Prefix [Flags]	The prefix
Protocol	The routing protocol
Installed	The installed indicator (Y or N)
NextHop	The next-hop IP address
Total Entries	The total number of entries
Dest Prefix	The destination prefix
Indirect Next-Hop	The indirect next hop
Label	The label number

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Next-Hop	The next hop
QoS	The QoS value
Source-Class	The source class
Dest-Class	The destination class value
ECMP-Weight	The ECMP weight value
Resolving Next-Hop	The resolving next hop

fib

Syntax

fib *slot-number* [{**ipv4** | **ipv6**}] **summary**

Context

[Tree] (tools>dump>router fib)

Full Context

tools dump router fib

Description

This command configures the dump tools for FIB information for a specific IOM.

Parameters

slot-number

Specifies the slot number.

Values 1 to 10

ipv4 | ipv6

Specifies the IPv4 or IPv6 addresses.

Default ipv4

summary

Displays summary FIB information for the specified slot number.

Platforms

All

Output

The following output is an example of FIB summary information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-F#  tools dump router fib 1 summary
===============================================================================
FIB Summary
===============================================================================
                             Active
-------------------------------------------------------------------------------
Static                       0
Direct                       3
HOST                         0
BGP                          0
BGP VPN                      0
BGP EVPN                     0
BGP LABEL                    0
OSPF                         0
OSPFv3                       0
ISIS                         1
RIP                          0
RIP_NG                       0
LDP                          0
Aggregate                    0
Sub Mgmt                     0
VPN Leak                     0
TMS                          0
NAT                          0
Managed                      0
Periodic                     0
-------------------------------------------------------------------------------
Total Installed              4
===============================================================================
```

9.16 fib-telemetry

fib-telemetry

Syntax

fib-telemetry label [*label*]

fib-telemetry route [**family**]

fib-telemetry route [*ip-prefix/prefix-length*]

fib-telemetry tunnel [**family**]

fib-telemetry tunnel [*ip-prefix/prefix-length*]

Context

[Tree] (show>router fib-telemetry)

Full Context

show router fib-telemetry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays FIB telemetry information.

Parameters

label

Specifies the label value.

Values 0 to 1048575

family

Specifies the IPv4 or IPv6 address FIB telemetry route or tunnel family.

Values ipv4, ipv6

ip-prefix/prefix-length

Displays FIB telemetry route or tunnel entries only matching the specified IP prefix and length.

Values

ipv4-prefix:	a.b.c.d (host bits must be 0)	
ipv4-prefix-length	0 to 32	
ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
	ipv6-prefix-length:	0 to 128

Platforms

All

Output

The following output is an example of FIB telemetry information.

Output Example

```
*A:Dut-B>config>service# /show router fib-telemetry label
===============================================================================
FIB Telemetry Labels
===============================================================================
Label                          Owner                       LastUpdt
 Primary NextHop[If]/TnlId     Weight       GrpId PriActv
  Pushed Labels
   Backup NextHop[If]/TnlId
    Pushed Labels
-------------------------------------------------------------------------------
30044                          RIB-API                     02/07/2020 23:44:51
 1.2.3.3                       1             2     Yes
  30055
   1.2.3.33
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    30255
-------------------------------------------------------------------------------
Number of Entries : 1
===============================================================================
```

```
*A:Dut-C>config>system# /show router fib-telemetry route
===============================================================================
 Legend -
 Flags : b - backup, i - indirect, l - LFA
===============================================================================
FIB Telemetry Routes
===============================================================================
Dest Prefix                                       Owner
 FIB Update Time
  NextHop [If/TnlId]                                Flags
-------------------------------------------------------------------------------
1.1.2.0/24                                        OSPF
 02/07/2020 23:43:53
  1.2.3.2 [to_Dut-B]
-------------------------------------------------------------------------------
Number of Entries : 1
===============================================================================
*A:Dut-C>config>system#
*A:Dut-C>config>system# /show router fib-telemetry route 3ffe::101:200/120
===============================================================================
 Legend -
 Flags : b - backup, i - indirect, l - LFA
===============================================================================
FIB Telemetry Routes
===============================================================================
Dest Prefix                                       Owner
 FIB Update Time
  NextHop [If/TnlId]                                Flags
-------------------------------------------------------------------------------
3ffe::101:200/120                                 OSPF3
 02/07/2020 23:43:55
  fe80::200:ff:fe00:2 [to_Dut-B]
-------------------------------------------------------------------------------
Number of Entries : 1
===============================================================================
*A:Dut-C>config>system#
```

```
*A:Dut-A# /show router fib-telemetry tunnel
===============================================================================
 Legend -
 Flags : a - active, b - backup, l - LFA
===============================================================================
FIB Telemetry Tunnels
===============================================================================
Dest Prefix                                      Owner         Pref
 FIB Update Time                                  TnlId         TnlInst
  NextHop [If/TnlId]                               GrpId         Weight   Flg
-------------------------------------------------------------------------------
10.20.1.3/32                                     RSVP          7
 02/07/2020 23:44:07                              1             0
  1.1.2.2 [to_Dut-B]                               0             0        a
10.21.1.3/32                                     RIB-API       102
 02/07/2020 23:44:42                              1015813       0
  1.1.2.2 [to_Dut-B]                               4             0        a
  1.1.2.22 [to_Dut-B]                              4             0        b
-------------------------------------------------------------------------------
Number of Entries : 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:Dut-A# /show router fib-telemetry tunnel 10.21.1.3/32
===============================================================================
 Legend -
 Flags : a - active, b - backup, l - LFA
===============================================================================
FIB Telemetry Tunnels
===============================================================================
Dest Prefix                                      Owner         Pref
 FIB Update Time                                  TnlId         TnlInst
  NextHop [If/TnlId]                               GrpId         Weight   Flg
-------------------------------------------------------------------------------
10.21.1.3/32                                     RIB-API       102
 02/07/2020 23:44:42                              1015813       0
  1.1.2.2 [to_Dut-B]                               4             0        a
  1.1.2.22 [to_Dut-B]                              4             0        b
-------------------------------------------------------------------------------
Number of Entries : 1
===============================================================================
*A:Dut-A#
```

Table 159: Output fields: FIB telemetry

Label	Description
Label	The label number of the FIB entry
Owner	The owner (protocol name) of the label entry
LastUpdt	The time stamp of when the entry was last updated
Primary NextHop[If]/TnlId	The primary path next-hop IP or tunnel ID or interface
Weight	The normalized ECMP weight associated with the next-hop
GrpId	The next-hop group ID
PriActv	The boolean value (YES or NO) that indicates whether the primary path is active or not
Pushed Labels	The pushed labels number
Backup NextHop[If]/TnlId	The backup path next-hop IP or tunnel ID or interface
Number of Entries	The total number of displayed labels
Flags	The flags: • b — backup • i — indirect • l — LFA
Dest Prefix	The destination IP prefix of the route FIB entry
Owner	The protocol owner (routing protocol) of the FIB entry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
FIB Update Time	The time stamp of when the route was last updated in FIB
NextHop [If/TnlId]	The IP address of the next-hop and interface name or tunnel ID
Number of Entries	The total number of displayed routes
Flags	The flags: • a — active • b — backup • l — LFA
Dest Prefix	The destination IP prefix of the FIB tunnel entry
Owner	The protocol owner of the FIB tunnel entry
Pref	The preference number that indicates the priority of the tunnel
FIB Update Time	The time stamp of when the tunnel was last updated in FIB
TnlId	The global tunnel ID
TnlInst	The tunnel instance of the type indicated by protocol
Number of Entries	The total number of displayed tunnels

9.17 fid

fid

Syntax

fid [*fid*] **fate-sharing**

fid [*fid*] **user-service**

fid [*fid*] **fdb**

fid [*fid*] **mfib** [**group-mac** *ieee-address*]

fid [*fid*] **mfib** [**isid** *isid*]

Context

[Tree] (show>service>id>spb fid)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id spb fid

Description

This command displays SPB control service FID information.

Parameters

fid

A user service FID may be specified. All user service FIDs are displayed if the FID is not specified.

Values 1 to 4095

fate-sharing

Displays fate-sharing information

user-service

Specifies user VPLS information for each control VPLS per forwarding data-base identifier. A user service FID may be specified. All user service FIDs are displayed if the FID is not specified.

fdb

Displays forwarding database (FDB) information

mfib

Displays multicast forwarding information base (MFIB) information

ieee-address

Specifies the 48-bit IEEE 802.3 group MAC address

isid

Specifies the value of ISID of the group MAC address of this entry

Values 0 to 16777215

Platforms

All

Output

The following output is an example of service SPB FID fare sharing information.

Output Example

```
*A:Dut-A# show service id 100001 spb fid fate-sharing
===============================================================================
Control service fate-shared sap/sdp-bind information
===============================================================================
Control   Control Sap/             FID       User      User Sap/
SvcId     SdpBind                            SvcId     SdpBind
-------------------------------------------------------------------------------
500       1/1/20:500               502       502       1/1/20:502
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-A# show service id 100001 spb fid fdb
===============================================================================
Control service FDB information
===============================================================================
Fid        MacAddr            UCast Source             MCast Source
                              Last Update              Last Update
-------------------------------------------------------------------------------
1          00:10:00:01:00:01  local                    local
                              04/04/2012 15:11:24      04/04/2012 15:11:24
1          00:10:00:01:00:02  1/2/2:1.1                1/2/2:1.1
                              04/04/2012 15:51:45      04/04/2012 15:51:45
1          00:10:00:01:00:03  1/2/3:1.1                1/2/3:1.1
                              04/04/2012 15:51:56      04/04/2012 15:51:56
1          00:10:00:01:00:04  1/2/2:1.1                1/2/2:1.1
                              04/04/2012 15:52:11      04/04/2012 15:52:11
-------------------------------------------------------------------------------
Entries found: 4
===============================================================================
*A:Dut-A# show service id 100001 spb fid mfib
===============================================================================
Control service MFIB information
===============================================================================
FID   MacAddr           ISID      Source                   Last Update
-------------------------------------------------------------------------------
1     01:1E:83:00:27:11 10001     1/2/2:1.1                04/04/2012 15:51:45
                                  1/2/3:1.1                04/04/2012 15:51:56
                                  local                    04/04/2012 15:42:44
100   01:1E:83:00:27:12 10002     1/2/2:1.1                04/04/2012 15:51:45
                                  1/2/3:1.1                04/04/2012 15:51:56
                                  local                    04/04/2012 15:43:09
-------------------------------------------------------------------------------
Entries found: 6
===============================================================================
```

9.18 field

field

Syntax

field *field-name*

Context

[Tree] (show>app-assure>http-enrich field)

[Tree] (show>app-assure>group>http-enrich field)

Full Context

show application-assurance http-enrich field

show application-assurance group http-enrich field

Description

This command displays HTTP enrichment field information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

field-name

Specifies the field name, up to 32 characters.

Platforms

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

9.19 fields

fields

Syntax

fields

Context

[Tree] (show>app-assure>http-enrich fields)

Full Context

show application-assurance http-enrich fields

Description

This command displays HTTP enrichment fields.

Platforms

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

9.20 file

file

Syntax

file *provisioning-file-url* [**save-provision-file-destination** *file-url*] [**reboot-on-success**]

Context

[Tree] (tools>perform>system>auto-node-provisioning file)

Full Context

tools perform system auto-node-provisioning file

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command executes the auto-provisioning process. When the auto-provisioning process is executed using the **file** command, DHCP discovery and solicitation is not performed.

Parameters

provisioning-file-url

Specifies the location of the provisioning file.

Values *local-url*, *remote-url*

local-url — [*cflash-id*/]*file-path*; 200 characters max

remote-url — {ftp | http | https}://[*login*:*password*@]*remote-locn*/[*file-path*]

remote-locn — {*hostname* | *ipv4-address* | *ipv6-address*}[:*port*]

ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x[-*interface*]

x:x:x:x:x:x:d.d.d.d[-*interface*]

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

port — 0 to 65535

cflash-id — cf1:m cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

file-url

Specifies the location to save the provisioning file.

Values [*cflash-id*/]*file-path*

cflash-id — cf1:m cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

reboot-on-success

Reboots the router when the auto-provisioning process completes successfully.

Platforms

All

9.21 file-id

file-id

Syntax

file-id [*log-file-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>log file-id)

Full Context

show log file-id

Description

This command displays event file log information.

If no command line parameters are specified, a summary output of all event log files is displayed.

Specifying a file ID displays detailed information on the event file log.

Parameters

log-file-id

Displays detailed information on the specified event file log.

Platforms

All

Output

The following output is an example of log file summary information.

The following table describes the output fields for a log file summary.

Output Example

```
A:ALA-1# show log file-id
===============================================================
File Id List
===============================================================
name
file-id   rollover  retention   admin      backup     oper
                       location   location   location
---------------------------------------------------------------
3
3           60         4        cf1:       cf2:       cf1:
event-logs-abc
7         1440        12        cf1:       none       none
some-logs
10        1440        12        cf3:       cf2:       cf1:
===============================================================
A:ALA-1#
A:ALA-1# show log file-id 10
===============================================================
File Id List
===============================================================
name
file-id   rollover  retention   admin      backup     oper
                       location   location   location
---------------------------------------------------------------
some-logs
10        1440        12        cf3:       cf2:       cf1:
===============================================================
Description : logs of certain special events
Format      : standard
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================
File Id 10 Location cf1:
===============================================================
file name expired state
---------------------------------------------------------------
cf1:\log\log0310-20210501-012205 yes complete
cf1:\log\log0310-20210501-014049 yes complete
cf1:\log\log0310-20210501-015344 yes complete
cf1:\log\log0310-20210501-015547 yes in progress
===============================================================
A:ALA-1#
```

Table 160: Output fields: log file

Label	Description
name	Displays the string name of the log file policy
file-id	Displays the log file ID
rollover	Displays the rollover time for the log file, which is how long in between partitioning of the file into a new file
retention	Displays the retention time for the file in the system, which is how long the file will be retained in the file system
admin location	Displays the primary flash device specified for the file location none — indicates no specific flash device is specified
oper location	Displays the actual flash device on which the log file exists
Format	The format used for log events in the file: • standard – The standard SR OS log event format is being used • rfc5424 – An RFC 5424 syslog format is being used
file name	Displays the complete pathname of the file associated with the log ID
expired	Indicates whether the retention period for this file has passed
state	in progress — Indicates the current open log file complete — Indicates the old log file

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.22 file-transmission-profile

file-transmission-profile

Syntax

file-transmission-profile

file-transmission-profile *name*

file-transmission-profile *name* **associations**

Context

[Tree] (show>system file-transmission-profile)

Full Context

show system file-transmission-profile

Description

This command displays file transmission profile information.

Parameters

name

Specifies the file transmission profile name, up to 32 characters.

Platforms

All

9.23 files

files

Syntax

files [**running** | **finished**] [**detail**]

Context

[Tree] (show>call-trace files)

Full Context

show call-trace files

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command gives an overview of all the files in use by the call-trace module, either for running or finished jobs.

Parameters

running

Displays the active jobs that are tracing events triggered by the host being monitored.

finished

Displays the jobs that have already finished and not tracing events generated by the host anymore.

detail

Displays detailed information about the files.

Platforms

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

Output

The following output is an example of call trace local log files information.

Output Example

```
Node# show call-trace files
===============================================================================
Call trace files of running jobs
===============================================================================
File path                                                          File size
                                                                     (bytes)
-------------------------------------------------------------------------------
cf1-A:/calltrace/running/mac_00-02-00-00-00-19_160119_1557.pcap            1575
-------------------------------------------------------------------------------
No. of call trace files of running jobs: 1
===============================================================================
===============================================================================
Call trace files of finished jobs
===============================================================================
File path                                                          File size
                                                                     (bytes)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of call trace files of finished jobs: 0
===============================================================================
```

Table 161: Output fields: call trace file describes call trace output fields.

Table 161: Output fields: call trace file

Field	Description
File path	The compact flash (CF) configuration to store call trace files.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
File size	The total size of call-trace files on the specified compact flash card
No. of call trace files running jobs	The total number of active trace call files running jobs
No. of call trace files of finished jobs	The total number of finished trace call files jobs

9.24 filter

filter

Syntax

filter [**subscriber** *sub-ident-string*] [**origin** *origin*]

Context

[Tree] (show>service>active-subscribers filter)

Full Context

show service active-subscribers filter

Description

This command displays active subscriber filter information.

Parameters

sub-ident-string

Specifies the subscriber ID of the active subscriber, up to 32 characters.

origin

Specifies the origin of the active subscriber.

Platforms

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

Output

The following output is an example of active subscriber's filter information.

Output Example

```
*A:eng-BNG-2# show  service active-subscribers filter
===============================================================================
Active Subscribers
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
-------------------------------------------------------------------------------
Subscriber user_1
          (no-prof)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
(1) SLA Profile Instance sap:1/1/20:841 - sla:no-prof
-------------------------------------------------------------------------------
IP Address
              MAC Address        Session            Origin       Svc        Fwd
-------------------------------------------------------------------------------
192.168.0.14
              00:00:10:10:12:13  N/A                DHCP         1000       Y
===============================================================================
IP Filter (ingress)
===============================================================================
Filter Id           : 50                          Applied        : Yes
Scope               : Template                    Def. Action    : Forward
Type                : Normal
System filter       : Unchained
Radius Ins Pt       : n/a
CrCtl. Ins Pt       : n/a
RadSh. Ins Pt       : n/a
PccRl. Ins Pt       : n/a
Entries             : 2
Description         : (Not Specified)
Filter Name         : 50
-------------------------------------------------------------------------------
Filter Match Criteria : IP
-------------------------------------------------------------------------------
No Match Criteria Found for this host
===============================================================================
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of active subscribers : 1
===============================================================================
```

filter

Syntax

filter

Context

[Tree] (show filter)

Full Context

show filter

Description

Commands in this context display IP/MAC filter and counter related information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

filter

Syntax

filter

Context

[Tree] (show>li filter)

Full Context

show li filter

Description

This command displays LI mirror filter configuration and operation information.

Platforms

All

filter

Syntax

filter

Context

[Tree] (clear filter)

Full Context

clear filter

Description

Commands in this context clear the filter entities.

Platforms

All

filter

Syntax

filter

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>li filter)

Full Context

clear li filter

Description

This command clears LI mirror filter configuration and operation information.

Platforms

All

filter

Syntax

filter

Context

[Tree] (tools>dump filter)

Full Context

tools dump filter

Description

Commands in this context dump filter information.

Platforms

All

filter

Syntax

filter

Context

[Tree] (tools>perform filter)

Full Context

tools perform filter

Description

Commands in this context perform filter operations.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

filter

Syntax

filter

Context

[Tree] (monitor filter)

Full Context

monitor filter

Description

Commands in this context configure criteria to monitor IP and MAC filter statistics.

Platforms

All

9.25 filter-id

filter-id

Syntax

filter-id [*filter-id*]

Context

[Tree] (show>service>id>log filter-id)

Full Context

show service id log filter-id

Description

This command displays event file log information.

If no command line parameters are specified, a summary output of all event log files is displayed.

Specifying a file ID displays detailed information on the event file log.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

filter-id

Specifies the filter policy.

Values 1 to 65535

Platforms

All

Output

Table 162: Output fields: filter ID describes the output fields for a log file summary.

Table 162: Output fields: filter ID

Label	Description
file-id	The log file ID.
rollover	The rollover time for the log file which is how long in between partitioning of the file into a new file.
retention	The retention time for the file in the system which is how long the file should be retained in the file system.
admin location	The primary flash device specified for the file location. n/a — Indicates no specific flash device was specified.
backup location	The secondary flash device specified for the file location if the admin location is not available. n/a — Indicates that no backup flash device was specified.
oper location	The actual flash device on which the log file exists.
file-id	The log file ID.
rollover	The rollover time for the log file which is how long in between partitioning of the file into a new file.
retention	The retention time for the file in the system which is how long the file should be retained in the file system.
file name	The complete pathname of the file associated with the log ID.
expired	Indicates whether or not the retention period for this file has passed.
state	In progress — Indicates the current open log file. Complete —Indicates the old log file.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

filter-id

Syntax

filter-id [*filter-id*]

Context

[Tree] (show>log filter-id)

Full Context

show log filter-id

Description

This command displays event log filter policy information.

Parameters

filter-id

Displays detailed information on the specified event filter policy ID.

Values 1 to 1500, or up to 64 characters

Platforms

All

Output

The following output is an example of event filter log information.

Table 163: Output fields: event log filter detail describes the output fields for event log filter summary information.

Output Example

```
*A:ALA-48>config>log# show log filter-id
===============================================================================
Log Filters
===============================================================================
Filter Applied Default Description
Name/          Action
Id
-------------------------------------------------------------------------------
1
1      no      forward
5
5      no      forward
10
10     no      forward
1001
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1001   yes     drop    Collect events for Serious Errors Log
===============================================================================
*A:ALA-48>config>log#
```

Output Example

```
*A:ALA-48>config>log# show log filter-id 1001
===============================================================================
Log Filter
===============================================================================
Filter-id     : 1001     Applied       : yes      Default Action: drop
Filter-name   : 1001
Description   : Collect events for Serious Errors Log
-------------------------------------------------------------------------------
Log Filter Match Criteria
-------------------------------------------------------------------------------
Entry-id      : 10                      Action        : forward
Application   :                         Operator      : off
Event Number  : 0                       Operator      : off
Severity      : major                   Operator      : greaterThanOrEqual
Subject       :                         Operator      : off
Match Type    : exact string                          :
Router        :                         Operator      : off
Match Type    : exact string                          :
Description   : Collect only events of major severity or higher
-------------------------------------------------------------------------------
===============================================================================
*A:ALA-48>config>log#
```

Event Log Filter Detailed Output

Table 163: Output fields: event log filter detail describes the output fields for detailed event log filter information.

Table 163: Output fields: event log filter detail

Label	Description
Filter Name/Id	The event log filter name or ID.
Applied	no — The event log filter is not currently in use by a log ID. yes — The event log filter is currently in use by a log ID.
Default Action	drop — The default action for the event log filter is to drop events not matching filter entries. forward — The default action for the event log filter is to forward events not matching filter entries.
Description (Filter-id)	The description string for the filter ID.

Table 164: Output fields: log filter match criteria describes the output fields for log filter match criteria information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 164: Output fields: log filter match criteria

Label	Description
Entry-id	The event log filter entry ID.
Action	default — There is no explicit action for the event log filter entry and the filter's default action is used on matching events. drop — The action for the event log filter entry is to drop matching events. forward — The action for the event log filter entry is to forward matching events.
Description (Entry-id)	The description string for the event log filter entry.
Application	The event log filter entry application match criterion.
Event Number	The event log filter entry application event ID match criterion.
Severity	cleared — The log event filter entry application event severity cleared match criterion. indeterminate — The log event filter entry application event severity indeterminate match criterion. critical — The log event filter entry application event severity critical match criterion. major — The log event filter entry application event severity cleared match criterion. minor — The log event filter entry application event severity minor match criterion. warning — The log event filter entry application event severity warning match criterion.
Subject	Displays the event log filter entry application event ID subject string match criterion.
Router	Displays the event log filter entry application event ID **router** *router-instance* string match criterion.
Operator	There is an operator field for each match criteria: application, event number, severity, and subject. equal — Matches when equal to the match criterion. greaterThan — Matches when greater than the match criterion. greaterThanOrEqual — Matches when greater than or equal to the match criterion. lessThan — Matches when less than the match criterion.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	lessThanOrEqual — Matches when less than or equal to the match criterion. notEqual — Matches when not equal to the match criterion. off — No operator specified for the match criterion.

9.26 firewall

firewall

Syntax

firewall

Context

[Tree] (show>router firewall)

Full Context

show router firewall

Description

This command displays firewall information.

Platforms

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

9.27 firewall-hosts

firewall-hosts

Syntax

firewall-hosts [**subscriber** *sub-ident*] [**ip** *ipv6-address*|*prefix-length*] [**mac** *ieee-address*] [**firewall-policy** *policy-name*] [**router** *router-instance*]

Context

[Tree] (show>service>nat firewall-hosts)

Full Context

show service nat firewall-hosts

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command lists ESM hosts that have an active firewall. Configuring the optional parameters will narrow the scope of the list.

Parameters

ieee-address

Specifies the MAC address of a host, in the format xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

ipv6-address/prefix-length

Specifies the IPv6 prefix of a host.

Values *ipv6-address* — x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x — 0 to FFFF (in hexadecimal)
d — 0 to 255 (in decimal)
prefix-length — 1 to 128

policy-name

Specifies the name of a firewall policy, up to 32 characters.

router-instance

Specifies the ID of the router that contains the firewall domain.

Values *router-name* | *vprn-svc-id*
router-name — "Base", "management"
vprn-svc-id — 1 to 2147483647

sub-ident

Specifies the subscriber identity string, up to 32 characters.

Platforms

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

9.28 firewall-policy

firewall-policy

Syntax

firewall-policy [*policy-name* [**associations**] [**statistics**]]

Context

[Tree] (show>service>nat firewall-policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service nat firewall-policy

Description

This command lists the firewall policies that are present in the system.

Configuring the *policy-name* parameter displays all information for the specified policy.

Parameters

policy-name

Specifies the name of a firewall policy, up to 32 characters.

associations

Keyword to display all configuration objects that use the specified firewall policy.

statistics

Keyword to display all statistics for the specified firewall policy.

Platforms

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

Output

The following output is an example of firewall policy information and Table 165: Output fields: show service nat firewall-policy describes the output fields

Output Example: show service nat firewall-policy

```
# show service nat firewall-policy
===============================================================================
Firewall policies
===============================================================================
Firewall policy                  Description
-------------------------------------------------------------------------------
firewall_dhcp6_0                 IPv6 Firewall policy for DHCP6 on service Base
firewall_dhcp6_300               IPv6 Firewall policy for DHCP6 on service 300
firewall_dhcp6_4                 IPv6 Firewall policy for DHCP6 on service 4
firewall_slaac_0                 IPv6 Firewall policy for SLAAC on service Base
firewall_slaac_300               IPv6 Firewall policy for SLAAC on service 300
firewall_slaac_4                 IPv6 Firewall policy for SLAAC on service 4
-------------------------------------------------------------------------------
No. of firewall policies: 6
===============================================================================

# show service nat firewall-policy
===============================================================================
Firewall policies
===============================================================================
Firewall policy                  Description
-------------------------------------------------------------------------------
nat_firewall_0                   IPv6 Firewall policy on service Base
nat_firewall_300                 IPv6 Firewall policy on service 300
nat_firewall_4                   IPv6 Firewall policy on service 4
-------------------------------------------------------------------------------
No. of firewall policies: 3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 165: Output fields: show service nat firewall-policy

Label	Description
Firewall policy	Specifies the firewall policy name
Description	Specifies the firewall policy description

The following output is an example of firewall policy information and Table 166: Output fields: show service nat firewall-policy <policy-name> describes the output fields

Output Example: show service nat firewall-policy <policy-name>

```
# show service nat firewall-policy "firewall_slaac_4"
===============================================================================
Firewall policy firewall_slaac_4
===============================================================================
Description                          : IPv6 Firewall policy for SLAAC on
                                       service 4
Domain                               : domain_slaac_4
Router                               : vprn4
Filtering                            : endpointIndependent
Port forwarding range end            : 1023
Session limit                        : 65535
Reserved sessions                    : 0
Session usage High Watermark (%)     : (Not Specified)
Session usage Low Watermark (%)      : (Not Specified)
ALG enabled                          : ftp
Prioritized forwarding classes       : (Not Specified)
Timeout TCP established (s)          : 7440
Timeout TCP transitory (s)           : 240
Timeout TCP SYN (s)                  : 15
Timeout TCP TIME-WAIT (s)            : 0
Timeout TCP RST (s)                  : 0
Timeout UDP mapping (s)              : 300
Timeout UDP initial (s)              : 15
Timeout UDP DNS (s)                  : 15
Timeout ICMPv6 Query (s)             : 60
Timeout SIP Inactive Media (s)       : 120
Timeout unknown protocol (s)         : 300
UDP inbound refresh                  : false
TCP MSS Adjust                       : (Not Specified)
Unknown protocols                    : (Not Specified)
Last Mgmt Change                     : 01/23/2017 14:32:27
===============================================================================

# show service nat firewall-policy "fw66"
===============================================================================
Firewall Policy FW44
===============================================================================
Description                          : (Not Specified)
Domain                               : demo-domain
Router                               : vprn12
Filtering                            : endpointIndependent
Port forwarding limit                : 0
Port forwarding range end            : 1023
Session limit                        : 65535
Reserved sessions                    : 0
Session usage High Watermark (%)     : (Not Specified)
Session usage Low Watermark (%)      : (Not Specified)
ALG enabled                          : ftp
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Prioritized forwarding classes        : (Not Specified)
Timeout TCP established (s)           : 7440
Timeout TCP transitory (s)            : 240
Timeout TCP SYN (s)                   : 15
Timeout TCP TIME-WAIT (s)             : 0
Timeout TCP RST (s)                   : 0
Timeout UDP normal (s)                : 60
Timeout UDP initial (s)               : 15
Timeout UDP DNS (s)                   : 15
Timeout ICMP6-Query (s)               : 60
Timeout SIP Inactive Media (s)        : 120
UDP inbound refresh                   : false
TCP MSS Adjust                        : (Not Specified)
Unknown protocols                     : (Not Specified)
Last Mgmt Change                      : 10/06/2025 08:29:25
===============================================================================
```

Table 166: Output fields: show service nat firewall-policy <policy-name>

Label	Description
Description	Specifies the description
Domain	Specifies the domain name
Router	Specifies the router name
Filtering	Specifies the filtering type
Port forwarding limit	Specifies the port forwarding limit value
Port forwarding range end	Specifies the ending port forwarding range port number
Session limit	Specifies the session limit number
Reserved sessions	Specifies the number of reserved sessions
Session usage High Watermark (%)	Specifies the session usage high watermark percentage
Session usage Low Watermark (%)	Specifies the session usage low watermark percentage
ALG enabled	Specifies the ALG enabled value
Prioritized forwarding classes	Specifies the prioritized forwarding class value
Timeout TCP established (s)	Specifies the established TCP timeout value
Timeout TCP transitory (s)	Specifies the transitory TCP timeout value
Timeout TCP SYN (s)	Specifies the TCP SYN timeout value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Timeout TCP TIME-WAIT (s)	Specifies the TCP TIME-WAIT timeout value
Timeout TCP RST (s)	Specifies the TCP RST timeout value
Timeout UDP normal (s)	Specifies the normal UDP timeout value
Timeout UDP initial (s)	Specifies the initial UDP timeout value
Timeout UDP DNS (s)	Specifies the UDP DNS timeout value
Timeout ICMP6-Query (s)	Specifies the ICMP6-Query timeout value
Timeout SIP Inactive Media (s)	Specifies the SIP inactive media timeout value
UDP inbound refresh	Specifies the UDP inbound refresh status
TCP MSS Adjust	Specifies the TCP MSS adjustment value
Unknown protocols	Specifies the unknown protocols
Last Mgmt Change	Specifies the date and time of the last management change

The following output is an example of firewall policy association information and Table 167: Output fields: show service nat firewall-policy associations describes the output fields

Output Example: show service nat firewall-policy <policy-name> associations

```
# show service nat firewall-policy "firewall_slaac_4" associations
===============================================================================
Subscriber profile associations
===============================================================================
Subprof_1
-------------------------------------------------------------------------------
No. of subscriber profiles: 1
===============================================================================

# show service nat firewall-policy "fw_policy" associations

===============================================================================
Firewall Policy fw-policy Router Associations
===============================================================================
Base
-------------------------------------------------------------------------------
No. of routers: 1
===============================================================================

===============================================================================
Firewall Policy fw-policy destination-prefix associations
===============================================================================
Router                          Destination-prefix
-------------------------------------------------------------------------------
Base                            0.0.0.0/0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of destination-prefixes: 1
===============================================================================

-------------------------------------------------------------------------------
IPv6 filters using firewall-policy fw-policy
-------------------------------------------------------------------------------
IP Filter      : 1                                Entry        : 1
-------------------------------------------------------------------------------
```

Table 167: Output fields: show service nat firewall-policy associations

Label	Description
Subscriber profile associations	Specifies the subscriber profile association name
No. of subscriber profiles	Specifies the number of subscriber profiles
Firewall Policy fw-policy Router Associations	Specifies the firewall policy forwarding policy router association name
No. of routers	Specifies the number of routers
Firewall Policy fw-policy destination-prefix associations	
Router	Specifies the router type
Destination-prefix	Specifies the destination prefix value
IPv6 filters using firewall-policy fw-policy	
IP Filter	Specifies the IP filter number
Entry	Specifies the entry ID

The following output is an example of firewall policy statistics information and Table 168: Output fields: show service nat firewall-policy statistics describes the output fields

Output Example: show service nat firewall-policy <policy-name> statistics

```
# show service nat firewall-policy "fw-policy" statistics

===============================================================================
Firewall Policy fw-policy Statistics
===============================================================================

MDA 1/1
-------------------------------------------------------------------------------
hostsActive                                              : 0
hostsPeak                                                : 0
sessionsTcpCreated                                       : 0
sessionsTcpDestroyed                                     : 0
sessionsUdpCreated                                       : 0
sessionsUdpDestroyed                                     : 0
sessionsIcmpQueryCreated                                 : 0
sessionsIcmpQueryDestroyed                               : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
sessionsGreQueryCreated                                 : 0
sessionsGreQueryDestroyed                               : 0
```

Table 168: Output fields: show service nat firewall-policy statistics

Label	Description
Firewall Policy fw-policy Statistics	
hostsActive	Specifies the number of active hosts
hostsPeak	Specifies the number of peak hosts
sessionsTcpCreated	Specifies the number of created TCP sessions
sessionsTcp Destroyed	Specifies the number of destroyed TCP sessions
sessionsUdpCreated	Specifies the number of created UDP sessions
sessionsUdp Destroyed	Specifies the number of destroyed UDP sessions
sessionsIcmpQuery Created	Specifies the number of created ICMP query sessions
sessionsIcmpQuery Destroyed	Specifies the number of destroyed ICMP query sessions
sessionsGreQuery Created	Specifies the number of created GRE query sessions
sessionsGreQuery Destroyed	Specifies the number of destroyed GRE query sessions

9.29 flap-statistics

flap-statistics

Syntax

flap-statistics [{*ip-prefixlmask* [**neighbor** *ip-addr*] | **group** *group-name* | **regex** *reg-exp* | [**policy** *policy-name*}]

Context

[Tree] (clear>router>bgp flap-statistics)

Full Context

clear router bgp flap-statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears route flap statistics.

Parameters

ip-prefix/mask

Clears route flap statistics for entries that match the specified IP prefix and mask length.

Values ipv4-prefix: a.b.c.d (host bits must be 0)

ipv4-prefix-le: 0 to 32

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

ipv6-prefix-le: 0 to 128

ip-addr

Clears route flap statistics for entries received from the specified BGP neighbor.

Values ipv4-prefix: a.b.c.d (host bits must be 0)

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

interface: 32 chars max, mandatory for link local addresses

group-name

Clears route flap statistics for entries received from any BGP neighbors in the specified peer group. 32 characters maximum.

reg-exp

Clears route flap statistics for all entries which have the regular expression and the AS path that matches the regular expression. 80 characters maximum.

policy-name

Clears route flap statistics for entries that match the specified route policy. 32 characters maximum.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.30 flex-algo

flex-algo

Syntax

flex-algo [flex-algo-id] [**level** *level*] [**detail**]

Context

[Tree] (show>router>isis flex-algo)

Full Context

show router isis flex-algo

Description

This command displays the IS-IS flexible algorithm information.

This command displays the flexible algorithms, the winning FAD for which the router is enabled and whether the local router is advertising a FAD.

When the keyword **detail** is used, all other FADs (beyond the winning FAD) advertised by any other router in the area are also displayed.

The displayed output can be filtered by using the *flex-algo-id* or *level* keywords.

Parameters

flex-algo-id

Specifies the keyword filter to display output for the requested algorithm only.

level

Displays the IS-IS area level information constrained to IS-IS level-1 or level-2 only.

level

Specifies the IS-IS area level, it filters the displayed information constrained to IS-IS level-1 or level-2 only.

detail

Displays not only the winning FAD information, but also all other FADs that the router has advertised in IS-IS.

Platforms

All

Output

The following output is an example of flexible algorithm information, and Table 169: Output fields: IS-IS flexible algorithm describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-B# show router isis 0 flex-algo 128
===============================================================================
Rtr Base ISIS Instance 0 Flex-Algos
===============================================================================
-------------------------------------------------------------------------------
Flex-Algo : 128
-------------------------------------------------------------------------------
Advertising FAD         : My128
Participating           : Yes
Loop-Free-Alternate     : Disabled
L1 Oper state           : UP
L2 Oper state           : UP
Displaying Level 1 FAD Info
-------------------------------------------------------------------------------
FADs-count              : 2
Selected FAD
  Fad-Owner             : 4900.0000.0002
    Supported           : Yes
    Priority            : 100
    Metric Type         : delay
    Calculation Type    : spf(0)
    Exclude             : 0x0
    Include Any         : 0x0
    Include All         : 0x0
    Fad Flags           : M
    Level               : L1
Displaying Level 2 FAD Info
-------------------------------------------------------------------------------
FADs-count              : 1
Selected FAD
  Fad-Owner             : 4900.0000.0002
    Supported           : Yes
    Priority            : 100
    Metric Type         : delay
    Calculation Type    : spf(0)
    Exclude             : 0x0
    Include Any         : 0x0
    Include All         : 0x0
    Fad Flags           : M
    Level               : L2
-------------------------------------------------------------------------------
FAD: Flexible Algorithm Definition
Fad Flags:   M = Prefix Metric
===============================================================================
*A:Dut-B#
*A:Dut-B#show router isis 0 flex-algo detail
===============================================================================
Rtr Base ISIS Instance 0 Flex-Algos (detail)
===============================================================================
-------------------------------------------------------------------------------
Flex-Algo : 128
-------------------------------------------------------------------------------
Advertising FAD         : My128
Participating           : Yes
Loop-Free-Alternate     : Disabled
L1 Oper state           : UP
L2 Oper state           : UP
Displaying Level 1 FAD Info
-------------------------------------------------------------------------------
FADs-count              : 2
Selected FAD
  Fad-Owner             : 4900.0000.0002
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Supported           : Yes
    Priority            : 100
    Metric Type         : delay
    Calculation Type    : spf(0)
    Exclude             : 0x0
    Include Any         : 0x0
    Include All         : 0x0
    Fad Flags           : M
    Level               : L1
Other FADs
  Fad-Owner             : 4900.0000.0004
    Supported           : Yes
    Priority            : 50
    Metric Type         : delay
    Calculation Type    : spf(0)
    Exclude             : 0x0
    Include Any         : 0x0
    Include All         : 0x0
    Fad Flags           : M
    Level               : L1
Displaying Level 2 FAD Info
-------------------------------------------------------------------------------
FADs-count              : 1
Selected FAD
Fad-Owner             : 4900.0000.0002
    Supported           : Yes
    Priority            : 100
    Metric Type         : delay
    Calculation Type    : spf(0)
    Exclude             : 0x0
    Include Any         : 0x0
    Include All         : 0x0
    Fad Flags           : M
    Level               : L2
Other FADs
-------------------------------------------------------------------------------
FAD: Flexible Algorithm Definition
Fad Flags:   M = Prefix Metric
===============================================================================
*A:Dut-B>show>router>isis#
```

Table 169: Output fields: IS-IS flexible algorithm

Label	Description
Flex-Algo	The flexible algorithm number
Advertising FAD	The FAD name when the local router is advertising a FAD
Participating	The flexible algorithm participation is enabled
Loop-Free-Alternate	Displays Loop-Free-Alternates; if enabled, then the configuration is inherited from base SPF
L1 Oper State	Displays the L1 operational flexible algorithm state
L2 Oper State	Displays the L2 operational flexible algorithm state
FADs-Count	Displays the number of FADs in the area available to the router

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
FAD-Owner	Displays the winning FAD owner
Supported	Displays local router support for the flexible algorithm definition that is advertised in the FAD
Priority	Displays the FAD priority; It is the tiebreaker when multiple FADs are received
Metric Type	The metric used by the winning FAD igp — the IGP metric is used te-metric — the TE metric is used delay — the delay metric is used
Calculation Type	Displays the calculation type; for SPF a zero value is only defined
Exclude	The list of administrative groups for links to be excluded from the flexible algorithm topology graph
Include Any	The list of administrative groups for links to be included in the flexible algorithm topology graph
Include All	The list of administrative groups for links where all administrative groups have to match to be included in the flexible algorithm topology graph
Fad Flags	Displays the FAD Flags; the M-flag is used for inter-area; when set, the metric must be used for inter-area traffic to avoid loops and blackhole traffic on ABR/ASBR
Level	The IS-IS area level where the FAD is received

flex-algo

Syntax

flex-algo [*flex-algo-id*] [**area** *area-id*] [**detail**]

Context

[Tree] (show>router>ospf flex-algo)

Full Context

show router ospf flex-algo

Description

This command displays OSPFv2 flexible algorithm information, which includes the flexible algorithms, the winning FAD for which the router is enabled, and whether the local router is advertising a FAD.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The displayed output can be filtered using either the *area-id* or *flex-algo-id* keywords.

Parameters

flex-algo-id

Specifies the keyword filter to display output for the requested algorithm only.

area-id

Specifies the OSPFv2 area to display output.

area

Displays the information constrained to a particular OSPFv2 area.

detail

Displays the winning FAD information and all other FADs that the router has advertised in OSPFv2.

Platforms

All

Output

The following output is an example of flexible algorithm information, and Table 170: Output fields: OSPF flexible algorithm describes the output fields.

Output Example

```
*A:Dut-C# show router ospf flex-algo detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Flex-Algos (detail)
===============================================================================
-------------------------------------------------------------------------------
Flex-Algo : 128
-------------------------------------------------------------------------------
Advertising FAD         : Algo_OSPF_128
Participating           : Yes
Loop-Free-Alternate     : Disabled
Oper state
  Area 0.0.0.0          : UP
Displaying Area 0.0.0.0 FAD Info
-------------------------------------------------------------------------------
FADs-count              : 1
Selected FAD
  Fad-Owner             : 3.3.3.3
    Supported           : Yes
    Priority            : 50
    Metric Type         : igp (0)
    Calculation Type    : spf (0)
    Exclude             : 0x0
    Include Any         : 0x0
    Include All         : 0x0
    Fad Flags           : M
-------------------------------------------------------------------------------
FAD: Flexible Algorithm Definition
Fad Flags:   M = Prefix Metric
===============================================================================
*A:Dut-C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 170: Output fields: OSPF flexible algorithm

Label	Description
Flex-Algo	The flexible algorithm number
Advertising FAD	The FAD name when the local router is advertising a FAD
Participating	The flexible algorithm participation is enabled
Loop-Free-Alternate	Displays Loop-Free-Alternates; if enabled, then the configuration is inherited from base SPF
Oper state Area	The operational area state
FADs-count	Displays the number of FADs in the area available to the router
FAD-Owner	Displays the winning FAD owner
Supported	Displays local router support for the flexible algorithm definition that is advertised in the FAD
Priority	Displays the FAD priority which is the tiebreaker when multiple FADs are received
Metric Type	The metric used by the winning FAD igp — the IGP metric is used te-metric — the TE metric is used delay — the delay metric is used
Calculation Type	Displays the calculation type; for SPF, only a zero value is defined
Exclude	The list of administrative groups for links to be excluded from the flexible algorithm topology graph
Include Any	The list of administrative groups for links to be included in the flexible algorithm topology graph
Include All	The list of administrative groups for links where all administrative groups must match to be included in the flexible algorithm topology graph
Fad Flags	Displays the FAD flags. The M-flag is used for inter-area; when set, the metric must be used for inter-area traffic to avoid loops and blackhole traffic on ABR/ASBR.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.31 flexible-algorithm-definitions

flexible-algorithm-definitions

Syntax

flexible-algorithm-definitions [**flex-algo** *fad-name*]

Context

[Tree] (show>router flexible-algorithm-definitions)

Full Context

show router flexible-algorithm-definitions

Description

This command displays information about the locally configured FADs.

If **flex-algo** *fad-name* is specified as the output filter, only filtered FAD definitions are shown. If no output filter is specified, all configured FADs are shown.

Parameters

flex-algo *fad-name*

Displays the configuration information for the specified FAD name.

Platforms

All

Output

The following output is an example of FAD information, and Table 171: Output fields: FAD describes the output fields.

Output Example

```
*A:Dut-B# show router flexible-algorithm-definitions
===============================================================================
Flexible Algorithm Definitions
===============================================================================
-------------------------------------------------------------------------------
Flex-Algo: My128
-------------------------------------------------------------------------------
Admin State   : Up
Description   : This-is-My128-algo
Metric Type   : delay
Priority      : 100
Exclude       : N.A.
Include Any   : N.A.
Include All   : N.A.
-------------------------------------------------------------------------------
Flex-Algo: MyFAD
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin State   : Up
Description   : (Not Specified)
Metric Type   : igp
Priority      : 100
Exclude       : N.A.
Include Any   : N.A.
Include All   : N.A.
===============================================================================
*A:Dut-B#
*A:Dut-B# show router flexible-algorithm-definitions flex-algo "My128"
===============================================================================
Flexible Algorithm Definitions
===============================================================================
-------------------------------------------------------------------------------
Flex-Algo: My128
-------------------------------------------------------------------------------
Admin State   : Up
Description   : This-is-My128-algo
Metric Type   : delay
Priority      : 100
Exclude       : N.A.
Include Any   : N.A.
Include All   : N.A.
===============================================================================
*A:Dut-B#
```

Table 171: Output fields: FAD

Label	Description
Flex-Algo	FAD name
Admin State	Displays the administrative state of the FAD
Description	Displays a short description of the FAD
Metric Type	The metric type of the FAD igp — the IGP metric is used for the flexible algorithm graph te-metric — the TE metric is used for the flexible algorithm graph delay — the delay metric is used for the flexible algorithm graph
Priority	Displays the priority of the FAD; if the FAD is advertised, the priority is the tie-breaker used to determine the winning FAD; the higher the value the higher the priority
Exclude	Displays the list of link administrative groups to exclude from the construction of the flexible algorithm topological graph
Include Any	Displays the list of link administrative groups to include when constructing the flexible algorithm topological graph
Include All	Displays the list of link administrative groups that must be assigned to a single link to include in the construction of the flexible algorithm topological graph

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.32 flood-table

flood-table

Syntax

flood-table [**class** *class*] [**detail**]

Context

[Tree] (tools>dump>wlan-gw>lanext>bd flood-table)

Full Context

tools dump wlan-gw lanext bd flood-table

Description

This command dumps the specified flood table entries for the specified HLE BD.

Parameters

class

Specifies the source on which to filter the flood table entries.

Values access, network, remote

detail

Dumps detailed information for the flood table.

Platforms

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

Output

The following output is an example of flood table information.

Output Example

```
tools>dump>wlan-gw>lanext>bd# flood-table detail
===============================================================================
MATCHED 2 FLOOD ENTRIES ON SLOT #2 MDA #1
===============================================================================
TUNNEL MDA      : 2/1                   VLAN            : 100
TUNNEL PORT     : 2/1/NAT-IN-IP         TUNNEL ENCAP    : 2049.1
TUNNEL SRC IP   : 11.3.3.100
TUNNEL DST IP   : 4.4.4.4
TUNNEL TYPE     : GRE                   TUNNEL CLASS    : ACCESS
GRE RAW HEADER  : 1483014144
-------------------------------------------------------------------------------
TUNNEL MDA      : 2/1                   VLAN            : N/A
TUNNEL PORT     : 2/1/NAT-OUT-IP        TUNNEL ENCAP    : 2081.3
TUNNEL SRC IP   : 2.2.2.2
TUNNEL DST IP   : 44.44.44.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
TUNNEL TYPE     : VXLAN                 TUNNEL CLASS    : NETWORK
VXLAN VNI       : 102
VXLAN PORT      : 4789
-------------------------------------------------------------------------------
===============================================================================
```

9.33 flow-attribute

flow-attribute

Syntax

flow-attribute

Context

[Tree] (show>app-assure flow-attribute)

Full Context

show application-assurance flow-attribute

Description

This command displays flow attribute information.

Platforms

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

flow-attribute

Syntax

flow-attribute detail

flow-attribute summary

Context

[Tree] (show>app-assure>group flow-attribute)

Full Context

show application-assurance group flow-attribute

Description

This command displays flow attribute information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

detail

Displays detailed information.

summary

Displays summary information.

Platforms

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

Output

The following outputs are examples of flow attribute information.

Table 172: Output fields: flow attribute detail describes the flow attribute output fields.

Output Example

```
show application-assurance group 1:0 flow-attribute detail
===============================================================================
Application-Assurance Flow Attribute Detailed Statistics
===============================================================================
Type                           Octets              Packets                Flows
-------------------------------------------------------------------------------
Flow attribute : audio
  Confidence   : 0-19
    From sub                     1494                    1                    1
    To sub                          0                    0                    0
  Confidence   : 20-39
    From sub                        0                    0                    0
    To sub                          0                    0                    0
  Confidence   : 40-59
    From sub                        0                    0                    0
    To sub                          0                    0                    0
  Confidence   : 60-79
    From sub                        0                    0                    0
    To sub                          0                    0                    0
  Confidence   : 80-100
    From sub                   118251                 1146                    1
    To sub                     136584                 1314                    1
...


show application-assurance group 1:0 flow-attribute summary
===============================================================================
Application-Assurance Flow Attribute Statistics Summary
===============================================================================
                                    Confidence
Type                        0-19      20-39      40-59      60-79     80-100
-------------------------------------------------------------------------------
Flow attribute : audio
  Total bytes               0.5%         0%         0%         0%      99.5%
  Total packets               0%         0%         0%         0%       100%
  Total flows              33.3%         0%         0%         0%      66.7%
-------------------------------------------------------------------------------
Flow attribute : video
  Total bytes               100%         0%         0%         0%         0%
  Total packets             100%         0%         0%         0%         0%
  Total flows               100%         0%         0%         0%         0%
-------------------------------------------------------------------------------
Flow attribute : upload
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Total bytes               100%         0%         0%         0%         0%
  Total packets             100%         0%         0%         0%         0%
  Total flows               100%         0%         0%         0%         0%
-------------------------------------------------------------------------------
Flow attribute : download
  Total bytes               100%         0%         0%         0%         0%
  Total packets             100%         0%         0%         0%         0%
  Total flows               100%         0%         0%         0%         0%
-------------------------------------------------------------------------------
Flow attribute : encrypted
  Total bytes                 0%         0%         0%         0%       100%
  Total packets               0%         0%         0%         0%       100%
  Total flows              20.6%         0%         0%         0%      79.4%
-------------------------------------------------------------------------------
Flow attribute : abr_service
  Total bytes                 0%         0%         0%         0%       100%
  Total packets               0%         0%         0%         0%       100%
  Total flows               1.7%         0%         0%         0%      98.3%
-------------------------------------------------------------------------------
Flow attribute : real_time_communication
  Total bytes                 0%         0%         0%         0%       100%
  Total packets               0%         0%         0%         0%       100%
  Total flows               1.7%         0%         0%         0%      98.3%
===============================================================================
```

Table 172: Output fields: flow attribute detail

Label	Description
Flow attribute	Displays information for a specific flow attribute.
Confidence	An indication of the certainty that an attribute applies to a flow. Displays the percentage of flows within each range of confidence levels for the attribute.
Octets	Number of octets in the confidence level range.
Packets	Number of packets in the confidence level range.
Flows	Number of flows in the confidence level range.
Total bytes	Percentage of the total bytes per confidence range for a specific flow attribute.
Total packets	Percentage of the total packets per confidence range for a specific flow attribute.
Total flows	Percentage of the total flows per confidence range for a specific flow attribute.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.34 flow-distribution

flow-distribution

Syntax

flow-distribution

Context

[Tree] (show>lag flow-distribution)

Full Context

show lag flow-distribution

Description

This command displays the allocated distribution of traffic flows.

Platforms

All

9.35 flow-ipv4

flow-ipv4

Syntax

flow-ipv4 [**hunt**] [**aspath-regex** *reg-exp*] [**community** *comm-id*]

Context

[Tree] (show>router>bgp>routes flow-ipv4)

Full Context

show router bgp routes flow-ipv4

Description

This command displays BGP flow IPv4 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ex \t**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.36 flow-ipv6

flow-ipv6

Syntax

flow-ipv6 [**hunt**] [**aspath-regex** *reg-exp*] [**community** *comm-id*]

Context

[Tree] (show>router>bgp>routes flow-ipv6)

Full Context

show router bgp routes flow-ipv6

Description

This command displays BGP flow IPv6 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ex \t**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *ip-address* — a.b.c.d
- *ext-comm-val* — 0 to 4294967295
- *ext-asnum* — 0 to 4294967295
- **bandwidth** — bandwidth
- *val-in-mbps* — 0 to 16777215
- **ext** — extended
- **ext:4300** — origin verification
- *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
- *value1* — 0000 to FFFF
- *value2* — 0 to FFFFFFFFFFFF
- **flowspec-set —** flow-spec set
- *group-id* — 0 to 16383

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

Platforms

All

9.37 flow-record-search

flow-record-search

Syntax

flow-record-search aa-sub {**esm** *sub-ident-string* | **sap** *sap-id* | **spoke-sdp** *sdp-id:vc-id* | **transit** *transit-aasub-name* | **mobile** {**imsi** *imsi-msisdn* | **msisdn** *imsi-msisdn* | **imei** *imei*} **apn** *apn-name* | **dsm mac** *mac-address* | **esm-mac** *esm-mac-name*} [**protocol** *protocol-name*] [**application** *app-name*] [**app-group** *app-group-name*] [**flow-status** *flow-status*] [**start-flowid** *start-flowid*] [**classified** *classified*] [**server-ip** *ip-address*] [**server-port** *port-num*] [**client-ip** *ip-address*] [**bytes-tx** *kbytes*] [**flow-duration** *minutes*] [**max-count** *max-count*] [**search-type** *search-type*] [**url** *file-url*]

flow-record-search isa *mda-id* [**protocol** *protocol-name*] [**application** *app-name*] [**app-group** *app-group-name*] [**flow-status** *flow-status*] [**start-flowid** *start-flowid*] [**classified** *classified*] [**server-ip** *ip-address*] [**server-port** *port-num*] [**client-ip** *ip-address*] [**bytes-tx** *kbytes*] [**flow-duration** *minutes*] [**max-count** *max-count*] [**search-type** *search-type*] [**url** *file-url*]

Context

[Tree] (tools>dump>app-assure>group flow-record-search)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump application-assurance group flow-record-search

Description

This command dumps application-assurance flow-records matching the specified criteria for a specific AA subscriber.

Parameters

application *app-name*

Displays flows for the specified application name.

app-group *app-group-name*

Displays flows for the specified application group.

bytes-tx *kbytes*

Display flows with the specified minimum kilobytes.

Values 0 to 4294967295

classified *classified*

Specifies the starting flow ID.

Values yes, no

client-ip *ip-address*

Display flows with the specified client IP address.

Values ipv4-address - a.b.c.d ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces)

dsm mac *mac-address*

Displays flows for the specified subscriber.

esm *sub-ident-string*

Displays flows for the specified subscriber.

esm-mac *esm-mac-name*

Displays flows for the specified ESM MAC.

flow-duration *minutes*

Display flows with the specified minimum duration in minutes.

Values 0 to 4294967295

flow-status *flow-status*

Displays only flows that are active or closed.

Values active, closed

max-count *max-count*

Specifies the maximum count of flows to display.

Values 1 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

protocol *protocol-name*

Displays flows for the specified protocol.

sap *sap-id*

Displays flows for the specified SAP.

search-type *search-type*

Specifies the level of detail displayed for flows that match the search criteria.

Values default — Displays some per flow information.

count — Displays the number of matching flows.

detail — Displays all per flow information available.

server-ip *ip-address*

Display flows with the specified server IP address.

Values ipv4-address - a.b.c.d

ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces)

server-port *port-num*

Display flows with the specified server port number.

Values 0 to 65535

spoke-sdp *sdp-id:vc-id*

Displays flows for the specified spoke SDP.

start-flowid *start-flowid*

Specifies the starting flow ID.

Values 0 to 4294967295

transit *transit-aasub-name*

Displays flows for the specified transit subscriber.

url *file-url*

Specifies the URL for the file to direct the search output to. The file may be local or remote.

Values

local-url | remote-url

local-url	[<cflash-id>/][<file-path>] 200 chars max, including cflash-id directory length 99 chars max each
remote-url	[{ftp:// | tftp://}<login>:<pswd>@<remote-locn>/][<file-path>] 255 chars max directory length 99 chars max each

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

remote-locn	[<hostname> | <ipv4-address> | <ipv6-address>]	
	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x[-interface]
		x:x:x:x:x:x:d.d.d.d[-interface]
		x - [0..FFFF]H
		d - [0..255]D
		interface - 32 chars max, for link
		local addresses
	cflash-id	flash slot ID

Platforms

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

Output

The following output is an example of flow record search information.

Output Example

```
*A:Dut-C#  tools dump application-assurance group 74:40346 flow-record-search aa-sub esm-mac
 "diameter_esm-000100000002"
=====================================================
Application-Assurance flow record search, Version 1.0
Search Start Time:     "01/13/2017 14:30:50" (UTC)
 Search Criteria:
  group[:partition]:   74:40346
  aa-sub:              diameter_esm-000100000002 (esm-mac)
  protocol name:       none specified
  application name:    none specified
  app-group name:      none specified
  flow-status:         none specified
  start-flowId:        none specified
  classified:          none specified
  server-ip:           none specified
  server-port:         none specified
  client-ip:           none specified
  bytes-tx:            none specified
  flow-duration:       none specified
  max-count:           none specified
  search-type:         default
=====================================================
FlowId  Init  Src-ip         Dst-ip      Ip-prot  Src-prt Dst-prt Protocol
    Application  Pkts-tx  Bytes-tx   Pkts-disc  Bytes-disc  Time-ofp(UTC)
           Time-olp(UTC)
124     yes   192.168.200.2  200.1.1.3   icmp     0       0       "non_tcp_udp"         "ICMP"
      1        42         0          0          "01/13/2017 14:27:06"
          "01/13/2017 14:27:06"
300     no    192.168.200.2  200.1.1.3   icmp     0       0       "non_tcp_udp"         "ICMP"
       1        42         0          0          "01/13/2017 14:27:30"
          "01/13/2017 14:27:30"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.38 force

force

Syntax

force *aps-id* {**protect** | **working**} [**number** *number*]

Context

[Tree] (tools>perform>aps force)

Full Context

tools perform aps force

Description

This command forces a switch to either the protect or working circuit

Parameters

aps-id

Specifies the APS ID.

Values

aps-id	aps-*group-id*	
	aps	keyword
	group-id	1 to 128

protect

This command clears a physical port that is acting as the protection circuit for the APS group.

working

This command clears a physical port that is acting as the working circuit for this APS group.

number

Specifies the APS channel number.

Values 1, 2

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

force

Syntax

force *ring-index* **path** {**a** | **b**}

Context

[Tree] (tools>perform>eth-ring force)

Full Context

tools perform eth-ring force

Description

This command forces a block on the ring port where the command is issued.

Parameters

ring-index

Specifies the ring index.

Values 1 to 128

path

Displays information for a specific path.

Values a, b

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

force

Syntax

force all-mc {**active** | **standby**}

force lag-id *lag-id* [**sub-group** *sub-group-id*] { **active** | **standby**}

force peer-mc *ip-address* {**active** | **standby**}

Context

[Tree] (tools>perform>lag force)

Full Context

tools perform lag force

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command allows forcing the specified LAG, subgroup, all MC-LAGs, or remote peer for MC-LAGs to become active or standby when LAG runs in Active/Standby mode. To remove the forced condition, execute the **tools perform lag clear-force** command.

Parameters

all-mc

Specifies all MC-LAGs.

active

Specifies to become active.

standby

Specifies to become standby.

lag-id

Specifies the LAG ID.

Values 1 to 800

sub-group-id

Specifies the subscriber group ID.

Values 1 to 16

ip-address

Specifies the IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d, where x: [0 to FFFF]H and d: [0 to 255]D

Platforms

All

force

Syntax

force id *tunnel-id*

force *lsp-name*

Context

[Tree] (tools>perform>router>mpls>tp-tunnel force)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform router mpls tp-tunnel force

Description

This command performs a force switchover of the MPLS-TP LSP from the active path to the protect path.

Parameters

tunnel-id

Specifies the tunnel number of the MPLS-TP LSP.

Values 1 to 61440

lsp-name

Specifies name of the MPLS-TP LSP, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.39 force-partner-down

force-partner-down

Syntax

force-partner-down

Context

[Tree] (tools>perform>router>dhcp>server>pool>failover force-partner-down)

[Tree] (tools>perform>router>dhcp6>server>pool>failover force-partner-down)

[Tree] (tools>perform>router>dhcp>server>failover force-partner-down)

[Tree] (tools>perform>router>dhcp6>server>failover force-partner-down)

Full Context

tools perform router dhcp local-dhcp-server pool failover force-partner-down

tools perform router dhcp6 local-dhcp-server pool failover force-partner-down

tools perform router dhcp local-dhcp-server failover force-partner-down

tools perform router dhcp6 local-dhcp-server failover force-partner-down

Description

This command forces a DHCP server to transition from the COMMINICATIONS-INTERRUPTED state to the PARTNER-DOWN state.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

It is important to note that this command should only be used if the remote DHCP server is out of service, else duplicate address allocations could occur.

In case of a communication failure between two redundant DHCP servers, the DHCP server transitions to the COMMUNICATIONS-INTERRUPTED state. In this state, the DHCP server allocates IP addresses for new leases from the local and address-driven address-ranges only. This prevents duplicate address allocations.

If during the partner-down-delay time, the communication with the remote DHCP server is not restored, then the DHCP server transitions to the PARTNER-DOWN state. In this state, the DHCP server also allocates IP addresses for new leases from the remote ranges. A DHCP server should only reach this state when the remote DHCP server is out of service, else IP address conflicts can occur.

Platforms

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

9.40 force-switch-path

force-switch-path

Syntax

force-switch-path [**lsp** *lsp-name*] [**path** *path-name*]

no force-switch-path lsp *lsp-name*

Context

[Tree] (tools>perform>router>mpls force-switch-path)

Full Context

tools perform router mpls force-switch-path

Description

Use this command to move from a standby path to any other standby path regardless of priority.

The **no** form of the command reverts to priority path.

Parameters

lsp-name

Specifies an existing LSP name, up to 64 characters in length.

path-name

Specifies the path name to which to move the specified LSP.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.41 force-switchover

force-switchover

Syntax

force-switchover tunnel-group *local-group-id* [**now**] [**to** {**master** | **standby**}]

Context

[Tree] (tools>perform>redundancy>multi-chassis>mc-ipsec force-switchover)

Full Context

tools perform redundancy multi-chassis mc-ipsec force-switchover

Description

This command manually switches over the 7750 SR mc-ipsec mastership of specified tunnel-group.

Parameters

local-group-id

Specifies the local tunnel-group id configured in the **config**>**redundancy**>**multi-chassis**>**peer**>**mc-ipsec** context.

now

This optional parameter removes the prompt of confirmation.

to {master | standby}

specifies the desired mastership state to be achieved following a forced switch between this tunnel group and its redundant peer. If the target state matches the current state when the switch is attempted, then no switch will occur.

Platforms

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

force-switchover

Syntax

force-switchover *sdp-id:vc-id*

force-switchover *vc-id*

no force-switchover

Context

[Tree] (tools>perform>service>id>endpoint force-switchover)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform service id endpoint force-switchover

Description

This command forces the VLL path to switch to the specified spoke SDP, which effectively disables the algorithm used to automatically select the VLL endpoint active transmit object.

If the specified spoke SDP is operationally down, the router rejects this command. If the specified spoke SDP is operationally up, the router switches the VLL path to the specified endpoint spoke SDP and stays on it regardless of subsequent changes to its operational status.

The **no** form of this command re-enables the algorithm used to automatically select the VLL endpoint active transmit object, which switches the VLL path to the best available object in the endpoint.

Note: The router cannot perform force switchover to or from a spoke SDP that is configured with the **standby-signaling-slave** command.

Parameters

sdp-id

Specifies the spoke SDP ID.

Values 1 to 32767

vc-id

Specifies the virtual circuit ID on the spoke SDP ID.

Values 1 to 4294967295

Platforms

All

9.42 force-uplink-switch

force-uplink-switch

Syntax

force-uplink-switch *client-port-id*

Context

[Tree] (tools>perform>satellite force-uplink-switch)

Full Context

tools perform satellite force-uplink-switch

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command forces traffic associated with the specified satellite client port to be switched away from the current uplink depending on which uplink is currently active.

Parameters

client-port-id

Specifies the satellite client port associated with the port mapping, in the format **esat**- *id/slot/port* **force**.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

9.43 forced-single-sfm-overload

forced-single-sfm-overload

Syntax

[**no**] **forced-single-sfm-overload**

Context

[Tree] (tools>perform>redundancy forced-single-sfm-overload)

Full Context

tools perform redundancy forced-single-sfm-overload

Description

This command forces the single-sfm-overload state on or off.

Platforms

7450 ESS, 7750 SR-1, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS, VSR

9.44 forcerenew

forcerenew

Syntax

forcerenew svc-id *service-id* { **ip** *ip-address*[*Imask*] | **mac** *ieee-address*}

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

forcerenew {**interface** *interface-name* | **sap** *sap-id* | **sdp** *sdp-id:vc-id*} [**ip** *ip-address*[*/mask*] | **mac** *ieee-address*]

Context

[Tree] (tools>perform>subscr-mgmt forcerenew)

Full Context

tools perform subscriber-mgmt forcerenew

Description

This command forces the renewal of lease state and only applies to the 7450 ESS and 7750 SR.

In cases where the IPoE hosts resides in a private retail subnet VPRN, the MAC address must be used for the **tools**>**perform**>**subscriber-mgmt**>**forcerenew** command instead of the IP address.

Parameters

service-id

Forces renewal of the lease state for the specified service ID.

Values 1 to 2147483647

sap-id

Forces renewal of the lease state for the specified SAP.

ip-address

Forces renewal of the lease state for the specified IP address.

ieee-address

Forces renewal of the lease state for the specified MAC address.

interface-name

Forces renewal of the lease state for the specified interface name.

Platforms

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

9.45 forwarding

forwarding

Syntax

forwarding [**sub-domain** *sub-domain*] [**bsl** *bsl*] [**neighbor-prefix** *ip-address*] [**si** *si*]

Context

[Tree] (show>router>bier forwarding)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bier forwarding

Description

This command shows the BIER forwarding table.

Parameters

sub-domain

Specifies a sub-domain.

Values 0 to 255

bsl

Specifies a bit string length.

Values 256 to 1024

ip-address

Specifies a neighbor-prefix in IP address format.

si

Specifies an SI.

Values 0 to 16

Platforms

All

Output

The following output is an example of a BIER forwarding configuration. Table 173: Output fields: BIER forwarding provides BIER forwarding field descriptions.

Output Example

```
*A:Dut-A# show router bier forwarding sub-domain 0
===============================================================================
Neighbor
  Nexthop
  Interface
  [SI]: Label
     Forwarding Bit Mask
       BFR-ID : Prefix
-------------------------------------------------------------------------------
===============================================================================
BIER Forwarding Database Sub-Domain 0 BSL 256
===============================================================================
10.20.1.2
  10.180.1.2
  ip-10.180.1.1
  [0]: 1048556
     0x0000000000000000000000000000000000000000000000000000000000000036
       2 : 10.20.1.2
       3 : 10.20.1.3
       5 : 10.20.1.5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
       6 : 10.20.1.6
===============================================================================
Total (Sub-Domain 0): 1
===============================================================================
Total BIER Forwarding entries : 1
===============================================================================
*A:Dut-A#
```

Table 173: Output fields: BIER forwarding

Label	Description
Neighbor	The neighbor IP address
Nexthop	The next-hop IP address
Interface	The egress interface name for the programmed tunnel
[SI]:Label	The SI and label. The BitString and the SI together determine the set of BFERs to which a given packet will be delivered. The label is the egress transport label used for the given SI/SD.
Forwarding Bit Mask	The BitString forwarding mask
BFR-ID: Prefix	The BFR ID and the prefix reachable through this SD/SI/BFR-ID

9.46 forwarding-policies

forwarding-policies

Syntax

forwarding-policies

Context

[Tree] (clear>router>mpls forwarding-policies)

Full Context

clear router mpls forwarding-policies

Description

This command resets or clears statistics for forwarding policies.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

forwarding-policies

Syntax

forwarding-policies

Context

[Tree] (show>router>mpls forwarding-policies)

Full Context

show router mpls forwarding-policies

Description

Commands in this context display forwarding policies.

Platforms

All

forwarding-policies

Syntax

forwarding-policies

Context

[Tree] (monitor>router>mpls forwarding-policies)

Full Context

monitor router mpls forwarding-policies

Description

This command monitors statistics for MPLS forwarding policies.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.47 forwarding-policy

forwarding-policy

Syntax

forwarding-policy [*policy*] [**detail**]

Context

[Tree] (show>router>mpls>forwarding-policies forwarding-policy)

Full Context

show router mpls forwarding-policies forwarding-policy

Description

This command displays the MPLS forwarding policy information.

Parameters

policy

Specifies the policy name.

detail

Specifies detailed information.

Platforms

All

Output

Table 174: Output fields: MPLS forwarding policy describes MPLS forward-policy output fields.

Table 174: Output fields: MPLS forwarding policy

Label	Description
Policy Name	Specifies the MPLS forwarding policy name.
Binding Label	Specifies the binding label number.
Admin	Specifies the administrative state (up | down).
OperState	Specifies the operational state (up | down).
No. of Forwarding Policies	Specifies the number of forwarding policies.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Type	Specifies the type.
Binding Label	Specifies the binding label number.
Last Change	Specifies the date and time of the last change.

Output Example

```
A*A:Dut-B>config>router>mpls# /show router mpls forwarding-policies forwarding-
policy
===============================================================================
MPLS Forwarding Policy
===============================================================================
Policy Name                                 Binding Label      Admin   Oper
-------------------------------------------------------------------------------
smallername!pol1                            0                  Down    Down
policy1-32chars-policy1-32chars             33                 Up      Down
fwdpolicyName!!ThisNameIs32chars            111                Up      Down
-------------------------------------------------------------------------------
No. of Forwarding Policies: 3
===============================================================================
*A:Dut-B>show>router>mpls# forwarding-policies forwarding-policy detail
===============================================================================
Forwarding Policy Status (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Label
-------------------------------------------------------------------------------
Policy Name      : smallername!pol1
Admin State      : Down                 Oper State       : Down
Binding Label    : 0                    Preference       : 2
Binding Label    : 0
Last Change      : 03/28/2018 23:52:45
Ingress Stats    : Disabled

-------------------------------------------------------------------------------
Type : Label
-------------------------------------------------------------------------------
Policy Name      : policy1-32chars-policy1-32chars
Admin State      : Up                   Oper State       : Down
Binding Label    : 33                   Preference       : 254
Binding Label    : 33
Last Change      : 03/28/2018 23:57:33
Ingress Stats    : Disabled

Next-hop Group   : 20
Admin State      : Up                   Oper State       : Down
Resolution Type  : direct
Last Change      : 03/28/2018 23:57:32

Primary
Oper State       : Down                 NH Addr          : 2.2.2.2
Last Change      : 03/28/2018 23:57:32
Backup
Oper State       : Down                 NH Addr          : 3.3.3.3
Last Change      : 03/28/2018 23:57:32
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

forwarding-policy

Syntax

forwarding-policy *name* **egress-stats**

Context

[Tree] (clear>router>mpls>forwarding-policies forwarding-policy)

Full Context

clear router mpls forwarding-policies forwarding-policy

Description

This command clears the egress statistics of the specified forwarding policy instance.

Parameters

name

Specifies the forwarding policy name up to 64 characters.

egress-stats

Clears the egress statistics of the specified forwarding policy.

Platforms

All

forwarding-policy

Syntax

forwarding-policy *plcy* **egress-stats** [**interval** *seconds*] [**repeat** *repeat*] [{ **absolute** | **rate**}]

Context

[Tree] (monitor>router>mpls>forwarding-policies forwarding-policy)

Full Context

monitor router mpls forwarding-policies forwarding-policy

Description

This command clears the egress statistics of the specified forwarding policy instance.

Parameters

plcy

Specifies the forwarding policy up to 64 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

egress-stats

Monitors the egress statistics of the specified forwarding policy.

seconds

Configures the interval for each display in seconds.

Values 3 to 60

repeat

Configures how many times the command is repeated.

Values 1 to 999

absolute

Displays the absolute statistics of the specified forwarding policy.

rate

Displays the rate statistics of the specified forwarding policy.

Platforms

All

9.48 forwarding-table

forwarding-table

Syntax

forwarding-table [*slot-number*]

Context

[Tree] (clear>router forwarding-table)

Full Context

clear router forwarding-table

Description

This command clears the route table on the specified IOM with the route table.

If the slot number is not specified, the command forces the route table to be recalculated.

Parameters

slot-number

Clears the specified IOM slot.

Values 1 to 10 (depending on chassis model)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default all IOMs

Platforms

All

9.49 fp

fp

Syntax

fp

Context

[Tree] (show>card>virtual fp)

Full Context

show card virtual fp

Description

This command displays virtual FP information on the card.

Platforms

VSR

fp

Syntax

fp [*slot-number*[/*fp-number*]] [**path** *path-type*]

Context

[Tree] (show>mcast-management fp)

Full Context

show mcast-management fp

Description

This command displays multicast path management FP-related information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

slot-number

Displays information for the specified card slot.

fp-number

Specifies an FP.

Values 1 to 8

path-type

Specifies the path type.

Values primary, secondary, blackhole

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of multicast management MDA information.

Output Example

```
*A:PE# show mcast-management fp 5/1
===============================================================================
Fp 5/1
===============================================================================
S/F  Bw-policy                      Type            In-use-Bw          Admin
-------------------------------------------------------------------------------
5/1  reduce-paths                   Primary         3964 Kbps          up
     reduce-paths                   Secondary       0 Kbps             up
     reduce-paths                   Blackhole       0 Kbps             up
-------------------------------------------------------------------------------
*A:PE#
```

fp

Syntax

fp [*fp-number*]

Context

[Tree] (tools>dump>resource-usage>card fp)

Full Context

tools dump resource-usage card fp

Description

This command displays resource information for FPs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

fp-number

Specifies an FP.

Values 1 to 8

Platforms

All

Output

The following output is an example of FP card resource usage information.

Output Example

```
# tools dump resource-usage card 1 fp 1
===============================================================================
Resource Usage Information for Card Slot #1 FP #1
===============================================================================
                                                    Total  Allocated       Free
-------------------------------------------------------------------------------
...
    Dynamic Policer Stats (in use by Egress) -                    0
                 Fast Depth Monitored Queues |      10000         25       9975
                         Egress User Queues |     253952          6     253946
                       Egress User Policers |     393215          1     393214
```

9.50 fp-resource-policy

fp-resource-policy

Syntax

fp-resource-policy [*fp-resource-policy-name*] [**association**]

fp-resource-policy [*fp-resource-policy-name*] [**detail**]

Context

[Tree] (show>qos fp-resource-policy)

Full Context

show qos fp-resource-policy

Description

This command displays the FP resource policies configured on the system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

fp-resource-policy-name

Displays the FP resource policy name, up to 32 characters.

association

Displays the entities associated to the specified FP resource policy.

detail

Displays detailed FP resource policies information, including FP resource policy associations.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

Output

The following output is an example of FP resource policy information.

Output Example

```
A:PE# show qos fp-resources-policy
===============================================================================
FP Resource Policy Summary
===============================================================================
Policy Name                     Description
-------------------------------------------------------------------------------
default                         Default FP resource policy.
fp-res-policy-1
===============================================================================
A:PE#
A:PE# show qos fp-resources-policy fp-res-policy-1 associations
===============================================================================
FP Resource Policy
===============================================================================
Policy Name         : fp-res-policy-1
Description         : (Not Specified)
-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
FP      : 1-1
FP      : 1-2
FP      : 1-3
FP      : 1-4
===============================================================================
A:PE#
A:PE# show qos fp-resources-policy fp-res-policy-1 detail
===============================================================================
FP Resource Policy
===============================================================================
Policy Name         : fp-res-policy-1
Description         : (Not Specified)
-------------------------------------------------------------------------------
Queues
-------------------------------------------------------------------------------
Ingress Percent of Total : 50.00
-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
FP      : 1-1
FP      : 1-2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
FP      : 1-3
FP      : 1-4
===============================================================================
A:PE#
```

9.51 fp-tunnel-table

fp-tunnel-table

Syntax

fp-tunnel-table *slot-number* [*ip-prefix/prefix-length*]

fp-tunnel-table *slot-number* [{ **ipv4** | **ipv6**}]

Context

[Tree] (show>router fp-tunnel-table)

Full Context

show router fp-tunnel-table

Description

This command displays the IOM/IMM label, next hop and outgoing interface information for BGP, LDP, and RSVP tunnels used in any of the following applications:

- BGP shortcut (**configure router bgp next-hop-resolution shortcut-tunnel**)
- IGP shortcut (**configure router isis igp-shortcut**)

  (**configure router ospf igp-shortcut**)
- IGP prefix resolved to an LDP LSP (**configure router ldp-shortcut**)
- Static route resolved to a LDP or RSVP LSP
- VPRN auto-bind
- 6PE/6VPE

Parameters

slot-number

Displays information for the specified slot.

Values 1 to 10

***ip-prefix*[/*prefix-length*]**

Displays routes only matching the specified *ip-address* and length.

Values

ipv4-prefix:	a.b.c.d (host bits must be 0)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

		ipv4-prefix-length:	0 to 32
	ipv6	ipv6-prefix[/pref*:	x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x: [0 to FFFF]H d: [0 to 255]D
		prefix-length:	1 to 128

ipv4

Keyword to display the output to IPv4-based FP tunnel tables.

ipv6

Keyword to display the output to IPv6-based FP tunnel tables.

Platforms

All

Output

The following outputs are examples of router FP tunnel information:

- Output example: FP tunnel information for a specific IP address, Table 175: Output fields: FP tunnel table
- Output example: FP tunnel information, Table 175: Output fields: FP tunnel table
- Output example: FP tunnel information, Table 175: Output fields: FP tunnel table
- Output example: FP tunnel information, Table 175: Output fields: FP tunnel table
- Output example: FP tunnel information for a specific IP address, Table 175: Output fields: FP tunnel table
- Output example: FP tunnel information for IPv6, Table 175: Output fields: FP tunnel table
- Output example: FP tunnel information for IPv6, Table 175: Output fields: FP tunnel table
- Output example: FP tunnel information for a specific IPv6 addressTable 175: Output fields: FP tunnel table
- Output example: FP tunnel informationTable 175: Output fields: FP tunnel table
- Output example: FP tunnel informationTable 175: Output fields: FP tunnel table

Output example: FP tunnel information for a specific IP address

```
A:node-2# show router fp-tunnel-table 1 10.20.1.3/32
===============================================================================
Tunnel Table Display

Legend:
B - FRR Backup
===============================================================================
Destination                                             Protocol   Tunnel-ID
       Lbl              NextHop          Intf/Tunnel
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.3/32                                                  LDP         -
       262137            10.2.1.3          1/1/3:1
10.20.1.3/32                                                  RSVP        1
       262133            10.2.1.3          1/1/3:1
10.20.1.3/32                                                  SR-ISIS-0   -
       18602             10.2.1.3          1/1/3:1
10.20.1.3/32                                                  SR-OSPF-0   -
       19102             10.2.1.3          1/1/3:1
-------------------------------------------------------------------------------
Total Entries : 4
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FP tunnel information

```
A:node-2# show router fp-tunnel-table 1
===============================================================================
Tunnel Table Display

Legend:
B - FRR Backup
===============================================================================
Destination                                                   Protocol   Tunnel-ID
       Lbl               NextHop           Intf/Tunnel
-------------------------------------------------------------------------------
10.0.0.1/32                                                   SR-ISIS-0   -
       20001             10.3.4.4           2/1/3:1
       20001/21005       10.2.3.2(B)        1/1/2
10.20.1.2/32                                                  SR-ISIS-0   -
       21002             10.2.3.2           1/1/2
       21002/21005       10.3.4.4(B)        2/1/3:1
10.20.1.4/32                                                  SR-ISIS-0   -
       21004             10.3.4.4           2/1/3:1
       21004/21005       10.2.3.2(B)        1/1/2
10.20.1.5/32                                                  SR-ISIS-0   -
       21005             10.2.3.2           1/1/2
       21005             10.3.4.4(B)        2/1/3:1
-------------------------------------------------------------------------------
Total Entries : 4
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FP tunnel information

```
A:node-2# show router fp-tunnel-table 1
===============================================================================
Tunnel Table Display

Legend:
B - FRR Backup
===============================================================================
Destination                                                   Protocol   Tunnel-ID
       Lbl               NextHop           Intf/Tunnel
-------------------------------------------------------------------------------
10.1.3.1/32                                                    SR          -
       3                 10.1.3.1           1/1/1
10.2.3.2/32                                                    SR          -
       3                 10.2.3.2           1/1/2:1
10.3.5.5/32                                                    SR          -
       3                 10.3.5.5           2/1/1
10.2.3.2/32                                                    SR          -
       3                 10.2.3.2           1/1/2:2
10.20.1.1/32                                                  SR-OSPF-0   -
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
       21011             10.1.3.1          1/1/1
       22011             10.2.3.2(B)       1/1/2:1
10.20.1.2/32                                           SR-OSPF-0   -
       22022             10.2.3.2          1/1/2:2
       24022/25044       10.3.5.5(B)       2/1/1
10.20.1.4/32                                           SR-OSPF-0   -
       25044             10.3.5.5          2/1/1
       22044             10.2.3.2          1/1/2:2
10.20.1.5/32                                           SR-OSPF-0   -
       25055             10.3.5.5          2/1/1
       24055/22044       10.2.3.2(B)       1/1/2:2
10.20.1.6/32                                           SR-OSPF-0   -
       25066             10.3.5.5          2/1/1
       24066/22044       10.2.3.2(B)       1/1/2:2
-------------------------------------------------------------------------------
Total Entries : 9
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FP tunnel information

```
A:node-2# show router fp-tunnel-table 1
===============================================================================
Tunnel Table Display
Legend:
B - FRR Backup
===============================================================================
Destination                                            Protocol   Tunnel-ID
    Lbl                 NextHop           Intf/Tunnel
-------------------------------------------------------------------------------
10.0.11.1/32                                           SR-OSPF-0    -
  30004                 10.0.26.2           1/1/3:1
  40004                 10.0.36.3(B)        1/1/4:1
10.0.22.2/32                                           SR-OSPF-0    -
  30005                 10.0.26.2           1/1/3:1
  20005/40004           10.0.36.3(B)        1/1/4:1
10.0.26.2/32                                           SR           -
  3                     10.0.26.2           1/1/3:1
  50011/60001           10.0.56.5(B)        1/1/2:1
10.0.26.2/32                                           SR           -
  3                     10.0.26.2           1/1/3:1
  20005/40004           10.0.36.3(B)        1/1/4:1
10.0.33.3/32                                           SR-OSPF-0    -
  40000                 10.0.36.3           1/1/4:1
  30998                 10.0.26.2(B)        1/1/3:1
10.0.36.3/32                                           SR           -
  3                     10.0.36.3           1/1/4:1
10.0.44.4/32                                           SR-OSPF-0    -
  30001                 10.0.26.2           1/1/3:1
  60001                 10.0.56.5(B)        1/1/2:1
10.0.55.5/32                                           SR-OSPF-0    -
  60002                 10.0.56.5           1/1/2:1
  30995                 10.0.26.2(B)        1/1/3:1
10.0.56.5/32                                           SR           -
  3                     10.0.56.5           1/1/2:1
10.20.1.1/32                                           SR-OSPF-0   -
  30010                 10.0.26.2           1/1/3:1
  40010                 10.0.36.3(B)        1/1/4:1
10.20.1.2/32                                           SR-OSPF-0   -
  30011                 10.0.26.2           1/1/3:1
  50011/60001           10.0.56.5(B)        1/1/2:1
10.20.1.3/32                                           SR-OSPF-0   -
  40006                 10.0.36.3           1/1/4:1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  20006/30004            10.0.26.2(B)         1/1/3:1
10.20.1.4/32                                              SR-OSPF-0   -
  30007                  10.0.26.2            1/1/3:1
  60007                  10.0.56.5(B)         1/1/2:1
10.20.1.5/32                                              SR-OSPF-0   -
  60008                  10.0.56.5            1/1/2:1
  50008/30001            10.0.26.2(B)         1/1/3:1
-------------------------------------------------------------------------------
Total Entries : 14
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FP tunnel information for a specific IP address

```
A:node-2# show router  fp-tunnel-table 1 10.20.1.5/32
===============================================================================
Tunnel Table Display
Legend:
B - FRR Backup
===============================================================================
Destination                                               Protocol   Tunnel-ID
    Lbl                  NextHop           Intf/Tunnel
-------------------------------------------------------------------------------
10.20.1.5/32                                              LDP         -
  262135                 10.10.5.5           2/1/1
  3                      10.20.1.5(B)      SR
10.20.1.5/32                                              SR-ISIS-0   -
  474390                 10.10.5.5           2/1/1
  474390/474389          10.10.12.2(B)       lag-1
-------------------------------------------------------------------------------
Total Entries : 2
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FP tunnel information for IPv6

```
A:node-2>config>router>ospf3# show router fp-tunnel-table 1 ipv6
===============================================================================
IPv6 Tunnel Table Display
Legend:
B - FRR Backup
===============================================================================
Destination                                 Protocol            Tunnel-ID
  Lbl
    NextHop                                                     Intf/Tunnel
-------------------------------------------------------------------------------
3ffe::100:b01/128                           SR-OSPF3-0           -
  20004
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"                    1/1/1:1
  30004/70005
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"(B)                 2/1/2:1
3ffe::100:1602/128                          SR-OSPF3-0           -
  20005
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"                    1/1/1:1
  70005
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"(B)                 2/1/2:1
3ffe::100:2c04/128                          SR-OSPF3-0           -
  20001
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"                    1/1/1:1
  70001
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"(B)                 2/1/2:1
3ffe::100:3705/128                          SR-OSPF3-0           -
  70002
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"                    2/1/2:1
  30002/20005
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"(B)                 1/1/1:1
3ffe::100:4206/128                          SR-OSPF3-0          -
  70003
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"                    2/1/2:1
  30003/20005
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"(B)                 1/1/1:1
3ffe::a14:101/128                           SR-OSPF3-0          -
  20010
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"                    1/1/1:1
  30010/70005
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"(B)                 2/1/2:1
3ffe::a14:102/128                           SR-OSPF3-0          -
  20011
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"                    1/1/1:1
  70011
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"(B)                 2/1/2:1
3ffe::a14:104/128                           SR-OSPF3-0          -
  20007
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"                    1/1/1:1
  70007
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"(B)                 2/1/2:1
3ffe::a14:105/128                           SR-OSPF3-0          -
  70008
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"                    2/1/2:1
  30008/20005
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"(B)                 1/1/1:1
3ffe::a14:106/128                           SR-OSPF3-0          -
  70009
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"                    2/1/2:1
  30009/20005
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"(B)                 1/1/1:1
fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"/128  SR                  524325
  3
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"                    1/1/1:1
  30004/70005
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"(B)                 2/1/2:1
fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"/128  SR                  524326
  3
    fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"                    2/1/2:1
  30003/20005
    fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"(B)                 1/1/1:1
-------------------------------------------------------------------------------
Total Entries : 12
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FP tunnel information for IPv6

```
A:node-2# show router fp-tunnel-table 1 ipv6
===============================================================================
IPv6 Tunnel Table Display
Legend:
B - FRR Backup
===============================================================================
Destination                                 Protocol            Tunnel-ID
  Lbl
    NextHop                                                     Intf/Tunnel
-------------------------------------------------------------------------------
3ffe::a14:101/128                           LDP                   -
  524286
    fe80::21-"ip-3FFE::A0A:203"                                 1/1/1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3ffe::a14:101/128                          SR-ISIS-0            -
  424488
    fe80::21-"ip-3FFE::A0A:203"                                 1/1/1
3ffe::a14:102/128                          LDP                  -
  524286
    fe80::122-"ip-3FFE::A0A:C03"                                lag-1
3ffe::a14:102/128                          SR-ISIS-0            -
  439489
    fe80::122-"ip-3FFE::A0A:C03"                                lag-1
3ffe::a14:104/128                          LDP                  -
  524284
    fe80::114-"ip-3FFE::A0A:B03"                                2/1/2
3ffe::a14:104/128                          SR-ISIS-0            -
  469491
    fe80::114-"ip-3FFE::A0A:B03"                                2/1/2
3ffe::a14:105/128                          LDP                  -
  524286
    fe80::55-"ip-3FFE::A0A:503"                                 2/1/1
3ffe::a14:105/128                          SR-ISIS-0            -
  484492
    fe80::55-"ip-3FFE::A0A:503"                                 2/1/1
3ffe::a14:106/128                          LDP                  -
  524269
    fe80::114-"ip-3FFE::A0A:B03"                                2/1/2
3ffe::a14:106/128                          SR-ISIS-0            -
  469493
    fe80::114-"ip-3FFE::A0A:B03"                                2/1/2
3ffe::a14:106/128                          SR-TE                655362
  424493
  3ffe::a14:101                                                 SR
3ffe::a14:106/128                          SR-TE                655363
  424493
  3ffe::a14:101                                                 SR
fe80::21-"ip-3FFE::A0A:203"/128            SR                   524289
  3
    fe80::21-"ip-3FFE::A0A:203"                                 1/1/1
fe80::21-"ip-3FFE::A0A:203"/128            SR                   524290
  3
    fe80::21-"ip-3FFE::A0A:203"                                 1/1/1
fe80::32-"ip-3FFE::A0A:303"/128            SR                   524293
  3
    fe80::32-"ip-3FFE::A0A:303"                                 1/1/2
fe80::32-"ip-3FFE::A0A:303"/128            SR                   524294
  3
    fe80::32-"ip-3FFE::A0A:303"                                 1/1/2
fe80::55-"ip-3FFE::A0A:503"/128            SR                   524300
  3
    fe80::55-"ip-3FFE::A0A:503"                                 2/1/1
fe80::55-"ip-3FFE::A0A:503"/128            SR                   524301
  3
    fe80::55-"ip-3FFE::A0A:503"                                 2/1/1
fe80::114-"ip-3FFE::A0A:B03"/128           SR                   524295
  3
    fe80::114-"ip-3FFE::A0A:B03"                                2/1/2
fe80::114-"ip-3FFE::A0A:B03"/128           SR                   524296
  3
    fe80::114-"ip-3FFE::A0A:B03"                                2/1/2
fe80::122-"ip-3FFE::A0A:C03"/128           SR                   524291
  3
    fe80::122-"ip-3FFE::A0A:C03"                                lag-1
fe80::122-"ip-3FFE::A0A:C03"/128           SR                   524292
  3
    fe80::122-"ip-3FFE::A0A:C03"                                lag-1
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Total Entries : 22
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FP tunnel information for a specific IPv6 address

```
A:node-2# show router fp-tunnel-table 3 3ffe::a14:101/128
===============================================================================
IPv6 Tunnel Table Display
Legend:
B - FRR Backup
===============================================================================
Destination                                Protocol            Tunnel-ID
  Lbl
    NextHop                                                    Intf/Tunnel
-------------------------------------------------------------------------------
3ffe::a14:101/128                          LDP                  -
  524286
    fe80::21-"ip-3FFE::A0A:203"                                1/1/1
3ffe::a14:101/128                          SR-ISIS-0            -
  424488
    fe80::21-"ip-3FFE::A0A:203"                                1/1/1
-------------------------------------------------------------------------------
Total Entries : 2
-------------------------------------------------------------------------------
===============================================================================
```

Output example: FP tunnel information

```
A:node-2# show router fp-tunnel-table 1
===============================================================================
IPv4 Tunnel Table Display
Legend:
label stack is ordered from bottom-most to top-most
B - FRR Backup
===============================================================================
Destination                                Protocol         Tunnel-ID
  Lbl/SID
    NextHop                                                 Intf/Tunnel
  Lbl/SID (backup)
    NextHop   (backup)
-------------------------------------------------------------------------------
1.2.0.1/32                                 SR                524384
  3
    1.2.0.1                                                1/1/1
  34010
    2.3.0.2(B)                                             1/1/3
2.3.0.2/32                                 SR                524385
  3
    2.3.0.2                                                1/1/3
  20030
    1.2.0.1(B)                                             1/1/1
2.4.0.2/32                                 SR                524386
  3
    2.4.0.2                                                1/1/2
  41040
  524287
  34060
    2.3.0.2(B)                                             1/1/3
223.0.0.1/32                               SR-OSPF-0         524387
  34010
    2.3.0.2                                                1/1/3
  20010
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    1.2.0.1(B)                                                  1/1/1
223.0.0.3/32                                SR-OSPF-0         524390
  34030
    2.3.0.2                                                     1/1/3
  20030
    1.2.0.1(B)                                                  1/1/1
223.0.0.4/32                                SR-OSPF-0         524389
  41040
    2.4.0.2                                                     1/1/2
  41040
  524287
  34060
    2.3.0.2(B)                                                  1/1/3
223.0.0.5/32                                SR-OSPF-0         524391
  34050
    2.3.0.2                                                     1/1/3
  48050
  524286
  524286
    2.4.0.2(B)                                                  1/1/2
223.0.0.6/32                                SR-OSPF-0         524388
  34060
    2.3.0.2                                                     1/1/3
  55060
  524286
    2.4.0.2(B)                                                  1/1/2
-------------------------------------------------------------------------------
Total Entries : 8
-------------------------------------------------------------------------------
```

Output example: FP tunnel information

```
A:node-2# show router fp-tunnel-table 1
===============================================================================
IPv4 Tunnel Table Display
Legend:
label stack is ordered from bottom-most to top-most
B - FRR Backup
===============================================================================
Destination                                 Protocol         Tunnel-ID
  Lbl/SID
    NextHop                                                  Intf/Tunnel
  Lbl/SID (backup)
    NextHop   (backup)
-------------------------------------------------------------------------------
1.2.0.1/32                                  SR               524384
  3
    1.2.0.1                                                 1/1/1
  524283
    2.3.0.2(B)                                              1/1/3
1.2.0.1/32                                  SR               524392
  3
    1.2.0.1                                                 1/1/1
2.3.0.2/32                                  SR               524385
  3
    2.3.0.2                                                 1/1/3
  524284
    1.2.0.1(B)                                              1/1/1
2.3.0.2/32                                  SR               524393
  3
    2.3.0.2                                                 1/1/3
2.4.0.2/32                                  SR               524386
  3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    2.4.0.2                                                 1/1/2
  524285
  34060
    2.3.0.2(B)                                              1/1/3
2.4.0.2/32                              SR                    524394
  3
    2.4.0.2                                                 1/1/2
223.0.0.1/32                            SR-OSPF-0             524387
  34010
    2.3.0.2                                                 1/1/3
  20010
    1.2.0.1(B)                                              1/1/1
223.0.0.3/32                            SR-OSPF-0             524390
  34030
    2.3.0.2                                                 1/1/3
  34030
  524284
    1.2.0.1(B)                                              1/1/1
223.0.0.4/32                            SR-OSPF-0             524389
  41040
    2.4.0.2                                                 1/1/2
  41040
  524285
  34060
    2.3.0.2(B)                                              1/1/3
223.0.0.5/32                            SR-OSPF-0             524391
  34050
    2.3.0.2                                                 1/1/3
  48050
  524286
  524286
    2.4.0.2(B)                                              1/1/2
223.0.0.6/32                            SR-OSPF-0             524388
  34060
    2.3.0.2                                                 1/1/3
  55060
  524286
    2.4.0.2(B)                                              1/1/2
-------------------------------------------------------------------------------
Total Entries : 11
-------------------------------------------------------------------------------
```

Table 175: Output fields: FP tunnel table

Label	Description
Destination	The FP tunnel destination
Lbl/SID	The destination label
NextHop	The next hop
Lbl/SID (backup)	The destination label for the backup
NextHop (backup)	The next hop for the backup
Protocol	The FP tunnel protocol
Tunnel-ID	The tunnel ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Intf/Tunnel	The interface and tunnel

9.52 frag-stats

frag-stats

Syntax

frag-stats

Context

[Tree] (show>service>nat>map frag-stats)

Full Context

show service nat map frag-stats

Description

This command displays NAT MAP fragmentation information.

Platforms

VSR

Output

The following output is an example of this command, and Table 176: Output fields: map fragmentation statistics describes the fields.

Output Example

```
*A:Dut-D>show>service>nat>map# show service nat map frag-stats
===============================================================================
NAT MAP fragmentation statistics
===============================================================================
Rx Resolved Packets                                 : 0
Rx Unresolved Packets                               : 0
Tx Frags                                            : 0
Dropped Frags                                       : 0
Created Flows                                       : 0
Flow Collisions                                     : 0
Exceeded Max Flows                                  : 0
Exceeded Max Timeouts                               : 0
Exceeded Max Buffers                                : 0
Exceeded Max Buffers Per Flow                       : 0
In-Use Flows %                                      : 0
Max Flows %                                         : 0
In-Use Buffers %                                    : 0
Max Buffers %                                       : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 176: Output fields: map fragmentation statistics

Label	Description
Rx Resolved Packets	Specifies fragments that were resolved and never buffered. This includes: • first fragments (MF=1, FO=0), which are always resolved by definition • non-first fragments that have matching flow records
Rx Unresolved Packets	Specifies the number of packets that were queued in the system since the last clear command was invoked. For example, out-of-order fragments without a matching flow record (missing the first fragment). These packets can be eventually resolved and forwarded, or discarded (for example, as a result of timeout).
Tx Frags	Specifies the fragments that were transmitted (Rx Resolved and Rx Unresolved that were eventually resolved) out of the fragmentation logic within the VSR. There is no guarantee that these fragments will be transmitted out of the system as they may be dropped on egress due to congestion or restrictions imposed by the configured filter.
Dropped Frags	Specifies the dropped fragments due to some fragmentation issue (timeout, buffer full).
Created Flows	A cumulative counter that represents the total number of flow records since the last **clear** command was invoked. It only counts the first fragment and roughly represents the amount of fragmented packets that were processed by the system since the last clear command. The counter does not provide any indication about the number of flows (packets whose fragments were transmitted fully) that were actually transmitted.
Flow Collisions	Represents the number of overlapping first fragments. For example, when a flow record already exists and another first fragment for this flow is received.
Exceeded Max Flows	Specifies the number of occurrences when the number of flows in the system exceeded its maximum supported value.
Exceeded Max Timeouts	Specifies the number of fragments that have timed out (since the last **clear** command): • Rx unresolved (buffered) fragments that have timed out, due to a missing first fragment • deleted flow-records because they have not received all fragments within the timeout period

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Exceeded Max Buffers	Specifies the number of occurrences when the number of buffers in the system exceeded its maximum supported value.
Exceeded Max Timeouts	Specifies the number of fragments that have timed out (since the last clear command): • Rx unresolved (buffered) fragments that have timed out, due to a missing 1st fragment • deleted flow-records because they have not received all fragments within the timeout period
Exceeded Max Buffers	Specifies the number of occurrences when the number of buffers in the system exceeded its maximum supported value.
Exceeded Max Buffers Per Flow	Specifies the number of occurrences when a fragment count per flow has exceeded its limit.
In-Use Flows	An approximation of the number of flow records that are currently in use. The counter provides an estimate, expressed in percent, of the number of fragmented packets that were being processed at the time the counter was invoked.
Max Flows	Specifies the amount of time in seconds that the system will remain in a hold down state before being used again.
In-Use Buffers	Represents the amount of buffered fragments, expressed in percent of the maximum buffer space, that can be used for fragmentation.
Max Buffers	A non-cumulative counter that represents the maximum number of buffers allocated since the last **clear** command. The counter captures the highest value of the **buffers-in-use** counter since the last **clear** command. The counter shows the percentage of the total buffer space that can be used by fragmentation.

9.53 free-addresses

free-addresses

Syntax

free-addresses *ip-address*[/*mask*]

free-addresses summary [**subnet** *ip-address*[/ *mask*]

free-addresses pool *pool-name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>dhcp>local-dhcp-server free-addresses)

Full Context

show router dhcp local-dhcp-server free-addresses

Description

This command displays the free addresses in a subnet.

Parameters

pool-name

Specifies a DHCP pool name on the router.

subnet

Specifies a subnet of IP addresses that are served from the pool.

summary

Displays summary output of the free addresses.

Platforms

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

Output

The following output is an example of free address information

Output Example

```
*A:ALA-48>show>router>dhcp>local-dhcp-server# free addresses pool test subnet 10.0.0.0/24
===============================================================================
Free addresses in subnet 10.0.0.0/24
===============================================================================
IP Address
-------------------------------------------------------------------------------
No. of free addresses: 0
===============================================================================
*A:ALA-48>show>router>dhcp>local-dhcp-server#
```

Table 177: Output fields: DHCP server free addresses describes free addresses pool command output fields.

Table 177: Output fields: DHCP server free addresses

Field	Description
IP Address	The free IP addresses in the subnet
No of free addresses	The total number of free addresses in the subnet

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

9.54 ftn

ftn

Syntax

ftn [**endpoint** *endpoint* **| sender** *sender* **| nexthop** *nexthop* **| lsp-id** *lsp-id* **| tunnel-id** *tunnel-id* **| label** *start-label end-label*]

Context

[Tree] (tools>dump>router>mpls ftn)

Full Context

tools dump router mpls ftn

Description

This command dumps FEC-to-NHLFE (FTN) information for MPLS.

Parameters

endpoint

Specifies the endpoint or destination IP address.

Values a.b.c.d

sender

Specifies the sender IP address.

Values a.b.c.d

lsp-id

Specifies the LSP ID.

Values 0 to 65535

tunnel-id

Specifies the tunnel ID.

Values 0 to 65535

nexthop

Specifies the next hop IP address.

Values a.b.c.d

start-label

Specifies the start label value for the label range of the display.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 32 to 524287

end-label

Specifies the end label value for the label range of the display.

Values 32 to 524287

Platforms

All

9.55 fwd-path-ext

fwd-path-ext

Syntax

fwd-path-ext [**fpe** *fpe-id*]

fwd-path-ext fpe *fpe-id* **associations**

Context

[Tree] (show fwd-path-ext)

Full Context

show fwd-path-ext

Description

This command displays FPE information.

Parameters

fpe-id

Specifies the FPE ID.

Values 1 to 64

associations

Displays a list of current fwd path extensions to which the FPE is associated.

Platforms

All

Output

The following outputs are examples of **show fwd-path-ext fpe** command information, and Table 178: Output fields: forwarding path extension describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example: show fwd-path-ext fpe

```
===============================================================================
FPE Info
===============================================================================
FPE Id    Path Application  Description
          pxc/xc-a, xc-b
-------------------------------------------------------------------------------
1         pxc 1           pw-port      xyz
2         lag 1, lag 2    vxlan-term   abc
-------------------------------------------------------------------------------
Number of entries : 2
-------------------------------------------------------------------------------
SDP-Id Range: 1-100
===============================================================================
```

Output Example: show fwd-path-ext fpe *id*

```
============================================================
FPE Id: 2
============================================================
Description        : xyz
Path               : pxc 1
Pw Port            : Enabled       Oper: up
Vxlan Termination  : Disabled
============================================================

*A:CPM148>config>fwd-path-ext>fpe$ show fwd-path-ext fpe 2
============================================================
FPE Id: 2
============================================================
Description        : abc
Path               : lag 1, lag 2
Pw Port            : Disabled
Vxlan Termination  : Disabled      Oper: down ß Can be down due to lag 1/2 being down, PXCs
 within the lags being down
============================================================
```

Output Example: show fwd-path-ext fpe associations

```
============================================================
pw-port associations
============================================================
Epipe Svc Id    PW-Port-Id
============================================================
110
220
330
============================================================
Vxlan-termination associations
============================================================
None
============================================================
*A:CPM148>config>fwd-path-ext>fpe$ show fwd-path-ext fpe 2 associations
============================================================
pw-port associations
============================================================
None
============================================================
Vxlan-termination associations
============================================================
tunnel-termination
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
============================================================
10.1.1.1
10.2.1.1
2001:db8::10
2001:db8::20
============================================================
```

Output Example: show fwd-path-ext fpe *id* (MVPN UMH rate monitoring PXC configuration)

```
===============================================================================
FPE Id: 1
===============================================================================
Description        : (Not Specified)
Multi-Path         : Disabled
Path               : pxc 1
Pw Port Extension  : Disabled                          Oper     : down
Sub Mgmt Extension : Disabled                          Oper     : N/A
Vxlan              : Disabled                          Oper     : down
Segment-Routing V6 : Disabled                          Oper     : up
SRv6 Type          : origination routed-vpls
Cups Steering      : Disabled                          Oper     : N/A
MVPN UMH Rate Mon  : Enabled
===============================================================================
```

Output Example: show fwd-path-ext fpe *id* (MVPN UMH rate monitoring LAG configuration)

```
===============================================================================
FPE Id: 1
===============================================================================
Description        : (Not Specified)
Multi-Path         : Disabled
Path               : lag 1, lag 2
Pw Port Extension  : Disabled                          Oper     : down
Sub Mgmt Extension : Disabled                          Oper     : N/A
Vxlan              : Disabled                          Oper     : down
Segment-Routing V6 : Disabled                          Oper     : up
SRv6 Type          : origination routed-vpls
Cups Steering      : Disabled                          Oper     : N/A
MVPN UMH Rate Mon  : Enabled
===============================================================================
```

Table 178: Output fields: forwarding path extension

Field	Description
FPE Id	Displays the configured ID of the FPE
Path pxc/ xc-a, xc-b	Displays the path associated with this FPE. This can be a single PXC (pair of PXC sub-ports .a and .b), or it can be a LAG with PXC sub-ports as member ports. PXC based LAG is used for redundancy and increased throughput of the FPE. In case of a PXC based LAG, the path is referred to as xc-a and xc-b.
Application	Displays the application associated with this FPE. Based on the application type, the system internally configures logic on underlying PXC (or PXC based LAG) necessary to accommodate the application.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Description	Displays the user-configurable string used to describe the use of the FPE
Cups Steering	Displays the configured CUPS steering status
Multi-path	Displays the configured multipath status
MVPN UMH rate monitoring	Displays the configured MVPN UMH rate monitoring status
SDP-id Range	Displays the configurable SDP ID range used for internal SDPs that are used by FPEs
Sub Mgt Extension	Displays the configured subscriber management extension status
Segment-Routing V6	Displays the configured Segment Routing v6 status
SRv6 Type	Displays the FPE application type
Path	Path associated with this FPE. This can be a single PXC (pair of PXC sub-ports .a and .b), or it can be a LAG with PXC sub-ports as member ports. PXC based LAG is used for redundancy and increased throughput of the FPE.
PW-Port	Displays the FPE that is used by PW-port application
VXLAN-Termination	Displays the FPE that is used by Vxlan-Termination application
Oper	Displays the status of the application
EPIPE svc Id	Displays the Epipe service ID with which the PW-port is associated
PW-Port Id	Displays the PW-port ID that is associated with the Epipe
Tunnel termination	Displays the IP addresses on which the VXLAN tunnel is terminated

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

10 g Commands

10.1 gateway

gateway

Syntax

gateway brg-id *brg-ident*

Context

[Tree] (show>subscr-mgmt>vrgw>brg gateway)

Full Context

show subscriber-mgmt vrgw brg gateway

Description

This command displays all operational data related to the BRG.

Parameters

brg-ident

Specifies the BRG identifier, up to 32 characters.

Platforms

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

Output

The following output is an example of subscriber management BRG gateway information.

Output Example

```
Node# show subscriber-mgmt brg gateway brg-id "00:00:00:00:00:05"
===============================================================================
Bridged Residential Gateways
===============================================================================
Identifier                  : 00:00:00:00:00:05
SLAAC prefix                : 3ffe:0:0:5::/64
Subnet                      : 21.0.0.1/24
Subnet start address        : 21.0.0.20
Subnet end address          : 21.0.0.40
DMZ address                 : (Not Specified)
DNS 1 v4                    : (Not Specified)
DNS 1 v6                    : (Not Specified)
DNS 2 v4                    : (Not Specified)
DNS 2 v6                    : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
NBNS 1                       : (Not Specified)
NBNS 2                       : (Not Specified)
DHCP lease time              : 600
DHCP stream destination      : (Not Specified)
IPv4 portal URL              : (Not Specified)
IPv6 portal URL              : (Not Specified)
BRG profile                  : brg
Subscriber profile           : subprof_mig_4
SLA profile                  : (Not Specified)
UPnP policy override         : (Not Specified)
DMZ address in use           : no
Proxy authenticated          : yes
Ingress IPv4 filter override : N/A
Egress IPv4 filter override  : N/A
Ingress IPv6 filter override : N/A
Egress IPv6 filter override  : N/A
No QoS overrides found.
No Filter rules received.
===============================================================================
```

gateway

Syntax

gateway brg-id *brg-ident*

gateway brg-id *brg-ident* **idle-bindings** [**binding** *ieee-address*]

gateway all-gateways

gateway brg-id *brg-ident* **all-hosts**

gateway brg-id *brg-ident* **host** *ieee-address*

Context

[Tree] (clear>subscr-mgmt>vrgw>brg gateway)

Full Context

clear subscriber-mgmt vrgw brg gateway

Description

This command clears BRG gateway data.

Parameters

brg-ident

Clears the specified BRG and all related hosts from the system.

idle-bindings

Clears a specific idle binding or all idle binding from the BRG. An idle binding is a DHCP lease that has not been expired but for which the host has been removed due to idle timeout.

ieee-address

Specifies the MAC address of the binding to remove.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

all-gateways

Clears all BRGs and related hosts from the system.

all-hosts

Clears all hosts belonging to a specified BRG.

ieee-address

Clears a specific host belonging to a specified BRG.

Platforms

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

gateway

Syntax

gateway name *name*

gateway [**name** *name*] **tunnel** [**private-address-type** *private-address-type*] [**tunnel-type** *tunnel-type*]

gateway [**service** *service-id*]

gateway tunnel [*ip-address:port*]

gateway name *name* **tunnel** *ip-address:port*

gateway name *name* **tunnel** [**tunnel-type** *tunnel-type*]

gateway [**name** *name*] **tunnel state** *state* [**tunnel-type** *tunnel-type*]

gateway [**name** *name*] **tunnel idi-value** *idi-prefix*

gateway tunnel count

gateway tunnel [**private-address-type** *private-address-type*] [**tunnel-type** *tunnel-type*]

Context

[Tree] (show>ipsec gateway)

Full Context

show ipsec gateway

Description

This command displays IPsec gateway information.

Parameters

name

Specifies an IPsec gateway name.

service-id

Specifies the service ID of the default security service used by the IPsec gateway.

Values 1 to 214748364 svc-name: Up to 64 characters maximum

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address:port

Displays the IP address and UDP port of the SAP IPsec gateway to the tunnel. For the remote tunnel endpoint, the *port* part is optional. In the case of an IPv6 address with a port, use the format "*IPv6Address:port*", for example "[2001:db8::100]:500"; a double quote is required around this format.

Values 0 to 65535

state

Specifies the state of the tunnel.

Values up, down

idi-prefix

Displays a string as an IDi prefix. With this parameter, the system lists all the peers with IDi that has specified prefixes.

count

Displays the number of IPsec gateway tunnels with the **ike-policy>authmethod** command set to **psk**.

tunnel-type

Specifies the tunnel type supported on the IPsec gateway.

Values dl2l, ra

Platforms

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

Output

The following outputs are examples of IPsec gateway information:

- Output Example: show IPsec gateway tunnel; Table 179: Output fields: show IPsec gateway tunnel
- Output Example: show IPsec gateway name; Table 180: Output fields: show IPsec gateway name

Output Example: show IPsec gateway tunnel

```
show ipsec gateway tunnel 30.102.1.2:500

===============================================================================
IPsec Remote Users Tunnel Detail
===============================================================================
IP Addr: 30.102.1.2:500, port: 500
-------------------------------------------------------------------------------
Service Id       : 1102                 Sap Id           : tunnel-1.public:1
Address          : 30.102.1.2:500
Private If       : priv1-t1-d-psk-xauth-v2
Private Address  : 91.102.1.2
Private Service  : 102                  Template Id      : 1
Replay Window    : None                 Bi Direction SA  : true
Host ISA         : 1/1
Match TrustAnchor: None
Last Oper Changed: 06/09/2025 20:32:02
IKE IDI Type     : ipv4Addr
IKE IDI Value    : 30.102.1.2
TS List          : 1102
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IKE Policy       : 1
TCP MSS
    Public       : N/A
    Private      : N/A

-------------------------------------------------------------------------------
Dynamic Keying Parameters
-------------------------------------------------------------------------------
Transform Id1    : 1                    Transform Id2    : None
Transform Id3    : None                 Transform Id4    : None
PPK List         : None
IPsec GW Name    : d-psk-xauth-g1-1-v2
Local GW Address : 90.102.1.2
Ike Policy Id    : 1                    Ike Pol Auth     : psk
Cert Profile     : N/A
Trust Anchor Prof: N/A
Local Id Type    : none
Client Database
    Client Index : None
Radius Acct Plcy : None
Radius Auth Plcy : None
-------------------------------------------------------------------------------
Local Address Assignment Information
-------------------------------------------------------------------------------
Admin State      : Up

IPv4
-------------------------------------------------------------------------------
Router           : Base
Pool Name        : DHCP_d-psk-g1-1-v2_ipv4
Secondary Pool N*: <none>

IPv6
-------------------------------------------------------------------------------
Router           : <none>
Pool Name        : <none>

-------------------------------------------------------------------------------
ISAKMP-SA
-------------------------------------------------------------------------------
State            : Up
Established      : 06/09/2025 20:32:01  Lifetime         : 86400
Expires          : 06/10/2025 20:32:01  Temporary MTU    : max
Auth Algorithm   : Sha1                 Encr Algorithm   : Aes192
DH Group         : 2                    PRF Algorithm    : sha1
PPK Used         : False
PPK ID           : None

ISAKMP Statistics
--------------------
Tx Packets       : 2                    Rx Packets       : 2
Tx Errors        : 0                    Rx Errors        : 0
Tx DPD           : 0                    Rx DPD           : 0
Tx DPD ACK       : 0                    Rx DPD ACK       : 0
Tx DPD Unacked   : 0                    Rx DPD Errors    : 0
-------------------------------------------------------------------------------
IPsec-SA : 1, Inbound (index 2)
-------------------------------------------------------------------------------
SPI              : 161265
Auth Algorithm   : Sha384               Encr Algorithm   : Aes192
Installed        : 06/09/2025 20:32:02  Lifetime         : 3600
PFS DH Group     : No PFS DH Group
Extended Seq Num : No
Local Traffic Selectors:
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2.102.0.0-2.102.0.255
    any protocol
Remote Traffic Selectors:
91.102.1.2-91.102.1.2
    any protocol

Aggregate Statistics
--------------------
Bytes Processed  : 0                    Packets Processed: 0
Crypto Errors    : 0                    Replay Errors    : 0
SA Errors        : 0                    Policy Errors    : 0

-------------------------------------------------------------------------------
IPsec-SA : 1, Outbound (index 2)
-------------------------------------------------------------------------------
SPI              : 3442359051
Auth Algorithm   : Sha384               Encr Algorithm   : Aes192
Installed        : 06/09/2025 20:32:02  Lifetime         : 3600
PFS DH Group     : No PFS DH Group
Extended Seq Num : No
Multicast If     : None
Local Traffic Selectors:
2.102.0.0-2.102.0.255
    any protocol
Remote Traffic Selectors:
91.102.1.2-91.102.1.2
    any protocol

Aggregate Statistics
--------------------
Bytes Processed  : 0                    Packets Processed: 0
Crypto Errors    : 0                    Replay Errors    : 0
SA Errors        : 0                    Policy Errors    : 0
===============================================================================
Fragmentation Statistics
===============================================================================
Encapsulation Overhead                : 85
Temporary Private MTU                 : max
Pre-Encapsulation
    Fragmentation Count               : 0
    Last Fragmented Packet Size       : 0
Post-Encapsulation
    Fragmentation Count               : 0
    Last Fragmented Packet Size       : 0
===============================================================================
===============================================================================
```

Table 179: Output fields: show IPsec gateway tunnel

Label	Description
IPsec Remote Users Tunnel Detail	
IP Addr	Displays the tunnel IP address
Port	Displays the port
Service Id	Displays the service ID
Sap Id	Displays the SAP ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Address	Displays the tunnel IP address
Private If	Displays the private interface name
Private Address	Displays the private IP address
Private Service	Displays the private service number
Template Id	Displays the template ID number
Replay Window	Displays the replay window size
Bi Direction SA	Displays whether the tunnel has a bidirection CHILD_SA or not
Host ISA	Displays the host ISA number
Match TrustAnchor	Displays the matched trust anchor name
Last Oper Changed	Displays the time of the last operation status changed
IKE IDI Type	Displays the IKE IDi type
IKE IDI Value	Displays the IKE IDi value
TS List	Displays the TS list number
IKE Policy	Displays the IKE policy number
Public	Displays the TCP MSS setting on the public side
Private	Displays the TCP MSS setting on the private side
Dynamic Keying Parameters	
Transform Id1, Id2, Id3, Id4	Displays the transform ID
PPK List	Displays the name of the referenced PPK list
IPsec GW Name	Displays the IPsec gateway name
Local GW Address	Displays the local gateway address
Ike Policy Id	Displays the IKE policy ID
Ike Pol Auth	Displays the authentication method used during tunnelling
Cert Profile	Displays the name of certificate profile used for certificate authentication
Trust Anchor Prof	Displays name of trust anchor profile used for certificate authentication
Local Id Type	Displays the local ID type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Client Index	Displays the client index number
Radius Acct Plcy	Displays the RADIUS account policy
Radius Auth Plcy	Displays the RADIUS authentication policy
Local Address Assignment Information	
Admin State	Displays the administrative state of the local address assignment
Router	Displays the router ID
Pool Name	Displays the pool name
Secondary Pool Name	Displays the secondary pool name
ISAKMP-SA	
State	Displays the administrative state
Established	Displays the time when the IKE_SA is established
Lifetime	Displays the lifetime of the IKE_SA
Expires	Displays the time when the IKE_SA expires
Temporary MTU	Displays the temporary MTU
Auth Algorithm	Displays the authentication algorithm of the IKE_SA
Encr Algorithm	Displays the encryption algorithm of the IKE_SA
DH Group	Displays the key exchange group ID of the IKE_SA
PRF Algorithm	Displays the PRF algorithm of the IKE_SA
PPK Used	Displays if the PPK is used
PPK ID	Displays the PPK ID
Tx Packets	Displays the number of transmitted packets
Rx Packets	Displays the number of received packets
Tx Errors	Displays the number of transmitted errors
Rx Errors	Displays the number of received errors
Tx DPD	Displays the number of transmitted DPD requests
Rx DPD	Displays the number of received DPD requests
Tx DPD ACK	Displays the number of transmitted DPD ACK

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Rx DPD ACK	Displays the number of received DPD ACK messages
Tx DPD Unacked	Displays the number of transmitted DPD requests
Rx DPD Errors	Displays the number of received DPD errors
IPsec-SA	
SPI	Displays the SPI for the IPsec SA
Auth Algorithm	Displays the authentication algorithm of the CHILD_SA
Encr Algorithm	Displays the encryption algorithm of the CHILD_SA
Installed	Displays the installation time of the CHILD_SA
Lifetime	Displays the lifetime of the CHILD_SA
PFS DH Group	Displays the PFS key exchange group
Extended Seq Num	Displays the extended sequence number
Local Traffic Selectors	Displays the local traffic selectors
Remote Traffic Selectors	Displays the remote traffic selectors
Bytes Processed	Displays the number of bytes processed
Packets Processed	Displays the number of packets processed
Crypto Errors	Displays the number of cryptographic errors
Replay Errors	Displays the number of replay errors
SA Errors	Displays the number of SA errors
Policy Errors	Displays the number of policy errors
Fragmentation Statistics	
Encapsulation Overhead	Displays the maximum encapsulation overhead
Temporary Private MTU	Displays the temporary private MTU
Fragmentation Count	Displays the number of fragmented packets
Last Fragmented Packet Size	Displays the size of the last fragmented packet

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example: show IPsec gateway name

```
show ipsec gateway name "d-psk-xauth-g1-1-v2"

===============================================================================
IPSec Gateway (SAP)
===============================================================================
-------------------------------------------------------------------------------
IPSec Gateway ( d-psk-xauth-g1-1-v2 )
-------------------------------------------------------------------------------
Sap                : tunnel-1.public:1        Service           : 1102
Local GW           : 90.102.1.2
Admin State        : Up                       Oper State        : Up
Def Secure Svc     : 102
Def Secure Svc If  : priv1-t1-d-psk-xauth-v2
Ike Policy Id      : 1
Ike Version        : 2                        Ike Policy Auth   : psk
Pre Shared Key     : dynamic-psk-xauth-v2
Local Id Type      : none
Cert Profile       : N/A
Trust Anchor Prof  : N/A
Client Database    : (Not Specified)
Mixed Tunnel Mode  : Enabled
Max Num of Keys
    Phase 1        : 0
    Phase 2        : 0
Number of Dynamic                             Number of Remote
LAN-to-LAN Tunnels : 3                        Access Tunnels    : 2
Radius Acct Plcy   : None
Radius Auth Plcy   : None
TS-List            : 1102

Certificate Status Verify
-------------------------------------------------------------------------------
Primary            : crl                      Secondary         : none
Default Result     : revoked
-------------------------------------------------------------------------------
Local Address Assignment Information
-------------------------------------------------------------------------------
Admin State        : Up

IPv4
-------------------------------------------------------------------------------
Router             : Base
Pool Name          : DHCP_d-psk-g1-1-v2_ipv4
Secondary Pool Name: <none>

IPv6
-------------------------------------------------------------------------------
Router             : <none>
Pool Name          : <none>
-------------------------------------------------------------------------------
Template Id: 1
-------------------------------------------------------------------------------
Transform Id1      : 1                        Transform Id2     : None
Transform Id3      : None                     Transform Id4     : None
Reverse Route      : useSecurityPolicy        Replay Window     : None
Reverse Route Metr : 0
Reverse Route Pref : 0
IP MTU             : max                      Clear DF BIT      : false
Encap IP MTU       : max
Pkt Too Big        : true
Pkt Too Big Count  : 100                      Pkt Too Big Intvl : 10 secs
Frag Required      : true
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Frag Req Count     : 100                      Frag Req Interval : 10 secs
Propagate IPv4 PMTU: true
Propagate IPv6 PMTU: true
PMTU Disc Aging    : 900 secs
TCP MSS Adjust
    Public         : Disabled
    Private        : Disabled
Ignore Default Rou*: false
Copy Traffic Class*: false
PPK List           : None
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Table 180: Output fields: show IPsec gateway name

Label	Description
Sap	Displays the SAP ID
Service	Displays the service ID
Local GW	Displays the local gateway IP address
Admin State	Displays the administrative state of the IPsec gateway
Oper State	Displays the operational state of the IPsec gateway
Def Secure Svc	Displays the default private service name
Def Secure Svc If	Displays the default private interface name
Ike Policy Id	Displays the IKE policy ID
Ike Version	Displays the IKE version number
Pre Shared Key	Displays the pre-shared key used for authentication (hashed)
Local Id Type	Displays the local ID used for IDi or IDr for IKEv2 tunnels
Cert Profile	Displays the name of the certificate profile used for certificate authentication
Trust Anchor Prof	Displays the name of trust anchor profile used for certificate authentication
Client Database	Displays the name of referenced IPsec client database
Mixed Tunnel Mode	Displays whether mixed tunnel mode is enabled or disabled on the IPsec gateway
Max Num of Keys	Phase 1 — The maximum number of IKE_SA keys that can be saved by the system Phase 2 — The maximum number of CHILD_SA keys that can be saved by the system

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Number of Dynamic LAN-to-LAN Tunnels	Displays the number of dynamic LAN-to-LAN tunnels
Number of Remote Access Tunnels	Displays the number of remote access tunnels
Radius Acct Plcy	Displays the RADIUS account policy
Radius Auth Plcy	Displays the RADIUS authentication policy
TS-List	Displays the name of the referenced TS list
Primary	Displays the primary method used to verify the revocation status of the peer's certificate (either CRL or OCSP)
Secondary	Displays the secondary method used to verify the revocation status of the peer's certificate (either CRL, OCSP, or none)
Default Result	Displays the default result when both the primary and secondary method failed to provide an answer
Admin State	Displays the administrative state of the local address assignment
Router	Displays the router ID
Pool Name	Displays the pool name
Secondary Pool Name	Displays the secondary pool name
Transform Id1, Id2, Id3, Id4	Displays the transform ID
Reverse Route	Displays the reverse route setting
Replay Window	Displays the replay window size
Reverse Route Metr	Displays the metric used for the reverse route
Reverse Route Pref	Displays the preference used for the reverse route
IP MTU	Displays the IP-MTU
Clear DF BIT	Displays whether to clear DF bit or not
Encap IP MTU	Displays the encapsulated IP-MTU
Pkt Too Big	Displays whether to generate the packet too big message or not
Pkt Too Big Count	Displays the configured packet-too-big message count
Pkt Too Big Intvl	Displays the configured packet-too-big message interval

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Frag Required	Displays whether to generate the fragment required message or not
Frag Req Count	Displays the configured fragment required message count
Frag Req Interval	Displays the configured fragment required message interval
Propagate IPv4 PMTU	Displays whether to propagate the IPv4 PMTU or not
Propagate IPv6 PMTU	Displays whether to propagate the IPv6 PMTU or not
PMTU Disc Aging	Displays the PMTU discovery lifetime
Public	Displays the TCP MSS adjust setting on the public side
Private	Displays the TCP MSS adjust setting on the private side
Ignore Default Route	Displays whether to ignore the default reverse route or not
Copy Traffic Class	Displays whether to copy the traffic class or not
PPK List	Displays the name of the referenced PPK list

gateway

Syntax

gateway name *name* **tunnel** *ip-address:port* [**statistics**] [**saved-key**] [**removed-tunnels**]

gateway name *name* **tunnel** *ip-address:port* [**temp-mtu**]

gateway name *name* [**saved-key**] [**removed-tunnels**]

gateway name *name* **tunnel** *ip-address:port* [**saved-key**] [**removed-tunnels**]

Context

[Tree] (clear>ipsec gateway)

Full Context

clear ipsec gateway

Description

This command clears dynamic IPsec tunnel states.

The system clears the statistics counter for the specified tunnel when the **statistics** parameter option is specified.

The system clears the saved IKE and ESP keys for the specified tunnel, or for all tunnels on the specified gateway if no tunnel is specified when using the **saved-key** parameter.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The system removes the specified tunnel when the **statistics, saved-key**, **temp-mtu**, or **removed-tunnels** parameters are not specified.

Parameters

name

Specifies the name of the IPsec gateway, up to 32 characters.

ip-address

Specifies the IP address and port of the remote peer.

Values

<ip-address>	ip-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0 to 255]D

port

Specifies the port of the remote peer. The specified channel is cleared if the **statistics, saved-key**, **temp-mtu**, or **removed-tunnels** parameters are not specified.

Values 0 to 65535

statistics

Keyword to clear the statistics counter.

saved-key

Keyword to clear the saved IKE and ESP keys.

temp-mtu

Keyword to clear the temporary MTU learned from MTU propagation for the specified tunnel.

removed-tunnels

Keyword to clear the saved keys of removed tunnels.

Platforms

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

10.2 gateways

gateways

Syntax

gateways

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

gateways brg-profile *profile-name*

Context

[Tree] (show>subscr-mgmt>vrgw>brg gateways)

Full Context

show subscriber-mgmt vrgw brg gateways

Description

This command lists operational gateway information for all BRGs active on the system. This list can optionally be reduced by specifying a BRG profile.

Parameters

profile-name

Specifies the name of the BRG profile to filter.

Platforms

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

Output

The following output is an example of BRG gateway information.

Output Example

```
Node# show subscriber-mgmt brg gateways
===============================================================================
Bridged Residential Gateways
===============================================================================
Identifier                   : 00:00:00:00:00:05
SLAAC prefix                 : 3ffe:0:0:5::/64
Subnet                       : 21.0.0.1/24
Subnet start address         : 21.0.0.20
Subnet end address           : 21.0.0.40
DMZ address                  : (Not Specified)
DNS 1 v4                     : (Not Specified)
DNS 1 v6                     : (Not Specified)
DNS 2 v4                     : (Not Specified)
DNS 2 v6                     : (Not Specified)
NBNS 1                       : (Not Specified)
NBNS 2                       : (Not Specified)
DHCP lease time              : 600
DHCP stream destination      : (Not Specified)
IPv4 portal URL              : (Not Specified)
IPv6 portal URL              : (Not Specified)
BRG profile                  : brg
Subscriber profile           : subprof_mig_4
SLA profile                  : (Not Specified)
UPnP policy override         : (Not Specified)
DMZ address in use           : no
Proxy authenticated          : yes
Ingress IPv4 filter override : N/A
Egress IPv4 filter override  : N/A
Ingress IPv6 filter override : N/A
Egress IPv6 filter override  : N/A
No QoS overrides found.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No Filter rules received.
-------------------------------------------------------------------------------
No. of gateways: 1
===============================================================================
```

10.3 generate-event

generate-event

Syntax

generate-event [*application* [**all** | *event-name* | *event-number*]]

Context

[Tree] (tools>perform>log generate-event)

Full Context

tools perform log generate-event

Description

This command generates test events for an application's event name or event number.

Parameters

application

Specifies the application name.

The following are some sample applications:

Values adp, anysec, application_assurance, auto_prov, bfd, bgp, bier, bmp, calltrace, cflowd, chassis, cpmhwfilter, cpmhwqueue, debug, dhcp, dhcps, diameter, dot1x, dynsvc, efm_oam, elmi, ering, eth_cfm, etun, filter, fpe, gsmp, gtp, igmp, igmp_snooping, ip, ipfix, ipsec, ipsec_cpm, isis, l2tp, lag, ldap, ldp, li, lldp, logger, maffilter, macsec, mcac, mcpath, mc_redundancy, mgmt_core, mirror, mld, mld_snooping, mpls, mpls_tp, mpls_lmgr, mrp, msdp, nat, nge, ntp, oam, ospf, pcap, pcep, pfcp, pim, pim_snooping, pools, port, pppoe, pppoe_clnt, profile, ptp, pxc, python, qos, radius, rib_api, rip, rip_ng, route_next_hop, route_policy, rpki, rsvp, satellite, security, sflow, snmp, sr_mpls, sr_policy, srv6, stp, subscr_mgmt, sub_host_trk, svcmgr, system, telemetry, tip, tls, tree_sid, user, user_db, video, vrrp, vrtr, wlan_gw, wpp

all

Keyword to specify all of the application events.

event-name

Specifies the application event name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

event-number

Specifies the application event number.

Values 0 to 4294967295

Platforms

All

10.4 generate-key

generate-key

Syntax

generate-key authentication *authentication-protocol authentication-password* [**privacy** *privacy-protocol privacy-password*] [**engine-id** *identifier*]

Context

[Tree] (tools>perform>system>mgmt-itf>snmp generate-key)

Full Context

tools perform system management-interface snmp generate-key

Description

This command generates localized SNMPv3 authentication and privacy keys, which are a hash of the SNMP engine ID and a password. The SNMP engine ID can be displayed with the **show system information | match "SNMP Engine ID"** command and does not need to be entered. If keys are being generated for a different system, its SNMP engine ID must be specified.

Parameters

authentication

Generates a localized authentication key.

authentication-protocol

Specifies the SNMPv3 authentication protocol.

Values **hmac-md5-96** — Specifies use of the HMAC-MD5-96 authentication protocol.

hmac-sha1-96 — Specifies use of the HMAC-SHA-96 authentication protocol.

hmac-sha2-224 — Specifies use of the HMAC-SHA-224 authentication protocol.

hmac-sha2-256 — Specifies use of the HMAC-SHA-256 authentication protocol.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

hmac-sha2-384 — Specifies use of the HMAC-SHA-384 authentication protocol.

hmac-sha-512 — Specifies use of the HMAC-SHA-512 authentication protocol.

authentication-password

Specifies the password used to generate the authentication key.

privacy

Keyword to generate a localized privacy key.

privacy-protocol

Specifies the SNMPv3 privacy protocol.

Values **cbc-des** — Specifies the use of the CBC-DES privacy protocol.

cfb128-aes-128 — Specifies the use of the CFB128-AES-128 privacy protocol.

cfb128-aes-192 — Specifies the use of the CFB128-AES-192 privacy protocol.

cfb128-aes-256 — Specifies the use of the CFB128-AES-256 privacy protocol.

privacy-password

Specifies the privacy password used to generate the privacy key.

engine-id ***identifier***

Keyword that specifies the SNMP engine ID. The identifier must be a hexadecimal string between 10 and 64 digits in length.

Platforms

All

Output

The following output is an example of a generated authentication and privacy key.

Output Example

```
A:ALA-1# tools perform system management-interface snmp generate-key authentication hmac-sha2-
512 thisistheauthenticationpassword privacy cfb128-aes-256
thisistheprivacypassword
Authentication :
a764a7fa90099fb179266e2b400a225e3f0960a842fc55704e5b2eb0750bd6a2ca0ed8450b5b57b41f50
fab253961ee698bfc272a71bcc919420c603cef5e628
Privacy        : 94560a59230f63241fd596b920cfe2e703f60a8ea0c7c341a913f8d3a46f2256
SNMP Engine ID : 0000197f0000b65dff000000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

10.5 generate-new-nonce

generate-new-nonce

Syntax

generate-new-nonce

Context

[Tree] (tools>perform>system>security>support-mode generate-new-nonce)

Full Context

tools perform system security support-mode generate-new-nonce

Description

This command generates a new system nonce. This operation invalidates all existing tokens on the system.

Platforms

All

10.6 global

global

Syntax

global

Context

[Tree] (clear>redundancy>multi-chassis>mcr>statistics global)

Full Context

clear redundancy multi-chassis mc-ring statistics global

Description

This command clears multi-chassis ring global statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

10.7 gnss

gnss

Syntax

gnss

Context

[Tree] (tools>dump>port gnss)

Full Context

tools dump port gnss

Description

This command displays signal strength information for visible satellites for the port.

This command is supported only for use with global navigation satellite system (GNSS) RF ports, for platforms that support one or more GNSS receivers.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

Output

The following output is an example of GNSS port information.

Output Example (Supported 7750 SR FP5 platforms)

```
tools dump port A/gnss gnss
===========================================
Satellites
===========================================
Constellation  SVPRN  Band  Signal-Strength
                            C/No (dB-Hz)
-------------------------------------------
GPS            1      L1    44
GPS            1      L5    46
GPS            3      L1    42
GPS            3      L5    44
GPS            6      L1    41
GPS            6      L5    43
GPS            14     L1    39
GPS            14     L5    41
GPS            17     L1    31
GPS            17     L5    34
GPS            19     L1    38
GPS            19     L5    40
GPS            24     L1    45
GPS            24     L5    47
GALILEO        2      E1    46
GALILEO        2      E5    47
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
GALILEO         15      E1     37
GALILEO         15      E5     38
GALILEO         27      E1     39
GALILEO         27      E5     40
GALILEO         36      E1     46
GALILEO         36      E5     47
GALILEO         30      E1     38
GALILEO         30      E5     38
GALILEO         13      E1     46
GALILEO         13      E5     47
GPS             11      L1     45
GPS             11      L5     47
-------------------------------------------
No. of Used Satellites: 28
===========================================
```

gnss

Syntax

gnss

Context

[Tree] (tools>perform>port gnss)

Full Context

tools perform port gnss

Description

This command enters the gnss context.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

10.8 gre-eth-bridged

gre-eth-bridged

Syntax

gre-eth-bridged

Context

[Tree] (show>service>system gre-eth-bridged)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service system gre-eth-bridged

Description

This command displays GRE Ethernet bridged service information.

Platforms

All

10.9 gre-tunnel-template

gre-tunnel-template

Syntax

gre-tunnel-template [*gre-tunnel-template-name* [**associations**]]

Context

[Tree] (show>filter gre-tunnel-template)

Full Context

show filter gre-tunnel-template

Description

This command displays GRE tunnel template information.

Parameters

gre-tunnel-template-name

Specifies a GRE tunnel template name, up to 32 characters.

associations

Appends association information.

Platforms

All

Output

The following output is an example of GRE tunnel template information.

Output Example

```
*A:node-3# show filter gre-tunnel-template "GRE-tunnels" associations
===============================================================================
GRE tunnel template
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
GRE Tunnel template : GRE-tunnels                Applied      : No
Description         : 10.20.1.5
GRE key             : if-index
Skip ttl decrement  : No
Source address      : 10.20.1.3
Destination address : 10.20.1.2
Destination address : 10.20.1.5
-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
No associations found
===============================================================================
*A:node-3#
```

gre-tunnel-template

Syntax

gre-tunnel-template

Context

[Tree] (tools>dump>filter>resources gre-tunnel-template)

Full Context

tools dump filter resources gre-tunnel-template

Description

This command displays how many GRE tunnel templates are configured.

Platforms

All

Output

The following output is an example of filter resource GRE tunnel templates information.

Output Example

```
*A:Dut-C# tools dump filter resources gre-tunnel-template

===============================================================================
Filter - GRE tunnel template resources
===============================================================================
Used  : 1024
Free  : 0
Total : 1024
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

10.10 group

group

Syntax

group [*tunnel-group-name* [**statistics**]]

Context

[Tree] (show>router>l2tp group)

Full Context

show router l2tp group

Description

This command displays L2TP group operational information.

Parameters

tunnel-group-name

Displays information for the specified tunnel group.

statistics

Displays statistics for the specified tunnel group.

Platforms

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

Output

The following output is an example of L2TP group operational information.

Output Example

```
*A:Dut-C# show router l2tp group
===============================================================================
L2TP Groups
===============================================================================
Group Name       Ses Limit Ses Assign    State  Tun Active Ses Active
                                                    Tun Total  Ses Total
-------------------------------------------------------------------------------
isp1.group-1
                      131071    existingFirst active     1          1
                                                         1          1
isp1.group-2
                      131071    weighted      active     2          5
                                                         3          8
-------------------------------------------------------------------------------
No. of L2TP Groups: 2
===============================================================================
*A:Dut-C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-C# show router l2tp group isp1.group-2
===============================================================================
Group Name: isp1.group-2
===============================================================================
Conn ID                      Loc-Tu-ID Rem-Tu-ID State             Ses Active
  Group                                                           Ses Total
    Assignment
-------------------------------------------------------------------------------
143523840                    2190      17525     established       2
  isp1.group-2                                                    3
    isp1.tunnel-3
236912640                    3615      58919     closedByPeer      0
  isp1.group-2                                                    2
    isp1.tunnel-2
658178048                    10043     33762     draining          3
  isp1.group-2                                                    3
    isp1.tunnel-2
-------------------------------------------------------------------------------
No. of tunnels: 3
===============================================================================
*A:Dut-C#

*A:Dut-C# show router l2tp group isp1.group-2 statistics
Group Name: isp1.group-2
-------------------------------------------------------------------------------
             Attempts   Failed     Failed-Aut            Active     Total
-------------------------------------------------------------------------------
Tunnels      3          0          0                     2          3
Sessions     8          0          N/A                   5          8
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
             Pkt-Ctl               Pkt-Err               Octets
-------------------------------------------------------------------------------
Rx           51                    0                     1224
Tx           51                    0                     2796
-------------------------------------------------------------------------------
*A:Dut-C#
```

group

Syntax

group *tunnel-group-name*

Context

[Tree] (clear>router>l2tp group)

Full Context

clear router l2tp group

Description

This command clears L2TP data.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

tunnel-group-name

Specifies a L2TP tunnel group name.

Platforms

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

group

Syntax

group *tunnel-group-name*

Context

[Tree] (tools>perform>router>l2tp group)

Full Context

tools perform router l2tp group

Description

Commands in this context configure performance tools for L2TP tunnel group.

Parameters

tunnel-group-name

Specifies the tunnel group name, up to 63 characters.

Platforms

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

group

Syntax

group [*grp-ip-address*] [**hosts** | **interfaces** | **saps**]

group summary [**hosts** | **interfaces** | **saps**]

Context

[Tree] (show>router>igmp group)

Full Context

show router igmp group

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the multicast group and (S,G) addresses. If no *grp-ip-address* parameters are specified, then all IGMP group, (*,G) and (S,G) addresses are displayed.

Parameters

grp-ip-address

Displays specific multicast group addresses.

hosts

Displays hosts for the multicast group address.

interfaces

Displays interfaces for the multicast group address.

saps

Displays SAPs for the multicast group address.

Platforms

All

Output

The following output is an example of IGMP group information. Table 181: Output fields: IGMP group describes the output fields for IGMP group information.

Output Example

```
*B:Dut-C# show router igmp group
===============================================================================
IGMP Interface Groups
===============================================================================
===============================================================================
IGMP Host Groups
===============================================================================
(*,239.0.0.1)
    Fwd List  : 239.112.1.2           Up Time : 0d 00:00:21
(10.11.0.1,239.0.0.1)
    Fwd List  : 239.112.1.1           Up Time : 0d 00:00:30
    Blk List  : 239.112.1.2           Up Time : 0d 00:00:21
(10.11.0.2,239.0.0.1)
    Fwd List  : 239.112.1.1           Up Time : 0d 00:00:30
(*,239.0.0.2)
    Fwd List  : 239.112.1.2           Up Time : 0d 00:00:21
(10.11.0.1,239.0.0.2)
    Blk List  : 239.112.1.2           Up Time : 0d 00:00:21
-------------------------------------------------------------------------------
(*,G)/(S,G) Entries : 5
===============================================================================
*B:Dut-C#

*B:Dut-C# show router igmp group summary
===============================================================================
IGMP Interface Groups
===============================================================================
===============================================================================
IGMP Host Groups Summary          Nbr Fwd Hosts          Nbr Blk Hosts
===============================================================================
(*,239.0.0.1)                     1                      0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
(10.11.0.1,239.0.0.1)             1                     1
(10.11.0.2,239.0.0.1)             1                     0
(*,239.0.0.2)                     1                     0
(10.11.0.1,239.0.0.2)             0                     1
-------------------------------------------------------------------------------
(*,G)/(S,G) Entries : 5
===============================================================================
*B:Dut-C#

A:NYC# show router igmp group 239.24.24.24
===============================================================================
IGMP Groups
===============================================================================
(*,239.24.24.24)                      Up Time : 0d 05:23:23
    Fwd List  : nyc-vlc
-------------------------------------------------------------------------------
(*,G)/(S,G) Entries : 1
===============================================================================
A:NYC#
```

Table 181: Output fields: IGMP group

Label	Description
IGMP Groups	The IP multicast sources corresponding to the IP multicast groups.
Fwd List	The list of interfaces in the forward list.
Blk List	The list of interfaces in the blocked list.

group

Syntax

group [*grp-ip-address*] [**source** *ip-address*] [**type** { **starg** | **sg**}] [**detail**] [*family*]

Context

[Tree] (show>service>id>pim-snooping group)

Full Context

show service id pim-snooping group

Description

This command displays the multicast group information.

Parameters

grp-ip-address

Specifies the IP multicast group address for which this entry contains information

ip-address

Specifies the source address for which this entry contains information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

starg

Specifies that only (*,G) entries be displayed

sg

Specifies that only (S,G) entries be displayed

detail

Displays detailed group information.

family

Displays either IPv4 or IPv6 information.

Values ipv4 or ipv6

Platforms

All

Output

The following output is an example of service PIM snooping information.

Output Example

```
*A:PE# show service id 1 pim-snooping group
===============================================================================
PIM Snooping Groups ipv4
===============================================================================
Group Address           Source Address          Type     Incoming          Num
                                                         Intf              Oifs
-------------------------------------------------------------------------------
239.252.0.1             10.0.0.2                (S,G)    SAP:1/1/2         2
-------------------------------------------------------------------------------
Groups : 1
===============================================================================
*A:PE#
```

group

Syntax

group [*name*] [**detail**]

Context

[Tree] (show>router>bgp group)

Full Context

show router bgp group

Description

This command displays group information for a BGP peer group. This command can be entered with or without parameters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

When this command is issued without a group name, information about all peer groups displays.

When the command is issued with a specific group name, information only pertaining to that specific peer group displays.

The "State" field displays the BGP group's operational state. Other valid states are:

- Up - BGP global process is configured and running.
- Down - BGP global process is administratively shutdown and not running.
- Disabled - BGP global process is operationally disabled. The process must be restarted by the operator.

Parameters

name

Displays information for the specified BGP group, up to 64 characters.

detail

Displays detailed information.

Platforms

All

Output

The following outputs are example of BGP group information, and Table 182: Output fields: standard and detailed group describes the output fields.

Output Example

```
*A:Dut-B#
*A:Dut-B# show router bgp group
===============================================================================
BGP Group
===============================================================================
-------------------------------------------------------------------------------
Group : abc
-------------------------------------------------------------------------------
Description : (Not Specified)
Group Type : No Type State : Down
Peer AS : n/a Local AS : 0
Local Address : n/a Loop Detect : Ignore
Import Policy : None Specified - Default Accept
Export Policy : None Specified - Default Accept
Hold Time : 90 Keep Alive : 30
Min Hold Time : 0
Cluster Id : None Client Reflect : Enabled
NLRI : Unicast Preference : 170
TTL Security : Disabled Min TTL Value : n/a
Graceful Restart : Disabled Stale Routes Time: n/a
Restart Time : n/a
Auth key chain : n/a
Bfd Enabled : Disabled Disable Cap Nego : Disabled
Creation Origin : manual
Default Route Tgt: Disabled
Aigp Metric : Disabled
Split Horizon : Disabled
Damp Peer Oscill*: Disabled
GR Notification : Disabled Fault Tolerance : Disabled
Next-Hop Unchang*: None
Routes Resolve T*: Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Egress Engineeri*: Enabled
List of Static Peers
- 1.1.1.1 :
List of Dynamic Peers
Total Peers : 1 Established : 0
-------------------------------------------------------------------------------
Peer Groups : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-B#
*A:Dut-B#
```

Output Example (7450 ESS and 7750 SR)

```
*A:ALA-12# show router 3 bgp group
===============================================================================
BGP Groups
===============================================================================
Group            : To_AS_40000
-------------------------------------------------------------------------------
Description      : Not Available
Group Type       : No Type              State            : Up
Peer AS          : 40000                Local AS         : 65206
Local Address    : n/a                  Loop Detect      : Ignore
Export Policy    : direct2bgp
Hold Time        : 90                   Keep Alive       : 30
Cluster Id       : None                 Client Reflect   : Enabled
NLRI             : Unicast              Preference       : 170

List of Peers
- 10.0.0.1       : To_Jukebox
- 10.0.0.12      : Not Available
- 10.0.0.13      : Not Available
- 10.0.0.14      : To_ALA-1
- 10.0.0.15      : To_H-215
Total Peers      : 5                    Established      : 2
===============================================================================
*A:ALA-12#
```

Table 182: Output fields: standard and detailed group

Label	Description
Group	BGP group name
Group Type	No Type — Peer type not configured External — Peer type configured as external BGP peers Internal — Peer type configured as internal BGP peers
State	Disabled — The BGP peer group has been operationally disabled Down — The BGP peer group is operationally inactive Up — The BGP peer group is operationally active
Peer AS	The configured or inherited peer AS for the specified peer group
Local AS	The configured or inherited local AS for the specified peer group

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Local Address	The configured or inherited local address for originating peering for the specified peer group
Loop Detect	The configured or inherited loop detect setting for the specified peer group
Connect Retry	The configured or inherited connect retry timer value
Authentication	n/a — No authentication is configured MD5 — MD5 authentication is configured
Local Pref	The configured or inherited local preference value
MED Out	The configured or inherited MED value assigned to advertised routes without a MED attribute
Min Route Advt.	The minimum amount of time that must pass between route updates for the same IP prefix
Min AS Originate	The minimum amount of time that must pass between updates for a route originated by the local router
Multihop	The maximum number of router hops a BGP connection can traverse
Multipath	The configured or inherited multipath value, determining the maximum number of ECMP routes BGP can advertise to the RTM
Prefix Limit	No Limit — No route limit assigned to the BGP peer group 1 to 4294967295 — The maximum number of routes BGP can learn from a peer
Passive	Disabled — BGP attempts to establish BGP connections with neighbors in the specified peer group Enabled — BGP does actively attempt to establish BGP connections with neighbors in the specified peer group
Next Hop Self	Disabled — BGP is not configured to send only its own IP address as the BGP nexthop in route updates to neighbors in the peer group Enabled — BGP sends only its own IP address as the BGP nexthop in route updates to neighbors in the specified peer group
Aggregator ID 0	Disabled — BGP is not configured to set the aggregator ID to 0.0.0.0 in all originated route aggregates sent to the neighbor in the peer group Enabled — BGP is configured to set the aggregator ID to 0.0.0.0 in all originated route aggregates sent to the neighbor in the peer group

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Remove Private	Disabled — BGP will not remove all private AS numbers from the AS path attribute in updates sent to the neighbor in the peer group Enabled — BGP removes all private AS numbers from the AS path attribute in updates sent to the neighbor in the peer group
Damping	Disabled — The peer group is configured not to dampen route flaps Enabled — The peer group is configured to dampen route flaps
Export Policy	The configured export policies for the peer group
Import Policy	The configured import policies for the peer group
Hold Time	The configured hold time setting
Keep Alive	The configured keepalive setting
Cluster Id	n/a — No cluster ID has been configured
Client Reflect	Disabled — The BGP route reflector will not reflect routes to this neighbor Enabled — The BGP route reflector is configured to reflect routes to this neighbor
NLRI	The type of NLRI information that the specified peer group can accept Unicast — IPv4 unicast routing information can be carried
Preference	The configured route preference value for the peer group
Egress Engineering	Enabled — EPE is enabled for the peer group Disabled — EPE is disabled for the peer group
List of Peers	A list of BGP peers configured under the peer group
Total Peers	The total number of peers configured under the peer group
Established	The total number of peers that are in an established state

group

Syntax

group *aa-group-id* [**:***partition-id*]

Context

[Tree] (show>app-assure group)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance group

Description

Commands in this context display application-assurance group information.

Parameters

aa-group-id

Specifies an AA ISA group ID.

Values 1

partition-id

Specifies a partition within a group.

Values 1 to 65535

Platforms

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

Output

The following output is an example of application assurance group information.

Output Example

```
*A:Dut-C#  /show application-assurance group 1:1 aa-sub esm Subscriber1 summary
===============================================================================
Application-Assurance Subscriber Summary (realtime)
===============================================================================
AA-Subscriber           : Subscriber1 (esm)
ISA assigned            : esa-1/1
App-Profile             : dpi
App-Profile divert      : Yes
Capacity cost           : 1
Aarp Instance Id        : N/A
Sub-quarantined         : No
HTTP URL Parameters     : (Not Specified)
Last HTTP Notified Time : N/A
SAP                     : 6/1/5:1
MAC                     : c2:4d:ff:8a:b2:cc
Circuit Id : (Not Specified)
Remote Id  : (Not Specified)
Tethering Status        : not-detected (disabled)
Devices Detected        : N/A
Sub Congestion State    : Not Congested|RTT Limits Exceeded (Stage X)
```

group

Syntax

group *aa-group-id* [**:** *partition-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump>app-assure group)

Full Context

tools dump application-assurance group

Description

This command dumps application-assurance information within a group and partition.

Parameters

aa-group-id

Specifies the AA group identifier.

Values

aa-group-id:	partion:aa-group-id[:partition-id]	
	aa-group-id	1 to 255
	partition-id	1 to 65535

Platforms

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

group

Syntax

group *aa-group-id* **load-balance** [**service** *service-id*]

Context

[Tree] (tools>perform>app-assure group)

Full Context

tools perform application-assurance group

Description

This command performs application assurance group operations.

Parameters

aa-group-id

Specifies the application assurance group ID.

Values 1 to 255

load-balance

Load balances subscribers within the group.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

service *service-id*

Load balances the specified service.

Values 1 to 2148278381, svc-name (up to 64 char max.)

Platforms

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

group

Syntax

group [*grp-ipv6-address*] [**hosts** | **interfaces** | **saps**]

group summary [**hosts** | **interfaces** | **saps**]

Context

[Tree] (show>router>mld group)

Full Context

show router mld group

Description

This command displays the multicast group and (S,G) addresses. If no *grp-ipv6-address* parameters are specified, then all MLD group, (*,G) and (S,G) addresses are displayed.

Parameters

grp-ipv6-address

Displays specific multicast group addresses.

hosts

Displays hosts for the multicast group address.

interfaces

Displays interfaces for the multicast group address.

saps

Displays SAPs for the multicast group address.

Platforms

All

Output

The following output is an example of MLD group information. Table 183: Output fields: MLD group describes the output fields for MLD group information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-A# show router mld group
===============================================================================
MLD Interface Groups
===============================================================================
(*,ff04:db8:224:100:0:0)                                    UpTime: 0d
00:10:09
     Fwd List  : intf_to_ixia
(*,ff04:db8:224:100:0:1)                                    UpTime: 0d
00:10:09
     Fwd List  : intf_to_ixia
(*,ff04:db8:224:100:0:2)                                    UpTime: 0d
00:10:09
     Fwd List  : intf_to_ixia
(*,ff04:db8:224:100:0:3)                                    UpTime: 0d
00:10:09
     Fwd List  : intf_to_ixia
(*,ff04:db8:224:100:0:4)                                    UpTime: 0d
00:10:09
     Fwd List  : intf_to_ixia
-------------------------------------------------------------------------------
Entries : 5
===============================================================================
MLD Host Groups
===============================================================================
No Matching Entries
===============================================================================
MLD SAP Groups
===============================================================================
No Matching Entries
===============================================================================
*A:Dut-A#

*A:Dut-A# show router mld group summary
===============================================================================
MLD Interface Groups Summary                          Nbr Fwd    Nbr Blk
===============================================================================
(*,ff04:db8:224:100:0:0) 1          0
(*,ff04:db8:224:100:0:1) 1          0
(*,ff04:db8:224:100:0:2) 1          0
(*,ff04:db8:224:100:0:3) 1          0
(*,ff04:db8:224:100:0:4) 1          0
-------------------------------------------------------------------------------
Entries : 5
===============================================================================
MLD Host Groups Summary                               Nbr Fwd    Nbr Blk
===============================================================================
No Matching Entries
===============================================================================
MLD SAP Groups Summary                                Nbr Fwd    Nbr Blk
===============================================================================
No Matching Entries
===============================================================================
*A:Dut-A#

*A:Dut-A# show router mld group ff04:db8:224:100:0:0
===============================================================================
MLD Interface Groups
===============================================================================
(*,ff04:db8:224:100:0:0)                                    UpTime: 0d
00:10:24
     Fwd List  : intf_to_ixia
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Entries : 1
===============================================================================
MLD Host Groups
===============================================================================
No Matching Entries
===============================================================================
MLD SAP Groups
===============================================================================
No Matching Entries
===============================================================================
*A:Dut-A#
```

Table 183: Output fields: MLD group

Label	Description
MLD Groups	The IP multicast sources corresponding to the IPv6 multicast groups.
Fwd List	The list of interfaces in the forward list.
Blk List	The list of interfaces in the blocked list.

group

Syntax

group [*group-name*] [**detail**]

Context

[Tree] (show>router>msdp group)

Full Context

show router msdp group

Description

This command displays information about MSDP groups.

Parameters

group-name

Displays information about the specified group name, up to 32 characters. If no *group-name* is specified, information about all group names display.

detail

Keyword to displays detailed MSDP group information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of MSDP group information, and Table 184: Output fields: MSDP group describes the output fields.

Output Example

```
*A:ALA-48>show>router>msdp# group
===============================================================================
MSDP Groups
===============================================================================
Group Name                        Mode       Act Srcs  Local Address
-------------------------------------------------------------------------------
main                              Mesh-group None None
loop1                             Mesh-group None None
loop2                             Mesh-group None None
loop3                             Mesh-group None None
loop4                             Mesh-group None None
loop5                             Mesh-group None None
-------------------------------------------------------------------------------
Groups : 6
=======================
*A:ALA-48>show>router>msdp#


*A:ALA-48>show>router>msdp# group test
===============================================================================
MSDP Groups
===============================================================================
Group Name                        Mode       Act Srcs  Local Address
-------------------------------------------------------------------------------
test                              Mesh-group 50000     10.10.10.103
-------------------------------------------------------------------------------
Groups : 1
===============================================================================
*A:ALA-48>show>router>msdp#


*A:ALA-48>show>router>msdp# group test detail
===============================================================================
MSDP Groups
===============================================================================
Group Name         : test
-------------------------------------------------------------------------------
Local Address      : 10.10.10.103
Admin State        : Up                Receive Msg Rate   : None
Receive Msg Time   : None              Receive Msg Thd    : None
Mode               : Mesh-group        SA Limit           : 50000
Export Policy      : None Specified / Inherited
Import Policy      : None Specified / Inherited

-------------------------------------------------------------------------------
Groups : 1
===============================================================================
*A:ALA-48>show>router>msdp#
```

Table 184: Output fields: MSDP group

Label	Description
Group Name	The MSDP group name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Mode	The groups of peers in a full mesh topology to limit excessive flooding of SA messages to neighboring peers
Act Srcs	The configured maximum number of active source messages that will be accepted by MSDP
Local Address	The local end of a MSDP session
Admin State	The administrative state of the MSDP group
Receive Msg Rate	The rate that the messages are read from the TCP session
Receive Msg Time	The time of MSDP messages that are read from the TCP session within the configured number of seconds
Receive Msg Thd	The time interval, in seconds, that MSDP messages are read from the TCP session for rate limiting
Mode	The MSDP group mode
SA Limit	The source-active limit
Export Policy	The export policy specified for the group
Import Policy	The import policy specified for the group

group

Syntax

group *grp-ip-address* [**source** *ip-address* [**type** {**starstarrp** | **starg** | **sg**}] [**detail**] [*family*]

group *grp-ip-address* [**source** *ip-address* [**type** {**starstarrp** | **starg** | **sg**}] [**detail**] [*family*] **rpfv**

Context

[Tree] (show>router>pim group)

Full Context

show router pim group

Description

This command displays PIM source group database information.

Parameters

grp-ip-address

Specifies the IP multicast group address for which this entry contains information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

source *ip-address*

Specifies the source address for which this entry contains information.

type starstarrp

Specifies that only (*, *, rp) entries are displayed.

type starg

Specifies that only (*,G) entries are displayed.

type sg

Specifies that only (S,G) entries are displayed.

detail

Displays detailed group information.

family

Displays family information.

Values ipv4, ipv6

rpfv

Displays proxy RPF vectors that are used for inter-AS Rosen MVPN.

Platforms

All

Output

The following output is an example of PIM group information. Table 185: Output fields: PIM group provides PIM group field descriptions.

Output Example

```
A:Dut-A# show router pim group
===============================================================================
PIM Group ipv4
===============================================================================
Group Address               Type              Spt Bit Inc Intf         no.Oifs
 Source Address               RP                        Inc Intf(S)
-------------------------------------------------------------------------------
239.1.1.1                   (S,G)                    ip-10.10.2.1      1
   10.1.1.2                     10.20.1.4                ip-10.10.1*
===============================================================================
A:Dut-A#

*A:Dut-C# show router 100 pim group ipv6
===============================================================================
Legend:  A = Active   S = Standby
===============================================================================
PIM Groups ipv6
===============================================================================
Group Address               Type                Spt Bit  Inc Intf       No.Oifs
   Source Address              RP                  State    Inc Intf(S)
-------------------------------------------------------------------------------
ff04:db8:224:100:0:0           (*,G)                        vprn_itf_C_11* 2
   *                            2001:db8:110:100:1*
ff04:db8:224:100:0:0           (S,G)               spt      mpls-if-74457* 3
   2001:db8:100:114:1:2           2001:db8:110:100:1*
ff04:db8:224:100:0:1           (*,G)                        vprn_itf_C_11* 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   *                           2001:db8:110:100:1*
ff04:db8:224:100:0:1           (S,G)               spt      mpls-if-74457* 3
   2001:db8:100:114:1:2           2001:db8:110:100:1*
ff04:db8:224:100:0:2           (*,G)                        vprn_itf_C_11* 2
   *                           2001:db8:110:100:1*
ff04:db8:224:100:0:2           (S,G)               spt      mpls-if-74457* 3
   2001:db8:100:114:1:2           2001:db8:110:100:1*
ff04:db8:224:100:0:3           (*,G)                        vprn_itf_C_11* 2
   *                           2001:db8:110:100:1*
ff04:db8:224:100:0:3           (S,G)               spt      mpls-if-74457* 3
    2001:db8:100:114:1:2           2001:db8:110:100:1*
ff04:db8:224:100:0:4           (*,G)                        vprn_itf_C_11* 2
   *                           2001:db8:110:100:1*
ff04:db8:224:100:0:4           (S,G)               spt      mpls-if-74457* 3
    2001:db8:100:114:1:2           2001:db8:110:100:1*
-------------------------------------------------------------------------------
Groups : 10
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-C#

A:NYC>show>router>pim# group 239.255.255.250
===============================================================================
PIM Groups
===============================================================================
Group Address   Source Address  RP Address      Type     Spt Incoming      Num
                                                         Bit Intf          Oifs
-------------------------------------------------------------------------------
239.255.255.250 *               10.22.187.240   <*,G>      nyc-sjc        1
-------------------------------------------------------------------------------
Groups : 1
===============================================================================
A:NYC>show>router>pim#

A:NYC>show>router>pim# group 239.255.255.250 detail
===============================================================================
PIM Source Group
===============================================================================
Group Address      : 239.255.255.250 Source Address     : 10.1.1.2
RP Address         : 10.100.100.1      Type               : (S,G)
Flags              : spt, rpt-prn-des   Keepalive Timer Exp: 0d 00:03:07
MRIB Next Hop      : 10.1.1.2           MRIB Src Flags     : direct
Up Time            : 0d 00:00:50        Resolved By        : rtable-u

Up JP State        : Joined             Up JP Expiry       : 0d 00:00:00
Up JP Rpt          : Pruned             Up JP Rpt Override : 0d 00:00:00

Register State     : Pruned             Register Stop Exp  : 0d 00:00:47
Reg From Anycast RP: No

RPF Neighbor       : 10.1.1.2
Incoming Intf      : SOURCE-3
Outgoing Intf List : To-Dut-A

Curr Fwding Rate   : 482.9 kbps
Forwarded Packets  : 1262               Discarded Packets  : 0
Forwarded Octets   : 1269572            RPF Mismatches     : 0
Spt threshold      : 0 kbps
===============================================================================
A:NYC>show>router>pim#

B:Dut-C# show router pim group 239.0.0.1 type sg detail
===============================================================================
PIM Source Group ipv4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Group Address      : 239.0.0.1
Source Address     : 10.11.0.1
RP Address         : 10.20.1.3
Flags              : rpt-prn-des        Type               : (S,G)
MRIB Next Hop      : 10.11.0.1
MRIB Src Flags     : direct             Keepalive Timer    : Not Running
Up Time            : 0d 00:04:17        Resolved By        : rtable-u

Up JP State        : Joined             Up JP Expiry       : 0d 00:00:00
Up JP Rpt          : Pruned             Up JP Rpt Override : 0d 00:00:00

Register State     : No Info
Reg From Anycast RP: No

Rpf Neighbor       : 10.11.0.1
Incoming Intf      : svc_itf
Outgoing Host List : 239.112.1.1

Curr Fwding Rate   : 0.0 kbps
Forwarded Packets  : 0                  Discarded Packets  : 0
Forwarded Octets   : 0                  RPF Mismatches     : 0
Spt threshold      : 0 kbps             ECMP opt threshold : 7
Admin bandwidth    : 1 kbps             Preference         : 0

===============================================================================
PIM Source Group ipv4
===============================================================================
Group Address      : 239.0.0.1
Source Address     : 10.11.0.2
RP Address         : 10.20.1.3
Flags              :                    Type               : (S,G)
MRIB Next Hop      : 10.11.0.2
MRIB Src Flags     : direct             Keepalive Timer    : Not Running
Up Time            : 0d 00:04:18        Resolved By        : rtable-u

Up JP State        : Joined             Up JP Expiry       : 0d 00:00:00
Up JP Rpt          : Not Pruned         Up JP Rpt Override : 0d 00:00:00

Register State     : No Info
Reg From Anycast RP: No

Rpf Neighbor       : 10.11.0.2
Incoming Intf      : svc_itf
Outgoing Host List : 10.112.1.1, 10.112.1.2

Curr Fwding Rate   : 0.0 kbps
Forwarded Packets  : 0                  Discarded Packets  : 0
Forwarded Octets   : 0                  RPF Mismatches     : 0
Spt threshold      : 0 kbps             ECMP opt threshold : 7
Admin bandwidth    : 1 kbps             Preference         : 0
-------------------------------------------------------------------------------
Groups : 2
===============================================================================
*B:Dut-C#

A:Dut-A# show router pim group detail
===============================================================================
PIM Source Group ipv4
===============================================================================
Group Address      : 239.1.1.1
Source Address     : 10.1.1.21
RP Address         : 10.20.1.4
Advt Router        : 10.20.1.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Flags              :                    Type               : (S,G)
MRIB Next Hop      : 10.10.2.3
MRIB Src Flags     : remote             Standby Src Flags  : remote
keepalive Timer    : Not Running
Up Time            : 0d 00:01:22        Resolved By        : rtable-u

Up JP State        : Joined             Up JP Expiry       : 0d 00:00:00
Up JP Rpt          : Pruned             Up JP Rpt Override : 0d 00:00:00
Up Stdby JP State  : Joined             Up Stdby JP Expiry : 0d 00:00:12

Register State     : No Info
Reg From Anycast RP: No

Rpf Neighbor       : 10.10.2.3          Stdby Rpf Neighbor : 10.10.1.2
Incoming Intf      : ip-10.10.2.1       Stdby Intf         : ip-10.10.1.1
Outgoing Host List : ix

Curr Fwding Rate   : 0.0 kbps
Forwarded Packets  : 0                  Discarded Packets  : 0
Forwarded Octets   : 0                  RPF Mismatches     : 0
Spt threshold      : 0 kbps             ECMP opt threshold : 7
Admin bandwidth    : 1 kbps
===============================================================================
PIM Source Group ipv4
```

Table 185: Output fields: PIM group

Label	Description
Group Address	The IP multicast group address for which this entry contains information
Source Address	The source address of the multicast sender. The value is 0 if the type is configured as **starg**. The address of the Rendezvous Point (RP) display when the type is configured as **starRP**.
RP Address	The RP address
Type	The type of entry, (*,*, rp)/(*,G) or (S,G).
Spt Bit	Specifies whether to forward on (*,*, rp)/(*,G) or on (S,G) state. It is updated when the (S,G) data comes on the RPF interface towards the source.
Incoming Intf	The interface on which the traffic comes in. It can be the RPF interface to the RP (if **starg**) or the source (if **sg**).
Num Oifs	The number of interfaces in the inherited outgoing interface list. An inherited list inherits the state from other types.
Flags	The different lists to which this interface belongs
Keepalive Timer Exp	The keepalive timer expiration which is applicable only for (S,G) entries.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	The (S,G) keepalive timer is updated by data being forwarded using this (S,G) Forwarding state. It is used to keep (S,G) state alive in the absence of explicit (S,G) joins.
MRIB Next Hop	The next hop address towards the RP
MRIB Src Flags	MRIB information about the source. If the entry is of type starg or starstarrp, it will contain information about the RP for the group.
Up Time	The time since this source group entry was created.
Resolved By	The route table used for RPF check.
Up JP State	The upstream join prune state for this entry on the interface. PIM join prune messages are sent by the downstream routers towards the RPF neighbor.
Up JP Expiry	The minimum amount of time remaining before this entry will be aged out.
Up JP Rpt	The join prune Rpt state for this entry on the interface. PIM join/ prune messages are sent by the downstream routers towards the RPF neighbor. (S,G, rpt) state is a result of receiving (S,G, rpt) JP message from the downstream router on the RP tree.
Up JP Rpt Override	The value used to delay triggered Join (S,G, rpt) messages to prevent implosions of triggered messages. If this has a non-zero value, it means that the router was in 'not Pruned' state and it saw a prune (S,G, rpt) message being sent to RPF (S,G, rpt). If the router sees a join (S,G, rpt) override message being sent by some other router on the LAN while the timer is still non-zero, it simply cancels the override timer. If it does not see a join (S,G, rpt) message, then on expiry of the override timer, it sends its own join (S,G, rpt) message to RPF (S,G, rpt). A similar scenario exists when RPF (S,G, rpt) changes to become equal to RPF (*,G).
Register State	The register state. The register state is kept at the source DR. When the host starts sending multicast packets and if there are no entries programmed for that group, the source DR sends a register packet to the RP (g). Register state transition happen based on the register stop timer and the response received from the RP.
Register Stop Exp	The time remaining before the register state might transition to a different state
Register from Anycast RP	The status of the register packet for that group received from one of the RP from the anycast-RP set
RPF Neighbor	The address of the RPF neighbor

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Outgoing Intf List	A list of interfaces on which data is forwarded.
Curr Fwding Rate	The current forwarding rate of the multicast data for this group and source. This forwarding rate is calculated before ingress QoS policing or shaping is applied.
Forwarded Packets	The number of multicast packets that were forwarded to the interfaces in the outgoing interface list. This packet count is before ingress QoS policing or shaping is applied.
Discarded Packets	The number of multicast packets that matched this source group entry but were discarded. For (S,G) entries, if the traffic is getting forwarded on the SPT, the packets arriving from the RPT will be discarded.
Forwarded Octets	The number of octets forwarded
RPF Mismatches	The number of multicast packets that matched this source group entry but they did not arrive on the interface.
Spt threshold	The value of the SPT threshold configured for that group. 0 kb/s means that the switch to the SP tree occurs immediately.

group

Syntax

group *aa-group-id* [**:** *partition-id*]

Context

[Tree] (clear>application-assurance group)

Full Context

clear application-assurance group

Description

This command clears application assurance group data.

Parameters

aa-group-id

Specifies a group of ISA MDAs.

Values 1 to 255

partition-id

Specifies a partition within a group.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 65535

Platforms

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

group

Syntax

group [*group-name*] [**detail**]

Context

[Tree] (show>router>rip group)

Full Context

show router rip group

Description

This command displays RIP group information.

Parameters

group-name

Displays RIP group information for the specified group.

detail

Displays detailed RIP group information.

Platforms

All

Output

Table 186: Output fields: RIP group describes the standard command output fields for a RIP group.

Table 186: Output fields: RIP group

Label	Description
Group	The RIP group name.
Adm	Down — The RIP group is administratively down. Up — The RIP group is administratively up.
Opr	Down — The RIP group is operationally down. Up — The RIP group is operationally up.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Send Mode	Bcast — Specifies that RIPv2 formatted messages are sent to the broadcast address. Mcast — Specifies that RIPv2 formatted messages are sent to the multicast address. None — Specifies that no RIP messages are sent (silent listener). RIPv1 — Specifies that RIPv1 formatted messages are sent to the broadcast address.asp
Recv Mode	Both — Specifies that RIP updates in either version 1 or version 2 format will be accepted. None — Specifies that RIP updates will not be accepted. RIPv1 — Specifies that RIP updates in version 1 format only will be accepted. RIPv2 — Specifies that RIP updates in version 2 format only will be accepted.
Metric In	The metric value added to routes received from a RIP neighbor.

The following output is an example of RIP group information.

Output Example: Standard RIP Group

```
A:ALA-A# show router rip group
===============================================================================
RIP Groups
===============================================================================
Group                            Adm      Opr      Send     Recv     Metric
                                                   Mode     Mode     In
-------------------------------------------------------------------------------
rip-group                        Up       Down     BCast    Both     1
===============================================================================
A:ALA-A#
```

Output Example: detail

```
A:ALA-A# show router rip group detail
===============================================================================
RIP groups (Detail)
===============================================================================
-------------------------------------------------------------------------------
Group "rip-group"
-------------------------------------------------------------------------------
Description    : No Description Available
Admin State    : Up                    Oper State     : Down
Send Mode      : Broadcast             Receive Mode   : Both
Metric In      : 1                     Metric Out     : 1
Split Horizon  : Enabled               Check Zero     : Disabled
Message Size   : 25                    Preference     : 100
Auth. Type     : None                  Update Timer   : 30
Timeout Timer  : 180                   Flush Timer    : 120
Export Policies:
    None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Import Policies:
    None
===============================================================================
A:ALA-A#
```

group

Syntax

group [*group-name*] [**detail**]

Context

[Tree] (show>router>ripng group)

Full Context

show router ripng group

Description

This command displays RIPng group information.

Parameters

group-name

Displays RIPng group information for the specified group.

detail

Displays detailed RIPng group information.

Platforms

All

Output

The following output is an example of RIPng group information.

Output Example

```
*A:Dut-C>config>router>if# show router ripng group "A"
===============================================================================
RIP-NG Groups
===============================================================================
Group                              Adm      Opr      Send     Recv     Metric
                                                     Mode     Mode     In
-------------------------------------------------------------------------------
A                                  Up       Up       RipNg    RipNg    1
-------------------------------------------------------------------------------
Groups : 1
===============================================================================
*A:Dut-C>config>router>if# show router ripng group "A" detail
===============================================================================
RIP-NG groups (Detail)
===============================================================================
-------------------------------------------------------------------------------
Group "A"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Description    : No Description Available
Admin State    : Up                     Oper State     : Up
Send Mode      : RipNg                  Receive Mode   : RipNg
Metric In      : 1                      Metric Out     : 1
Split Horizon  : Enabled                Check Zero     : Disabled
Message Size   : 25                     Preference     : 100
                                        Update Timer   : 1
Timeout Timer  : 5                      Flush Timer    : 5
BFD            : Enabled
Export Policies:
    directToRipng
Import Policies:
    None
===============================================================================
```

group

Syntax

group *grp-ip-address* [**source** *ip-address*] [**interval** *interval*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>pim group)

Full Context

monitor router pim group

Description

This command monitors statistics for a PIM source group.

Parameters

grp-ip-address

Specifies the IP address of an multicast group that identifies a set of recipients that are interested in a particular data stream.

ip-address

Specifies the source IP address to use in the ping requests in dotted decimal notation.

Values 0.0.0.0 to 255.255.255.255

Default the IP address of the egress IP interface

interval

Configures the interval for each display, in seconds.

Values 10, 20, 30, 40, 50, 60

Default 10

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

10.11 group-encryption

group-encryption

Syntax

group-encryption

Context

[Tree] (show group-encryption)

Full Context

show group-encryption

Description

Commands in this context display group encryption information.

Platforms

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

group-encryption

Syntax

group-encryption

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear group-encryption)

Full Context

clear group-encryption

Description

Commands in this context clear group encryption parameters.

Platforms

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

10.12 group-interface

group-interface

Syntax

group-interface [**fwd-service** *service-id*] [*ip-int-name*] [**detail**] [**group**] [*grp-address*]

Context

[Tree] (show>router>igmp group-interface)

Full Context

show router igmp group-interface

Description

This command displays IGMP group-interface information.

Parameters

service-id

Specifies the service ID.

Values service-id: 1 to 2148278386
svc-name: up to 64 characters.

ip-int-name

Specifies an IP interface name, up to 32 characters.

detail

Displays detailed information.

group

Displays information for the group IP address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

grp-address

Displays information for the group IP address in the multicast group address format or zero.

Platforms

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

group-interface

Syntax

group-interface [**fwd-service** *service-id*] [*ip-int-name*] [**detail**] [**group**] [*grp-ipv6-address*]

Context

[Tree] (show>router>mld group-interface)

Full Context

show router mld group-interface

Description

This command displays MLD group-interface information.

Parameters

service-id

Specifies the service ID.

Values service-id: 1 to 2148278386

svc-name: up to 64 characters.

ip-int-name

IP interface name, up to 32 characters.

detail

Displays detailed information.

group

Displays information from the group IPv6 address.

grp-ipv6-address

Group IPv6 address.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

group-interface

Syntax

group-interface [**fwd-service** *service-id*] [*ip-int-name*]

Context

[Tree] (show>router>mld>statistics group-interface)

Full Context

show router mld statistics group-interface

Description

This command displays MLD group interface statistics information.

Parameters

service-name

Displays information associated with the specified service name.

ip-int-name

Displays information associated with the specified IP interface name.

Platforms

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

group-interface

Syntax

group-interface [**fwd-service** *service-id*] [*ip-int-name*]

Context

[Tree] (show>router>igmp>statistics group-interface)

Full Context

show router igmp statistics group-interface

Description

This command displays IGMP statistics for group interfaces.

Parameters

service-id

Specifies the service ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values *service-id*: 1 to 2148278386
svc-name: Up to 64 characters

ip-int-name
Specifies the IP interface name, up to 32 characters.

Platforms
All

10.13 groups

groups

Syntax
groups [**group** *group-ip-address*]
groups [**group** *group-ip-address*] **detail**
groups [**group** *group-ip-address*] **summary**

Context
[Tree] (show>service>active-subscribers>host-tracking groups)

Full Context
show service active-subscribers host-tracking groups

Description
This command displays active subscriber host tracking groups information.

Parameters
group-ip-address
Displays information about the group address of the active subscriber group.

Values ipv4address: a.b.c.d
ipv6address: FFx4::/16 up to FFxE::/16
x [0..F]H

detail
Displays detailed information about the group address of the active subscriber group.

summary
Displays summarized group information for active subscribers.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

10.14 grpc

grpc

Syntax

grpc

grpc connection

grpc rpc [*rpc-id*]

grpc custom-proto [*name*]

Context

[Tree] (show>system grpc)

Full Context

show system grpc

Description

This command displays gRPC server information.

Parameters

connection

This command displays information for gRPC connections.

rpc-id

Specifies an rpc ID.

Values 0 to 4294967295

name

Specifies a custom proto filename, up to 32 characters.

Platforms

All

Output

The following output is an example of system gRPC information.

Table 187: Output fields: system gRPC describes system gRPC output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:admin@Dut-A# show system grpc
===============================================================================
gRPC Server
===============================================================================
Administrative State      : Enabled
Operational State         : Up
Supported services
-------------------------------------------------------------------------------
gNMI Version              : 0.4.0
===============================================================================


A:admin@Dut-A# show system grpc connection
===============================================================================
gRPC Server connections
===============================================================================
Address                   : 192.99.5.0
Port                      : 49648
Establishment Time        : 2018/02/20 09:51:48
Active RPC Count          : 0
Total RPC Count           : 1
Rx Bytes                  : 2954
Tx Bytes                  : 3908
-------------------------------------------------------------------------------
No. of connections        : 1
===============================================================================

A:node-6>show>system# grpc rpc
===============================================================================
gRPC Server RPCs
===============================================================================
No. of RPCs               : 0
===============================================================================
```

Table 187: Output fields: system gRPC

Label	Description
gRPC Server	Specifies the gRPC server name.
Administrative State	Specifies the administrative state (Enabled, Disabled).
Operational State	Specifies the operational state (Up, Down, Transition).
Supported services	Specifies the supported services.
gNMI Version	Specifies the gNMI version.
Address	Specifies the IP address.
Port	Specifies the port number.
Establishment Time	Specifies the establishment time.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Active RPC Count	Specifies the active RPC count.
Total RPC Count	Specifies the total RPC count.
Rx Bytes	Specifies the number of received bytes.
Tx Bytes	Specifies the number of transmitted bytes.
No. of connections	Specifies the number of gRPC connections.
No. of RPCs	Specifies the number of RPCs.

grpc

Syntax

grpc

Context

[Tree] (show>system>telemetry grpc)

Full Context

show system telemetry grpc

Description

Commands in this context display gRPC telemetry subscriptions.

Platforms

All

10.15 grpc-tunnel

grpc-tunnel

Syntax

grpc-tunnel

Context

[Tree] (show>system grpc-tunnel)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
show system grpc-tunnel

Description
Commands in this context display gRPC tunnel information.

Platforms
All

10.16 grt-lookup

grt-lookup

Syntax
grt-lookup

Context
[Tree] (clear>router grt-lookup)

Full Context
clear router grt-lookup

Description
This command re-evaluates route policies for GRT.

Platforms
All

10.17 gsmp

gsmp

Syntax
gsmp

Context
[Tree] (show>service>id gsmp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
show service id gsmp

Description
Commands in this context display GSMP information.

Platforms
All

gsmp

Syntax
gsmp

Context
[Tree] (clear>service>id gsmp)

Full Context
clear service id gsmp

Description
Commands in this context clear GSMP statistics.

Platforms
All

10.18 gtm

gtm

Syntax
gtm

Context
[Tree] (show>router gtm)

Full Context
show router gtm

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command multicast GTM related information.

Platforms

All

Output

The following output is an example of router GTM information.

Output Example

```
*A:Dut-A# show router gtm
===============================================================================
GTM (MVPN Base) configuration data
===============================================================================
signaling          : Bgp                  auto-discovery     : Default
UMH Selection      : Highest-Ip           SA withdrawn       : Disabled
intersite-shared   : Enabled              Persist SA         : Disabled
vrf-import         : N/A
vrf-export         : N/A
vrf-target         : unicast
C-Mcast Import RT  : target:10.20.1.2:0

ipmsi              : rsvp IpmsiTmpl
i-pmsi P2MP AdmSt  : Up
i-pmsi Tunnel Name : IpmsiTmpl-gtm-73780
enable-bfd-root    : false                enable-bfd-leaf    : false
Mdt-type           : sender-receiver

BSR signalling     : none
Wildcard s-pmsi    : Disabled
Multistream-SPMSI  : Disabled
s-pmsi             : none
data-delay-interval: 3 seconds
enable-asm-mdt     : N/A
===============================================================================
```

10.19 gtp

gtp

Syntax

gtp

Context

[Tree] (show>router gtp)

Full Context

show router gtp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description
This command displays operational information related to GTP usage in the specified routing context.

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

gtp

Syntax
gtp

Context
[Tree] (show>subscr-mgmt gtp)

Full Context
show subscriber-mgmt gtp

Description
This command displays router operational GTP information.

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

gtp

Syntax
gtp

Context
[Tree] (clear>router gtp)

Full Context
clear router gtp

Description
Commands in this context clear GTP information in this routing context.

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

gtp

Syntax

gtp session all

gtp session apn *apn*

gtp session apn *apn* **imsi** *imsi*

gtp session imsi *imsi*

gtp statistics

Context

[Tree] (clear>subscr-mgmt gtp)

Full Context

clear subscriber-mgmt gtp

Description

This command clears all GTP sessions matching the specified criteria. Associated objects, such as the ESM subscriber in a GTP uplink scenario are also removed.

Parameters

session

Specifies to remove GTP sessions.

all

Specifies to remove all GTP sessions in the system.

statistics

Specifies to clear GTP statistics.

apn

Specifies the APN identifying the session, up to 100 characters.

imsi

Specifies the IMSI identifying the session, in the format of a string of digits between 9 and 15.

Platforms

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

gtp

Syntax

gtp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

gtp gtp-filter *gtp-filter-name*

Context

[Tree] (show>app-assure>group gtp)

Full Context

show application-assurance group gtp

Description

This command displays GTP (General packet radio service (GPRS) Tunneling Protocol) information.

Parameters

gtp-filter-name

Specifies a GTP filter name, up to 32 characters. When a filter is specified, all traffic is examined as described in the tmnxBsxGtpFltrTable.

Platforms

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

Output

The following output is an example of the **gtp gtp-filter** command.

Output Example

```
show application-assurance group 1:0 gtp gtp-filter "bob"
===============================================================================
Application Assurance Group 1:0 GTP Filter "bob"
===============================================================================
Description                 : (Not Specified)
Maximum payload length      : (Not Specified)
Default action              : permit
Default gtp v2 action       : deny
Default imsi-apn action     : deny
GTP in GTP action           : deny
Validate GTP tunnels        : enabled
Validate sequence number    : enabled
Validate source IP address  : enabled
Configured messages         : 2
Configured gtp v2 messages  : 3
Configured imsi apn filters : 3

Packets arrived             : 1070
Packets denied
  Payload length            : 0
  Message type              : 0
  GTP-v2 Message type       : 100
  Mandatory header          : 0
  Extension header          : 0
  Information element       : 0
  Invalid TEID              : 25
  IMSI-APN                  : 200
  Invalid Sequence Number   : 300
  Invalid Source IP add*    : 120
  Missing Mandatory IEs     : 0
  GTP in GTP                : 325
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  No tunnel resource        : 0
  Tunnel endpoint limit     : 0
Packets permitted           : 0
===============================================================================
```

gtp

Syntax

gtp

Context

[Tree] (clear>app-assure>group gtp)

Full Context

clear application-assurance group gtp

Description

This command clears the application-assurance GTP.

Platforms

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

10.20 gtp-statistics

gtp-statistics

Syntax

gtp-statistics

Context

[Tree] (show>subscr-mgmt>wlan-gw gtp-statistics)

Full Context

show subscriber-mgmt wlan-gw gtp-statistics

Description

This command displays GTP statistics.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of WLAN-GW GTP statistics.

Output Example

```
*A:Dut-C# show subscriber-mgmt wlan-gw gtp-statistics
===============================================================================
GTP statistics
===============================================================================
tx echo requests                                        : 33
tx echo responses                                       : 0
tx errors                                               : 0
rx echo requests                                        : 0
rx echo responses                                       : 33
rx errors                                               : 0
rx version not supported                                : 0
rx zero TEID responses                                  : 0
path faults                                             : 0
path restarts                                           : 0
tx invalid msgs                                         : 0
tx create PDP context requests                          : 4
tx create PDP context responses                         : 0
tx delete PDP context requests                          : 0
tx delete PDP context responses                         : 0
tx create session requests                              : 0
tx create session responses                             : 0
tx delete session requests                              : 0
tx delete session responses                             : 0
tx delete bearer requests                               : 0
tx delete bearer responses                              : 0
tx create bearer responses                              : 0
tx update bearer responses                              : 0
tx modify bearer requests                               : 0
tx modify bearer responses                              : 0
tx error indication count                               : 0
rx invalid msgs                                         : 0
rx create PDP context requests                          : 0
rx create PDP context responses                         : 4
rx delete PDP context requests                          : 0
rx delete PDP context responses                         : 0
rx create session requests                              : 0
rx create session responses                             : 0
rx delete session requests                              : 0
rx delete session responses                             : 0
rx delete bearer requests                               : 0
rx delete bearer responses                              : 0
rx create bearer requests                               : 0
rx update bearer requests                               : 0
rx modify bearer requests                               : 0
rx modify bearer responses                              : 0
rx error indication count                               : 0
rx invalid pkt length                                   : 0
rx unknown pkts                                         : 0
rx missing IE pkts                                      : 0
rx bad IP header pkts                                   : 0
rx bad UDP header pkts                                  : 0
rx discarded pkts                                       : 0
rx in-session discarded pkts                            : 0
rx pkts                                                 : 37
tx discarded pkts                                       : 0
tx pkts                                                 : 37
===============================================================================
*A:Dut-C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

11 h Commands

11.1 handler

handler

Syntax

handler [*handler-name*]

handler detail

Context

[Tree] (show>log>event-handling handler)

Full Context

show log event-handling handler

Description

Commands in this context display EHS handler information.

Parameters

handler-name

Specifies the name of a specific handler up to 32 characters in length.

detail

Keyword to list details of all handlers.

Platforms

All

Output

The following output is an example of handler information.

Table 188: Output fields: handler describes handler output fields.

Output Example

```
A:node1>show>log>event-handling# handler
===============================================================================
Event Handling System - Handler List
===============================================================================
Handler                         Admin   Oper    Description
Name                            State   State
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
h-sample                        up      up
h-main                          up      up
h-backup                        down    down
===============================================================================

*A:7950 XRS-20# show log event-handling handler "h-sample"
===============================================================================
Event Handling System - Handlers
===============================================================================
===============================================================================
Handler          : h-sample
===============================================================================
Description      : (Not Specified)
Admin State      : up                                 Oper State : up
-------------------------------------------------------------------------------
Handler Action-List Entry
-------------------------------------------------------------------------------
Entry-id         : 10
Description      : (Not Specified)
Admin State      : up                                 Oper State : up
Script
  Policy Name    : sp-sample
  Policy Owner   : TiMOS CLI
Min Delay        : 0
Last Exec        : 05/24/2015 19:03:31
-------------------------------------------------------------------------------
Handler Action-List Entry Execution Statistics
  Enqueued       : 4
  Err Launch     : 0
  Err Adm Status : 0
Total            : 4
===============================================================================
```

Table 188: Output fields: handler

Label	Description
Handler	The name of the handler.
Description	The handler description string.
Admin State	The administrative state of the handler.
Oper State	The operational state of the handler.
Handler Action-List Entry	
Entry-id	The action-list entry identifier.
Description	The action-list entry description string.
Admin State	The administrative state of the action-list entry.
Policy Name	The name of the related script policy.
Policy Owner	The owner of the related script policy.
Last Exec	The timestamp of the last successful execution of the action-list entry.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Handler Action-List Entry Execution Statistics	
Enqueued	The number of times the action-list entry was successfully passed on to the SR OS sub-system or module that will attempt to process and execute the action. For a script-policy entry, this indicates that the script request has been enqueued but does not necessarily indicate that the script has successfully launched or completed. For status and information about the script, use the **show>system>script-control** command.
Err Launch	The number of times the action-list entry was not successfully handed over to the next SR OS sub-system or module in the processing chain. This can be caused by a variety of conditions including a full script request input queue.
Err Adm Status	The number of times the action-list entry was not executed because the entry was administratively disabled.
Total	The total number of times that the action-list entry attempted execution.

handler

Syntax

handler *event-handler-name*

Context

[Tree] (clear>log>event-handling handler)

Full Context

clear log event-handling handler

Description

This command clears the counters in the **show log event-handling handler** *handler-name* output. It does affect the global or aggregate counters shown using the **information** command.

Parameters

handler-name

Specifies the name of the event handler, up to 32 characters in length.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

11.2 hash-control

hash-control

Syntax

hash-control

Context

[Tree] (show>system>security hash-control)

Full Context

show system security hash-control

Description

Commands in this context display hash-control configuration information.

Platforms

All

11.3 hierarchy

hierarchy

Syntax

hierarchy [**subscriber** *sub-ident-string*]

Context

[Tree] (show>service>active-subscribers hierarchy)

Full Context

show service active-subscribers hierarchy

Description

This command displays active subscriber hierarchy information. To display an IPoE/PPP session, the group of hosts within the session is visually indented. Additional information related to the session is also shown. For PPPoE, the circuit ID and remote ID if used is shown. For IPoE, the key used to group the session is shown (for example, the circuit ID). The command also display PD host which are modeled as a managed route. The PD managed route is directly underneath and points to the host that it is using as the next hop. The PD managed route forwarding status is also shown, where (N) indicates that the route is not forwarding.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sub-ident-string

Specifies the subscriber ID of the active subscriber, up to 32 characters.

Platforms

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

Output

The following output is an example of active subscriber hierarchy information.

Output Example

```
*A:eng-BNG-2# show  service active-subscribers hierarchy
===============================================================================
Active Subscribers Hierarchy
===============================================================================
-- user_1
   (no-prof)
   |
   +-- sap:1/1/20:841 - sla:no-prof
       |
       +-- IPOE-session - mac:00:00:10:10:12:13 - svc:1000
           |
           +-- 192.168.0.13 - DHCP
-------------------------------------------------------------------------------
Number of active subscribers : 1
Flags: (N) = the host or the managed route is in non-forwarding state
===============================================================================
```

```
B:Dut-C# show service active-subscribers hierarchy
===============================================================================
Active Subscribers Hierarchy
===============================================================================
-- basic1
   (sub__S1)
   |
   |-- sap:1/1/2:51 - sla:slaS2S1
   |   |
   |   +-- 3fe0:0:0:10::/64 - mac:10:00:00:00:01:10 - DHCP6 - svc:10
   |
   +-- sap:1/1/2:113 - sla:sla17S1 PPP session:23
       |
       +-- PPP-session - mac:10:00:00:00:01:91 - sid:1 - svc:10
           |
           |-- 10.1.0.111 - IPCP
           |
           +-- 3fe1:0:0:11::/64 - SLAAC
-------------------------------------------------------------------------------
Number of active subscribers : 1
Flags: (N) = the host or the managed route is in non-forwarding state
===============================================================================
*B:Dut-C#
```

```
*A:eng-BNG-2# show  service active-subscribers hierarchy radius-acct
===============================================================================
Active Subscribers Hierarchy (accounting information)
===============================================================================
-- user_1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   (no-prof)
   |
   +-- sap:1/1/20:841 - sla:no-prof
       |   |
       |   +-- no radius acct
       |       session-id          : D854FF0000000B5DF40326
       |
       +-- IPOE-Session - mac:00:00:10:10:12:13
           |   |
           |   +-- no radius acct
           |       session-id      : D854FF000000095DF40326
           |
           +-- 192.168.0.13
               |
               +-- no radius acct
                   session-id      : D854FF0000000A5DF40326
-------------------------------------------------------------------------------
Number of active subscribers : 1
===============================================================================
```

11.4 histogram

histogram

Syntax

histogram router *router-instance* **pool** *pool-name* **bucket-size** [**1..65536**] **num-buckets** [**2..50**]

Context

[Tree] (tools>dump>nat histogram)

Full Context

tools dump nat histogram

Description

This command displays a NAT pool port usage histogram

Parameters

router *router-instance*

Specifies the router instance.

pool *pool-name*

Specifies the identification of the NAT pool.

bucket-size [1..65536]

Specifies the unit of the X-axis of the histogram; a value of ten, for example, would return in a histogram with results for [0-9], [10-19], [20-29], ... ports.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

num-buckets [2..50]

Specifies the size of the histogram; a value of five, for example, would result in five results: [0-9], [10-19], [20-29], [30-39], [40-infinite].

Platforms

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

11.5 history

history

Syntax

history

Context

[Tree] (tools>dump>system>nsp-proxy history)

Full Context

tools dump system nsp-proxy history

Description

This command displays system NSP proxy history information.

Platforms

VSR-NRC

11.6 host

host

Syntax

host [**detail**] [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

host interface *interface-name* [**detail**] [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

host mac *ieee-address* [**detail**] [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

host ipv6-address *ipv6-prefix* [**detail**] [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

host sap *sap-id* [**detail**] [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

Context

[Tree] (show>service>id>slaac host)

Full Context

show service id slaac host

Description

This command displays SLAAC host related information.

Parameters

detail

Specifies to display detailed SLAAC host related information.

service-id

Specifies the service ID of the wholesaler.

Values 1 to 2147483647

session

Specifies to display information about SLAAC hosts that are associated with an IPoE session or a PPP session.

Values none, ipoe, ppp

interface-name

Specifies the interface name, up to 32 characters.

ieee-address

Specifies the MAC address for which to display SLAAC host information.

ipv6-address

Specifies the IPv6 address for which to display SLAAC host information.

sap-id

Specifies the physical port identifier portion of the SAP definition.

policy-name

Specifies the name of the router advertisement policy.

Platforms

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

Output

The following output is an example of detailed SLAAC host information.

Output Example

```
*A:eng-BNG-2# show service id 1000 slaac host detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
SLAAC hosts for service 1000
===============================================================================
Service ID           : 1000
Prefix               : 2001:1000:bad:beef::/64
Interface Id         : N/A
Mac Address          : 00:00:10:10:12:12
Subscriber-interface : sub-int-01
Group-interface      : grp-int-01
SAP                  : 1/1/20:841
Termination Type     : local
Creation Time        : 2017/02/13 22:05:03
Persistence Key      : N/A
Router adv. policy   : ra-policy-01
IPoE|PPP session     : No
Radius sub-if prefix : N/A
IPoE Trigger         : rtr-solicit
Last Auth Time       : 2017/02/13 22:05:03
Inactivity Timer     : N/A
Sub-Ident            : "host-1"
Sub-Profile-String   : "no-prof"
SLA-Profile-String   : "no-prof"
App-Profile-String   : ""
ANCP-String          : ""
Int Dest Id          : ""
Category-Map-Name    : ""
Info origin          : radius
Pool                 : ""
Primary-Dns          : N/A
Secondary-Dns        : N/A
Circuit Id           : N/A
Remote Id            : N/A

Subscriber Host Limit Overrides
 ipv4-arp            : 1
 ipv4-dhcp           : 1
 ipv4-ppp            : 1
 ipv4-overall        : 1
 ipv6-pd-ipoe-dhcp   : 1
 ipv6-pd-ppp-dhcp    : 1
 ipv6-pd-overall     : 1
 ipv6-wan-ipoe-dhcp  : 1
 ipv6-wan-ipoe-slaac : 1
 ipv6-wan-ppp-dhcp   : 1
 ipv6-wan-ppp-slaac  : 1
 ipv6-wan-overall    : 1
 ipv6-overall        : 1
 lac-overall         : 1
 overall             : 1
SLA Profile Instance Host Limit Overrides
 ipv4-arp            : 1
 ipv4-dhcp           : 1
 ipv4-ppp            : 1
 ipv4-overall        : 1
 ipv6-pd-ipoe-dhcp   : 1
 ipv6-pd-ppp-dhcp    : 1
 ipv6-pd-overall     : 1
 ipv6-wan-ipoe-dhcp  : 1
 ipv6-wan-ipoe-slaac : 1
 ipv6-wan-ppp-dhcp   : 1
 ipv6-wan-ppp-slaac  : 1
 ipv6-wan-overall    : 1
 ipv6-overall        : 1
 lac-overall         : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 overall             : 1
Subscriber Session Limit Overrides
 ipoe                : 1
 pppoe-local         : 1
 pppoe-lac           : 1
 pppoe-overall       : 1
 l2tp-lns            : 1
 l2tp-lts            : 1
 l2tp-overall        : 1
 overall             : 1
SLA Profile Instance Session Limit Overrides
 ipoe                : 1
 pppoe-local         : 1
 pppoe-lac           : 1
 pppoe-overall       : 1
 l2tp-lns            : 1
 l2tp-lts            : 1
 l2tp-overall        : 1
 overall             : 1
-------------------------------------------------------------------------------
Number of hosts : 1
===============================================================================
```

```
*A:Dut-A# show service id 13 slaac host router-advertisement-policy ra-policy-01
===============================================================================
SLAAC hosts for service 13
===============================================================================
Prefix                      Mac Address          Sap Id               MC-Stdby
  IntId
-------------------------------------------------------------------------------
2013:bad:beef:1::/64        00:00:00:00:00:13    1/1/1:13
  N/A
2013:bad:beef:2::/64        00:00:00:00:00:14    1/1/1:13
  N/A
2013:bad:beef:3::/64        00:00:00:00:00:15    1/1/1:13
  N/A
-------------------------------------------------------------------------------
Number of hosts : 3
===============================================================================
*A:Dut-A#
```

Table 189: Output fields: SLAAC host describes service SLAAC host information.

Table 189: Output fields: SLAAC host

Field	Description
Service ID	The service identifier.
Prefix	The prefix for the service
Interface Id	The interface identifier of this SLAAC host. If the SLAAC host has multiple addresses, this field will only show the interface identifier of one of them.
Mac Address	The MAC address of the this SLAAC host
Subscriber-interface	The subscriber interface name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Group-interface	The subscriber interface group interface name
SAP	The service SAP ID
Termination Type	The termination type of this SLAAC host
Creation Time	The date and time the service was created
Persistence Key	The key value that can be used to track this SLAAC host in the persistence file.
Router adv. policy	The name of the router advertisement policy associated with the SLAAC host during authentication
IPoE|PPP session	The indication if this SLAAC host belongs to an IPoE or PPP session
Radius sub-if prefix	The subscriber interface prefix that is received from a Radius server
IPoE Trigger	The trigger name
Last Auth Time	The sysUpTime at the time of the last authentication for this session
Inactivity Timer	The remaining time in seconds before the host is removed. A value of 0 indicates no inactivity timer is active.
Sub-Ident	The name of the subscriber identification policy
Sub-Profile-String	The name of the subscriber profile
SLA-Profile-String	The name of the SLA profile
App-Profile-String	The application profile string
ANCP-String	The ANCP string applicable for this session
Int Dest ID	The intermediate destination identifier applicable for this session
Category-Map-Name	The category map name applicable for this session
Info origin	The server that provided the Sub-profile, SLA profile, Ancp string and Intermediate Destination Id
Pool	the DHCP server pool from which the SLAAC prefix is allocated
Primary-Dns	the primary DNS server
Secondary-Dns	the secondary DNS server

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Circuit ID	circuit ID of this host
Remote ID	remote ID of this host
Subscriber Host Limit Overrides and SLA Profile Instance Host Limit Overrides: (only shown when overrides are active)	
ipv4-arp	The total number of IPv4 ARP hosts limit
ipv4-dhcp	The total number of IPv4 DHCP hosts limit
ipv4-ppp	The total number of IPv4 PPP hosts limit
ipv4-overall	The total number of IPv4 hosts limit
ipv6-pd-ipoe-dhcp	The total number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-ppp-dhcp	The total number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-overall	The total number of IPv6 DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-wan-ipoe-dhcp	The total number of IPv6 IPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ipoe-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-ppp-dhcp	The total number of IPv6 PPPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ppp-slaac	The total number of IPv6 PPPoE SLAAC WAN hosts limit
ipv6-wan-overall	The total number of IPv6 WAN hosts limit
ipv6-overall	The total number of IPv6 hosts limit
lac-overall	The total number of L2TP LAC hosts limit
overall	The total number of subscriber hosts limit
Subscriber Session Limit Overrides and SLA Profile Instance Session Limit Overrides: (only shown when overrides are active)	
ipoe	The total number of IPoE sessions limit
ppoe-local	The total number of PPPoE local terminated sessions (PTA) limit
ppoe-lac	The total number of PPPoE L2TP LAC sessions limit

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
ppoe-overall	The total number of PPPoE sessions limit
l2tp-lns	The total number of L2TP LNS sessions limit
l2tp-lts	The total number of L2TP LTS sessions limit
l2tp-overall	The total number of L2TP sessions limit
overall	The total number of subscriber sessions limit
Number of hosts	The total number of hosts matching the search criteria
MC-Stdby	The number of SAPs defined on this service on a port which is in multi-chassis standby mode

host

Syntax

host mac *ieee-address* **ip** *ip-address*

Context

[Tree] (show>subscr-mgmt>vrgw>brg>gateway host)

Full Context

show subscriber-mgmt vrgw brg gateway host

Description

This command lists pool information about a specific host in the BRG.

Parameters

ieee-address

Specifies the MAC address identifying a specific host.

ip-address

Displays only the prefixes associated with this host.

Platforms

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

host

Syntax

host [*ipv6-addr*ess]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>mld>statistics host)

Full Context

show router mld statistics host

Description

This command displays MLD host statistics information.

Parameters

ipv6-address

Displays information associated with the specified IPv6 address.

Platforms

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

host

Syntax

host all

host ipv6-address *ipv6-prefix*

host mac *ieee-address*

host sap *sap-id*

Context

[Tree] (clear>service>id>slaac host)

Full Context

clear service id slaac host

Description

This command clears SLAAC host data.

Parameters

ieee-address

Specifies the MAC address.

ipv6-prefix

Specifies the IPv6 prefix and length.

sap-id

Specifies the SAP ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

all

Clears all SLAAC host data.

Platforms

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

host

Syntax

host [*ip-address*]

Context

[Tree] (show>router>igmp>statistics host)

Full Context

show router igmp statistics host

Description

This command displays IGMP statistics for hosts.

Parameters

ip-address

Specifies the host IP address.

Values a.b.c.d

Platforms

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

11.7 host-connectivity-verify

host-connectivity-verify

Syntax

host-connectivity-verify statistics [**sap** *sap-id*]

Context

[Tree] (show>service>id host-connectivity-verify)

Full Context

show service id host-connectivity-verify

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays host connectivity check statistics.

Parameters

statistics

Displays host connectivity verification data

sap-id

Specifies the physical port identifier portion of the SAP definition

Platforms

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

Output

The following output is an example of service host connectivity information.

Output Example

```
A:ALA-48>show>service>id# host-connectivity-verify statistics sap 1/1/9:0
===============================================================================
Host connectivity check statistics
===============================================================================
Svc   SapId/          DestIp          Last                 Time        Oper
Id    SdpId           Address         Response             Expired     State
-------------------------------------------------------------------------------
10001/2/3:01.144.145.1                                  Up
===============================================================================
A:ALA-48>show>service>id#
```

Table 190: Output fields: host connectivity check verify describes show service-id host connectivity verification output fields.

Table 190: Output fields: host connectivity check verify

Label	Description
Svc Id	The service identifier.
SapId/SdpId	The SAP and SDP identifiers.
DestIp Address	The destination IP address.
Last Response	The time when the last response was received.
Time Expired	Displays whether the interval value has expired.
Oper State	Displays the current operational state of the service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

11.8 host-if-fec

host-if-fec

Syntax

host-if-fec

Context

[Tree] (show>port>ethernet host-if-fec)

Full Context

show port ethernet host-if-fec

Description

This command displays statistics for FEC as reported at the router receiver side of the host interface.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of host RS-FEC statistics information, and Table 191: Output fields: Host interface FEC describes the output fields.

Output Example

```
A:node-2# show port 1/1/c1/1 ethernet host-if-fec
===============================================================================
Router Rx RS-FEC Statistics: 1/1/c1/1
===============================================================================
Operational RS-FEC : cl119
FEC Status : locked
Pre-FEC BER
Current : 7.549292E-10
Post-FEC BER
Current : 0.000000E+00

Total Blocks : 418954114614
Uncorrectable Blocks : 0
Corrected Blocks : 1212261
Corrected Symbols : 1692749
Corrected Bits : 1720567
```

Table 191: Output fields: Host interface FEC

Label	Description
Operational RS-FEC	Displays the specific type or standard of RS-FEC that is currently active or configured for operation on this port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
FEC Status	Displays the current state of the FEC process on the port.
Pre-FEC BER Current	Displays the rate of bit errors detected on the incoming signal before any error correction is applied by the FEC decoder. A higher Pre-FEC BER indicates a noisier or poorer quality signal.
Post-FEC BER Current	Displays the rate of bit errors that remain in the signal after the FEC decoder has attempted to correct them. This is the residual error rate. Ideally, this should be low or zero. Any non-zero value here indicates uncorrectable errors.
Total Blocks	Displays the total number of data blocks that the FEC decoder has processed on the receive side. A "block" is a unit of data that FEC operates on.
Uncorrectable Blocks	Displays the number of data blocks where the FEC decoder detected more errors than it could correct. These blocks are considered corrupted and typically result in data loss or retransmissions at higher layers.
Corrected Blocks	Displays the number of data blocks where the FEC decoder successfully detected and corrected errors.
Corrected Symbols	Displays the total number of symbols that the FEC decoder successfully corrected across all processed blocks.
Corrected Bits	Displays the total number of individual bits that the FEC decoder successfully corrected across all processed blocks.

11.9 host-lockout-policy

host-lockout-policy

Syntax

host-lockout-policy [**policy** *host-lockout-policy-name*] *lockout-state*

host-lockout-policy sap *sap-id* [**circuit-id** *circuit-id*] [**mac** *ieee-address*] [**remote-id** *remote-id*] [*lockout-state*]

Context

[Tree] (clear>subscr-mgmt host-lockout-policy)

Full Context

clear subscriber-mgmt host-lockout-policy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command removes host lockout contexts from the system.

Parameters

sap-id

Specifies to clear information for hosts in a specific lockout state.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *eth-sat-id*	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id* | *eth-sat-id*:[qtag1 | *cp-conn-prof-id*]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id* | *eth-sat-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-*conn-prof-id*]	
	cp	keyword
	conn-prof-id	*1 to 8000*
cem	*slot/mda/port.channel*	
ima-grp	*bundle-id* [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | **lag**-*string*	
	lag	keyword
	id	1 to 800
	string	23 characters max
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	null | 0 to 4094	
qtag2	* | null | 0 to 4094	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tunnel-id	**tunnel**-*id.private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094
eth-sat-id	**esat**-*id/slot/port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id.sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

circuit-id

Specifies the circuit ID, up to 253 characters.

ieee-address

Specifies the MAC address, up to 30 characters.

remote-id

Specifies the remote ID, up to 253 characters.

lockout-state

Specifies to clear information for hosts in a specific lockout state.

Platforms

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

host-lockout-policy

Syntax

host-lockout-policy

host-lockout-policy *policy-name* **association**

host-lockout-policy *policy-name*

host-lockout-policy *policy-name lockout-state* **sap** *sap-id* [**summary**]

host-lockout-policy *policy-name lockout-state* [**circuit-id** *circuit-id*] [**sap** *sap-id*] [**summary**]

host-lockout-policy *policy-name lockout-state* [**mac** *ieee-address*] [**sap** *sap-id*] [**summary**]

host-lockout-policy *policy-name lockout-state* [**remote-id** *remote-id*] [**sap** *sap-id*] [**summary**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>subscr-mgmt host-lockout-policy)

Full Context

show subscriber-mgmt host-lockout-policy

Description

This command displays host lockout policy information.

Parameters

policy-name

Specifies a specific subscriber host lockout policy name up to 32 characters.

association

Specifies to display the association of the host lockout policy.

lockout-state

Specifies to display information for hosts in a specific lockout state.

Values all, active, graceful

sap *sap-id*

Specifies to display SAP ID information.

circuit-id circuit-id

Specifies to display circuit ID information. The *circuit-id* is up to 256 characters .

mac *ieee-address*

Specifies to display MAC address information up to 30 characters.

remote-id remote-id

Specifies to display remote ID information, up to 256 characters.

Platforms

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

Output

The following output is an example of subscriber management host lockout policy information.

Output Example

```
*A:cses-E11# show subscriber-mgmt host-lockout-policy
===============================================================================
Host Lockout Policies
===============================================================================
Lockout Policy                  Last Mgmt Change
  Lockout Time Min                Lockout Time Max
Description
  Lockout Reset Time              Max Lockout Hosts
-------------------------------------------------------------------------------
test                            04/20/2012 19:51:02
  10                              3600
test
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  60                              100
===============================================================================
*A:cses-E11#


*A:cses-E11# show subscriber-mgmt host-lockout-policy "test"
===============================================================================
Host Lockout Policy "test"
===============================================================================
Description                     test
Last Mgmt Change                04/20/2012 19:51:02
Lockout time min                10
Lockout time max                3600
Lockout reset time              60
Max lockout hosts               100
Host key                        all
===============================================================================
*A:cses-E11#
```

Table 192: Output fields: host lockout policy describes subscriber management host lockout policy output fields.

Table 192: Output fields: host lockout policy

Field	Description
Lockout Policy	The subscriber Host Lockout Policy name
Last Mgmt Change	The sysUpTime at the time of the most recent management-initiated change to this policy
Lockout Time Min	The minimum lockout-time for this host lockout policy
Lockout Time Max	The maximum lockout-time for this host lockout policy
Description	The user-provided description of this subscriber Host Lockout Policy
Max Lockout Hosts	The maximum number of lockouts for this host
Last Mgmt Change	The sysUpTime at the time of the most recent management-initiated change to this policy
Lockout time min	The minimum lockout-time for this Host Lockout Policy
Lockout time max	The maximum lockout-time for this Host Lockout Policy
Lockout reset time	The lockout reset time for this Host Lockout Policy
Max lockout hosts	The maximum number of locked out hosts for this Host Lockout Policy
Host key	The method for host matching

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

11.10 host-lookup

host-lookup

Syntax

host-lookup [**mac** *ieee-address*] [**remote-id** *remote-id-ascii*] [**sap-id** *sap-id*] [**service-id** *service-id*] [**string** *vso-string*] [**system-id** *system-id*] [**option60** *option-60-ascii*] [**circuit-id** *circuit-id-ascii*] [**circuit-id-hex** *circuit-id-hex*] [**option60-hex** *option60-hex*] [**remote-id-hex** *remote-id-hex*] [**derived-id** *derived-id*] [**ip-prefix** *ip-prefix/ip-prefix-length*]

Context

[Tree] (tools>perform>subscr-mgmt>loc-user-db>ipoe host-lookup)

Full Context

tools perform subscriber-mgmt local-user-db ipoe host-lookup

Description

This command performs a lookup in the local user database. This command looks up the host with the match-list configured in the local user database.

Parameters

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

remote-id

Specifies the information which goes into the remote-id sub-option in the DHCP relay packet, up to 255 characters.

sap-id

Specifies a SAP identifier to be used.

service-id

Specifies an existing subscriber service ID.

Values 1 to 2147483647

vso-string

Specifies a Vendor Specific Option (VSO) string.

system-id

Specifies the system ID.

Values up to 255 characters maximum

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

hex-string

Specifies the content of option 60 for this lookup.

Values 0x0 to 0xFFFFFFFF (maximum 64 hex nibbles)

circuit-id

Specifies the circuit ID from the Option 82.

circuit-id-hex

Specifies the circuit ID in hexadecimal format from the Option 82.

Values 0x0 to 0xFFFFFFFF (maximum 254 hex nibbles)

sap-id

Specifies a SAP ID, up to 255 characters maximum.

option-60-ascii

Specifies the Vendor-Identifying Vendor Option to match against. Option 60 is encoded as Type - Length - Value and must be formatted in ASCII.

option-60-hex

Specifies the Vendor-Identifying Vendor Option to match against. Option 60 is encoded as Type - Length - Value and must be formatted in HEX.

Platforms

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

host-lookup

Syntax

host-lookup [**circuit-id** *circuit-id*] [**circuit-id-hex** *circuit-id-hex*] [**derived-id** *derived-id*] [**mac** *ieee-address*] [**remote-id** *remote-id*] [**remote-id-hex** *remote-id-hex*] [**sap-id** *sap-id*] [**service-name** *service-name*] [**user-name** *user-name*]

Context

[Tree] (tools>perform>subscr-mgmt>loc-user-db>ppp host-lookup)

Full Context

tools perform subscriber-mgmt local-user-db ppp host-lookup

Description

This command performs a lookup in the local user database.

Parameters

circuit-id

Specifies the circuit ID from the Option 82.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

circuit-id-hex

Specifies the circuit ID in hexadecimal format from the Option 82.

Values 0x0 to 0xFFFFFFFF (maximum 254 hex nibbles)

derived-id *derived-id*

Specifies an ASCII string, up to 255 characters, that uniquely identifies a host and is derived by a Python script from packet content available during a DHCP transaction.

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

remote-id

Specifies the information that goes into the remote-id sub-option in the DHCP relay packet, up to 255 characters.

remote-id-hex

Specifies the remote ID in hexadecimal format.

Values 0x0 to 0xFFFFFFFF (maximum 510 hex nibbles)

sap-id

Specifies a SAP ID, up to 255 characters.

service-name

Specifies a PPP service name, up to 255 characters.

user-name

Specifies a user name, up to 253 characters.

Platforms

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

Output

Use the following command for an example of PPP host lookup information.

```
tools perform subscriber-mgmt local-user-db "ludb-1" ppp host-lookup user-name user-1@best.net
```

```
===============================================================================
PPP host Lookup results
===============================================================================
Result               : Success
Matched Host Name    : default
Admin State          : Up
Last Mgmt Change     : 02/22/2023 09:58:51

Host Identification
 Mac Address         : N/A
 Circuit Id          : N/A
 Remote Id           : N/A
 Sap Id              : N/A
 Service Name        : N/A
 User Name           : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Encap Tag Range     : N/A
 Encap Tag Sep Range : N/A
 Derived Id          : N/A

Matched Objects      : N/A

Address              : N/A
Password Type        : N/A
PADO Delay           : 0msec
Pre Auth Policy      : N/A
Auth Policy          : radius-auth-1
Padi Auth Policy     : N/A
Diameter app policy  : (Not Specified)
Diameter auth policy : (Not Specified)
Acct Policy          : N/A
Dupl Acct Policy     : N/A
User DB              : N/A
Rip Policy           : N/A
Router Advert Policy : N/A
Retailer Svc Id      : N/A
Service              : N/A
Interface            : N/A
Force IPv6CP         : Disabled
IPv6 Address         : N/A
IPv6 Del Pfx         : N/A
IPv6 Slaac Pfx       : N/A
IPv6 Address Pool    : N/A
IPv6 Del Pfx Pool    : N/A
IPv6 Slaac Pfx Pool  : N/A
IPv6 Del Pfx Length  : N/A
Ignore DF Bit        : Disabled

DHCPv6 lease times
 Renew timer         : > 9999 days
 Rebind timer        : > 9999 days
 Preferred lifetime  : 0d 00:00:00
 Valid lifetime      : 0d 00:00:00

Identification Strings
 Subscriber Id       : N/A
 SLA Profile String  : N/A
 SPI Sharing Group Id: N/A
 Sub Profile String  : N/A
 App Profile String  : N/A
 ANCP String         : N/A
 Inter Destination Id: N/A
 Category Map Name   : N/A

L2TP
 Service             : N/A
 Tunnel Group        : N/A
 LAC Steering Profile: N/A

MSAP defaults
 Policy              : N/A
 Service             : N/A
 Group Interface     : N/A
 Group Interface Pfx : none
 Group Interface Sfx : none

Filter Overrules
 Ing Ipv4 Fltr       : N/A
 Egr Ipv4 Fltr       : N/A
 Ing Ipv6 Fltr       : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Egr Ipv6 Fltr       : N/A

Access loop info
 Circuit ID format   : none
 Circuit ID          : N/A
 Remote ID format    : none
 Remote ID           : N/A

PPP policy parameters
 Max sessions per mac: N/A
 Keepalive           : N/A
===============================================================================
```

11.11 host-tracking

host-tracking

Syntax

host-tracking [**subscriber** *sub-ident-string*]

host-tracking [**subscriber** *sub-ident-string*] **detail**

host-tracking [**subscriber** *sub-ident-string*] **summary**

host-tracking [**subscriber** *sub-ident-string*] **statistics**

Context

[Tree] (show>service>active-subscribers host-tracking)

Full Context

show service active-subscribers host-tracking

Description

This command displays active subscriber host tracking information.

Parameters

sub-ident-string

Displays subscriber ID of the active subscriber, up to 32 characters.

detail

Displays detailed host tracking information for the specified subscriber ID.

summary

Displays summarized host tracking information for the specified subscriber ID.

statistics

Displays statistical host tracking information for the specified subscriber ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

host-tracking

Syntax

host-tracking [**statistics**]

host-tracking sap *sap-id* [**host** *ip-address*] [**statistics**]

Context

[Tree] (clear>service>id host-tracking)

Full Context

clear service id host-tracking

Description

This command clears host tracking data.

Parameters

sap-id

Specifies a SAP for which to clear host tracking data.

ip-address

Specifies the IP address of a host for which to clear tracking data.

Values a.b.c.d

statistics

Clears statistics.

Platforms

All

host-tracking

Syntax

host-tracking

Context

[Tree] (clear>subscr-mgmt host-tracking)

Full Context

clear subscriber-mgmt host-tracking

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context clear host tracking data.

Platforms

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

11.12 host-tracking-policy

host-tracking-policy

Syntax

host-tracking-policy

host-tracking-policy *policy-name* **association**

host-tracking-policy *policy-name*

Context

[Tree] (show>subscr-mgmt host-tracking-policy)

Full Context

show subscriber-mgmt host-tracking-policy

Description

This command displays host tracking policy information.

Parameters

policy-name

Specifies the host tracking policy name, up to 32 characters.

association

Displays information associated with the host tracking policy.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

11.13 hostname

hostname

Syntax

hostname

Context

[Tree] (show>service>id>spb hostname)

Full Context

show service id spb hostname

Description

This command displays SPB system-id to hostname mapping.

Platforms

All

Output

The following output is an example of service SPB hostname information.

Output Example

```
*A:Dut-A# show service id 100001 spb hostname
===============================================================================
Hosts
===============================================================================
System Id               Hostname
-------------------------------------------------------------------------------
0000.00AA.AAAA          cses-B02
0000.00BB.BBBB          cses-B07
===============================================================================
```

hostname

Syntax

hostname

Context

[Tree] (show>router>isis hostname)

Full Context

show router isis hostname

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the hostname database. There are no options or parameters.

Platforms

All

Output

IS-IS Hostname Output

Table 193: Output fields: IS-IS hostname describes output fields for IS-IS hostname output.

Table 193: Output fields: IS-IS hostname

Label	Description
System-id	System identifier mapped to hostname.
Hostname	Hostname for the specific *system-id.*
Type	The type of entry (static or dynamic).

Output Example

```
A:ALA-A# show router isis hostname
===============================================================================
Rtr Base ISIS Instance 0 Hostnames
===============================================================================
System Id               Hostname
-------------------------------------------------------------------------------
1800.0000.0002          core_west
1800.0000.0005          core_east
1800.0000.0008          asbr_west
1800.0000.0009          asbr_east
1800.0000.0010          abr_sjc
1800.0000.0011          abr_lax
1800.0000.0012          abr_nyc
1800.0000.0013          abr_dfw
1800.0000.0015          dist_oak
1800.0000.0018          dist_nj
1800.0000.0020          acc_nj
1800.0000.0021          acc_ri
1800.0000.0027          dist_arl
1800.0000.0028          dist_msq
1800.0000.0029          acc_arl
1800.0000.0030          acc_msq
===============================================================================
A:ALA-A#
```

hostname

Syntax

hostname

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>ospf hostname)

[Tree] (show>router>ospf3 hostname)

Full Context

show router ospf hostname

show router ospf3 hostname

Description

This command displays information about the hostname database.

Platforms

All

Output

The following output is an example of OSPF hostname database information. Table 194: Output fields: hostname displays field descriptions.

Table 194: Output fields: hostname

Label	Description
Nbr Rtr Id	The OSPF ID.
hostname	The OSPF hostname.
No. of OSPF RTR id/ hostnames	The total number of OSPF router IDs and hostnames.

Output Example

```
*A:router-B# show router ospf hostname
===================================
Rtr Base OSPFv2 Instance 0 hostnames
===================================
Nbr Rtr Id      hostname
-------------------------------
10.20.0.3       router-A
10.20.1.3       router-B
10.20.2.3         -
10.20.3.3       router-D
-------------------------------
No. of OSPF Rtr id/hostnames: 4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

11.14 hosts

hosts

Syntax

hosts [**group** *grp-address*] [**detail**] [**fwd-service** *service-id*] [**grp-interface** *ip-int-name*]

hosts [**host** *ip-address*] [**group** *grp-address*] [**detail**]

hosts summary

Context

[Tree] (show>router>igmp hosts)

Full Context

show router igmp hosts

Description

This command displays IGMP hosts information.

Parameters

grp-address

Specifies the group IP address.

service-id

Specifies the service ID.

Values service-id: 1 to 2148278386

svc-name: up to 64 characters.

ip-int-name

Specifies an IP interface name, up to 32 characters.

ip-address

Specifies an IP address.

Platforms

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

Output

The following output is an example of IGMP host information.

Output Example

```
*B:Dut-C# show router igmp hosts
===============================================================================
IGMP Hosts
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Host            Oper    Oper    Fwd   GrpItf           Num    Subscriber
                State   Version Svc                    Groups
-------------------------------------------------------------------------------
239.112.1.1     Up      3       1     gi_1_1           1      sub_1
239.112.1.2     Up      3       1     gi_1_1           2      sub_1
239.112.1.3     Up      3       1     gi_1_2           0      sub_2
-------------------------------------------------------------------------------
Hosts : 3
===============================================================================
*B:Dut-C#

*B:Dut-C# show router igmp hosts detail
===============================================================================
IGMP Host 239.112.1.1
===============================================================================
Oper Status      : Up         MacAddress     : 00:00:00:00:00:01
Oper version     : 3          Subscriber     : sub_1
Num Groups       : 1          GrpItf         : gi_1_1
Max Grps Till Now: 2          IGMP-Policy    : pol1
PPPoE SessionId  : 1          Next query time: 0d 00:02:03
FwdSvcId         : 1
-------------------------------------------------------------------------------
IGMP Group
-------------------------------------------------------------------------------
Group Address    : 239.0.0.1      Up Time    : 0d 00:00:24
Expires          : Not running    Mode       : Include
V1 Host Timer    : Not running    Type       : Dynamic
V2 Host Timer    : Not running    Compat Mode: IGMP Version 3
Redir.vRtrId     : N/A            Redir.Intf : N/A
-------------------------------------------------------------
Source Address     Expires        Type         Fwd/Blk
-------------------------------------------------------------
10.11.0.1          0d 00:03:56    Dynamic      Fwd
10.11.0.2          0d 00:03:56    Dynamic      Fwd
===============================================================================
IGMP Host 239.112.1.2
===============================================================================
Oper Status      : Up         MacAddress     : 00:00:00:00:00:01
Oper version     : 3          Subscriber     : sub_1
Num Groups       : 2          GrpItf         : gi_1_1
Max Grps Till Now: 2          IGMP-Policy    : pol1
PPPoE SessionId  : 2          Next query time: 0d 00:02:03
FwdSvcId         : 1
-------------------------------------------------------------------------------
IGMP Group
-------------------------------------------------------------------------------
Group Address    : 239.0.0.1      Up Time    : 0d 00:00:16
Expires          : 0d 00:04:05    Mode       : Exclude
V1 Host Timer    : Not running    Type       : Dynamic
V2 Host Timer    : Not running    Compat Mode: IGMP Version 3
Redir.vRtrId     : N/A            Redir.Intf : N/A
-------------------------------------------------------------
Source Address     Expires        Type         Fwd/Blk
-------------------------------------------------------------
10.11.0.1          0d 00:00:00    Dynamic      Blk
-------------------------------------------------------------------------------
IGMP Group
-------------------------------------------------------------------------------
Group Address    : 239.0.0.2      Up Time    : 0d 00:00:16
Expires          : 0d 00:04:04    Mode       : Exclude
V1 Host Timer    : Not running    Type       : Dynamic
V2 Host Timer    : Not running    Compat Mode: IGMP Version 3
Redir.vRtrId     : N/A            Redir.Intf : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------
Source Address     Expires        Type         Fwd/Blk
-------------------------------------------------------------
10.11.0.1          0d 00:00:00    Dynamic      Blk
===============================================================================
IGMP Host 239.112.1.3
===============================================================================
Oper Status      : Up         MacAddress     : 00:00:00:00:00:02
Oper version     : 3          Subscriber     : sub_2
Num Groups       : 0          GrpItf         : gi_1_2
Max Grps Till Now: 1          IGMP-Policy    : pol1
PPPoE SessionId  : 1          Next query time: 0d 00:00:48
FwdSvcId         : 1
-------------------------------------------------------------------------------
Hosts : 3
===============================================================================
*B:Dut-C#

*B:Dut-C# show router igmp statistics host 239.112.1.1
================================================
IGMP Host Statistics 239.112.1.1
================================================
Message Type        Received       Transmitted
------------------------------------------------
Queries             0              580
Report V1           0              0
Report V2           0              0
Report V3           5              0
Leaves              0              0
-------------------------------------------------------------------------------
General Host Statistics
-------------------------------------------------------------------------------
Bad Length        : 0
Bad Checksum      : 0
Unknown Type      : 0
Bad Receive If    : 0
Rx Non Local      : 0
Rx Wrong Version  : 0
Policy Drops      : 0
No Router Alert   : 0
Rx Bad Encodings  : 0
Local Scope Pkts  : 0
Resvd Scope Pkts  : 0
MCAC Policy Drops : 0
-------------------------------------------------------------------------------
Source Group Statistics
-------------------------------------------------------------------------------
(S,G)             : 0
(*,G)             : 0
================================================
*B:Dut-C# show subscriber-mgmt igmp-policy
```

hosts

Syntax

hosts

Context

[Tree] (show>subscr-mgmt>vrgw>brg>gateway hosts)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show subscriber-mgmt vrgw brg gateway hosts

Description

This command lists all the hosts connected to the BRG.

Platforms

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

Output

The following output is an example of BRG gateway host information.

Output Example

```
Node# show subscriber-mgmt brg gateway brg-id "00:00:00:00:00:05" hosts
===============================================================================
Bridged Residential Gateway hosts
===============================================================================
Identifier                  : 00:00:00:00:00:05
MAC address                 : 00:02:00:00:00:19
IP address                  : 21.0.0.20
Service                     : 4 (VPRN)
Allocation type             : dynamic
Home-aware pool             : 00:00:00:00:00:05
DHCP lease                  : true
Remaining lease time        : 388
Lease start time            : 2016/01/18 17:44:44
Identifier                  : 00:00:00:00:00:05
MAC address                 : 00:02:00:00:00:19
IP address                  : 3ffe:0:0:5::
Service                     : 4 (VPRN)
Identifier                  : 00:00:00:00:00:05
MAC address                 : 00:02:00:00:00:1a
IP address                  : 21.0.0.21
Service                     : 4 (VPRN)
Allocation type             : dynamic
Home-aware pool             : 00:00:00:00:00:05
DHCP lease                  : true
Remaining lease time        : 392
Lease start time            : 2016/01/18 17:44:48
Identifier                  : 00:00:00:00:00:05
MAC address                 : 00:02:00:00:00:1a
IP address                  : 3ffe:0:0:5::
Service                     : 4 (VPRN)
Identifier                  : 00:00:00:00:00:05
MAC address                 : 00:02:00:00:00:1b
IP address                  : 21.0.0.22
Service                     : 4 (VPRN)
Allocation type             : dynamic
Home-aware pool             : 00:00:00:00:00:05
DHCP lease                  : true
Remaining lease time        : 396
Lease start time            : 2016/01/18 17:44:52
-------------------------------------------------------------------------------
No. of BRG hosts: 5
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

hosts

Syntax

hosts [**detail**] [**fwd-service** *service-id*] [**grp-interface** *ip-int-name*]

hosts [**host** *ipv6-address*] [**group** *grp-ipv6-address*] [**detail**]

hosts summary

Context

[Tree] (show>router>mld hosts)

Full Context

show router mld hosts

Description

This command shows MLD hosts information.

Parameters

grp-ipv6-address

Specifies the group IPv6 address.

service-id

Specifies the service ID.

Values service-id: 1 to 2148278386

svc-name: up to 64 characters.

ip-int-name

Specifies the IP interface name, up to 32 characters.

ipv6-address

Specifies the IPv6 address.

Platforms

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

Output

The following output is an example of MLD host information.

Output Example

```
A:Dut-C# show router mld hosts
===============================================================================
MLD Hosts
===============================================================================
Host                                                Subscriber
   Oper-State Oper-Ver Fwd-Svc Num-Groups Group-Interface
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
192:168:9::1                                    oli_1
   Up         2        1       0               grp-1-2-1
192:168:9::2                                    oli_1
   Up         2        1       0               grp-1-2-1
-------------------------------------------------------------------------------
Hosts : 2
===============================================================================
A:Dut-C#

A:Dut-C# show router mld hosts detail
===============================================================================
MLD Host 192:168:9::1
===============================================================================
Oper Status      : Up         MacAddress     : 00:00:11:00:00:01
Oper Version     : 2          Subscriber     : oli_1
NumGrps          : 0          GrpItf         : grp-1-2-1
MaxGrps Till Now : 0          MLD Policy     : oli1
PPPoE SessionId  : N/A        Next Query Time: 0d 00:00:06
FwdSvcId         : 1          MaxSrcs Allowed: No Limit
MaxGrps Allowed  : No Limit   MaxGrpSrcs All*: No Limit
Qry Interval     : 125        Qry Last Lstnr*: 1
Qry Resp Interval: 10         Router Alert C*: Enabled
Bonding Conn Idx : 0          Bonding Id     : None
===============================================================================
MLD Host 192:168:9::2
===============================================================================
Oper Status      : Up         MacAddress     : 00:00:11:00:00:02
Oper Version     : 2          Subscriber     : oli_1
NumGrps          : 0          GrpItf         : grp-1-2-1
MaxGrps Till Now : 0          MLD Policy     : oli1
PPPoE SessionId  : N/A        Next Query Time: 0d 00:00:06
FwdSvcId         : 1          MaxSrcs Allowed: No Limit
MaxGrps Allowed  : No Limit   MaxGrpSrcs All*: No Limit
Qry Interval     : 125        Qry Last Lstnr*: 1
Qry Resp Interval: 10         Router Alert C*: Enabled
Bonding Conn Idx : 0          Bonding Id     : None
-------------------------------------------------------------------------------
Hosts : 2
===============================================================================
* indicates that the corresponding row element may have been truncated.
A:Dut-C#
```

11.15 hosts-logging-out

hosts-logging-out

Syntax

hosts-logging-out [**portal** *name*] [**host** *ip-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**sap** *sap-id*] [**mac** *ieee-address*] [**session]** [**all-portals**] [**all-hosts]** [**all-sessions**]

Context

[Tree] (clear>router>wpp hosts-logging-out)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear router wpp hosts-logging-out

Description

This command clears WPP hosts that are logging out.

Parameters

name

Specifies the portal name, up to 32 characters.

ip-address

Specifies the IP address.

Values a.b.c.d

circuit-id

Specifies the circuit ID, up to 256 characters.

remote-id

Specifies the remote ID, up to 256 characters.

sap-id

Specifies the SAP ID.

ieee-address

Specifies the MAC address, up to 30 characters.

Platforms

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

11.16 hs-attachment-policy

hs-attachment-policy

Syntax

hs-attachment-policy [*policy-name*] [**association** | **detail**]

Context

[Tree] (show>qos hs-attachment-policy)

Full Context

show qos hs-attachment-policy

Description

This command displays information about HS attachment policies in the system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

policy-name

Displays information about the specified policy name, up to 32 characters.

association

Displays the entities associated with all HS attachment policies or the specified HS attachment policy.

detail

Displays detailed policy information, including policy associations, of all HS attachment policies, or the specified HS attachment policy.

Platforms

7750 SR-7/12/12e

Output

The following output is an example of HS attachment policy information.

Output Example

```
*A:PE# show qos hs-attachment-policy "default"

===============================================================================
HS Attachment Policy Information
===============================================================================
Policy Name             : default
Description             : Default hs attachment QoS policy
Low Burst Max Class     : 6

-------------------------------------------------------------------------------
Queue               Scheduling Class              WRR Group
-------------------------------------------------------------------------------
1                   (Not-Applicable)              1
2                   (Not-Applicable)              1
3                   (Not-Applicable)              1
4                   2                             (Not-Applicable)
5                   3                             (Not-Applicable)
6                   4                             (Not-Applicable)
7                   5                             (Not-Applicable)
8                   6                             (Not-Applicable)

-------------------------------------------------------------------------------
WRR Group           Scheduling Class
-------------------------------------------------------------------------------
1                   1
2                   unattached
===============================================================================

*A:PE# show qos hs-attachment-policy "hs-att-pol-1" detail

===============================================================================
HS Attachment Policy Information
===============================================================================
Policy Name             : hs-att-pol-1
Description             : (Not Specified)
Low Burst Max Class     : 1

-------------------------------------------------------------------------------
Queue               Scheduling Class              WRR Group
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1                   (Not-Applicable)            1
2                   (Not-Applicable)            1
3                   unattached                  unattached
4                   unattached                  unattached
5                   unattached                  unattached
6                   4                           (Not-Applicable)
7                   5                           (Not-Applicable)
8                   6                           (Not-Applicable)

-------------------------------------------------------------------------------
WRR Group           Scheduling Class
-------------------------------------------------------------------------------
1                   1
2                   unattached

-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
Network-Queue Policy
-------------------------------------------------------------------------------
10

Sap-Egress Policy
-------------------------------------------------------------------------------
10
20

Egress Queue-Group Templates
-------------------------------------------------------------------------------
queue-group-1

-------------------------------------------------------------------------------
===============================================================================
*A:PE#
```

11.17 hs-pool-policy

hs-pool-policy

Syntax

hs-pool-policy [*policy-name*] [**association** | **detail**]

Context

[Tree] (show>qos hs-pool-policy)

Full Context

show qos hs-pool-policy

Description

This command displays information about HS pool policies in the system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

policy-name

Displays information about the specified HS pool policy name, up to 32 characters.

association

Displays the entities associated with all HS pool policies or the specified HS pool policy.

detail

Displays detailed policy information, including policy associations, of all HS pool policies or the specified HS pool policy.

Platforms

7750 SR-7/12/12e

Output

The following output is an example of HS pool policy information.

Output Example

```
*A:PE# show qos hs-pool-policy

===============================================================================
HS Pool Policy Summary
===============================================================================
Policy Name              Description
-------------------------------------------------------------------------------
default                  Default hs pool QoS policy
hs-pool-pol-1            (Not Specified)
-------------------------------------------------------------------------------
No. of Policies: 2
===============================================================================

*A:PE# show qos hs-pool-policy default detail

===============================================================================
HS Pool Policy Information
===============================================================================
Policy Name             : default
Description             : Default hs pool QoS policy
System Reserve          : 5.00

-------------------------------------------------------------------------------
Root Pool Information
-------------------------------------------------------------------------------
Pool Id                 : 1             Allocation Weight   : 75
Slope Policy            : _tmnx_hs_default
Pool Id                 : 2             Allocation Weight   : 25
Slope Policy            : _tmnx_hs_default
Pool Id                 : 3             Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 4             Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 5             Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 6             Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 7             Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 8             Allocation Weight   : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Slope Policy            : _tmnx_hs_default
Pool Id                 : 9             Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 10            Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 11            Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 12            Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 13            Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 14            Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 15            Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 16            Allocation Weight   : 0
Slope Policy            : _tmnx_hs_default

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Mid Pool Information
-------------------------------------------------------------------------------
Pool Id                 : 1             Allocation Percent  : 40.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 1
Slope Policy            : _tmnx_hs_default
Pool Id                 : 2             Allocation Percent  : 35.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 1
Slope Policy            : _tmnx_hs_default
Pool Id                 : 3             Allocation Percent  : 30.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 1
Slope Policy            : _tmnx_hs_default
Pool Id                 : 4             Allocation Percent  : 25.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 1
Slope Policy            : _tmnx_hs_default
Pool Id                 : 5             Allocation Percent  : 80.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 2
Slope Policy            : _tmnx_hs_default
Pool Id                 : 6             Allocation Percent  : 20.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 2
Slope Policy            : _tmnx_hs_default
Pool Id                 : 7             Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 8             Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 9             Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 10            Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 11            Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 12            Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 13            Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 14            Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Slope Policy            : _tmnx_hs_default
Pool Id                 : 15            Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default
Pool Id                 : 16            Allocation Percent  : 1.00
Port BW Oversub Factor  : 1             Parent Root Pool    : 0
Slope Policy            : _tmnx_hs_default

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Card Forwarding Plane (FP) Associations
-------------------------------------------------------------------------------
Card                FP
-------------------------------------------------------------------------------
1                   1

-------------------------------------------------------------------------------
===============================================================================
*A:PE#
```

11.18 hs-pools

hs-pools

Syntax

hs-pools *card-slot-number* **fp** *forwarding-plane* **egress**

hs-pools port *port-id* **egress**

hs-pools port *port-id* **egress network-queues**

hs-pools port *port-id* **egress queue-group** *queue-group-name* [**instance** *instance-id*]

hs-pools port *port-id* **egress sap** *sap-id*

hs-pools port *port-id* **egress subscriber** *sub-ident-string*

Context

[Tree] (show hs-pools)

Full Context

show hs-pools

Description

This command shows the egress pool information relating to an HSQ IOM.

The **card** and **fp** output shows the total buffer allocation, the number of allocated buffers, the available buffer allocation, and the buffer high-water marks for the system pools and the hierarchy of user-provisioned root and mid pools on the specified card and FP. The output includes the applied slope policy and the related instantaneous slope drop probabilities (as a percentage) for the user-provisioned pools.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The port output adds the port class pool information to the above hierarchy of user-provisioned pools for the specified port. The queue information for network queues, queue group instances, SAPs, or subscribers on the specified port is included when the associated parameter is added.

Parameters

card-slot-number

Displays information for the specified card slot.

Values Depending on the chassis model, IOM slots are numbered from 1 to 10.

forwarding-plane

Displays information for the specified forwarding plane.

Values 1

port-id

Displays information about the specified physical port ID in the slot/mda/port format.

network-queues

Displays information about the egress network queues on the specified port.

queue-group-name

Displays information about the specified queue group name, up to 32 characters.

instance-id

Displays information about the specified queue group instance.

Values 1 to 65535

sap-id

Displays information about the specified SAP, up to 64 characters, on the specified port.

sub-ident-string

Displays information about the specified subscriber, up to 64 characters, on the specified port.

Platforms

7750 SR-7/12/12e

Output

The following output is an example of HS pool information.

Output Example

```
*A:PE4# show hs-pools port 1/1/2 egress sap 1/1/2:1

===============================================================================
HS Pools Port Information
===============================================================================
Port               : 1/1/2

-------------------------------------------------------------------------------
System Pool Information
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Total Buffers      : 209412 KB          Allocated          : 0 KB
Available          : 209412 KB          High Water Mark    : 0 KB
-------------------------------------------------------------------------------
Buffer Pool Hierarchy Information
-------------------------------------------------------------------------------

Root Pool : 1
|  Total               : 2984148 KB  Allocated         : 0 KB
|  Available           : 2984148 KB  High Water Mark   : 0 KB
|  Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|  Excd-Slope Drop Prob: 0
|  Hs Slope Policy     : _tmnx_hs_default
|
|--- Mid Pool : 1
|     | Total               : 1193658 KB  Allocated         : 0 KB
|     | Available           : 1193658 KB  High Water Mark   : 0 KB
|     | Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     | Excd-Slope Drop Prob: 0
|     | Hs Slope Policy     : _tmnx_hs_default
|     |
|     |--- Std Port Class Pool : 6
|     |      Total               : 596828 KB   Allocated         : 0 KB
|     |      Available           : 596828 KB   High Water Mark   : 0 KB
|     |      Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     |      Excd-Slope Drop Prob: 0
|     |      Hs Slope Policy     : _tmnx_hs_default
|     |
|--- Mid Pool : 2
|     | Total               : 1044450 KB  Allocated         : 0 KB
|     | Available           : 1044450 KB  High Water Mark   : 0 KB
|     | Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     | Excd-Slope Drop Prob: 0
|     | Hs Slope Policy     : _tmnx_hs_default
|     |
|     |--- Std Port Class Pool : 5
|     |      Total               : 522224 KB   Allocated         : 0 KB
|     |      Available           : 522224 KB   High Water Mark   : 0 KB
|     |      Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     |      Excd-Slope Drop Prob: 0
|     |      Hs Slope Policy     : _tmnx_hs_default
|     |
|--- Mid Pool : 3
|     | Total               : 895244 KB   Allocated         : 0 KB
|     | Available           : 895244 KB   High Water Mark   : 0 KB
|     | Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     | Excd-Slope Drop Prob: 0
|     | Hs Slope Policy     : _tmnx_hs_default
|     |
|     |--- Std Port Class Pool : 4
|     |      Total               : 447622 KB   Allocated         : 0 KB
|     |      Available           : 447622 KB   High Water Mark   : 0 KB
|     |      Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     |      Excd-Slope Drop Prob: 0
|     |      Hs Slope Policy     : _tmnx_hs_default
|     |
|--- Mid Pool : 4
|     | Total               : 746036 KB   Allocated         : 0 KB
|     | Available           : 746036 KB   High Water Mark   : 0 KB
|     | Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     | Excd-Slope Drop Prob: 0
|     | Hs Slope Policy     : _tmnx_hs_default
|     |
|     |--- Std Port Class Pool : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|     |      Total               : 373018 KB   Allocated         : 0 KB
|     |      Available           : 373018 KB   High Water Mark   : 0 KB
|     |      Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     |      Excd-Slope Drop Prob: 0
|     |      Hs Slope Policy     : hs-slope-1
|     |
Root Pool : 2
|  Total               : 994716 KB   Allocated         : 0 KB
|  Available           : 994716 KB   High Water Mark   : 0 KB
|  Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|  Excd-Slope Drop Prob: 0
|  Hs Slope Policy     : _tmnx_hs_default
|
|--- Mid Pool : 5
|     | Total               : 795772 KB   Allocated         : 0 KB
|     | Available           : 795772 KB   High Water Mark   : 0 KB
|     | Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     | Excd-Slope Drop Prob: 0
|     | Hs Slope Policy     : _tmnx_hs_default
|     |
|--- Mid Pool : 6
|     | Total               : 198942 KB   Allocated         : 0 KB
|     | Available           : 198942 KB   High Water Mark   : 0 KB
|     | Hi-Slope Drop Prob  : 0           Lo-Slope Drop Prob: 0
|     | Excd-Slope Drop Prob: 0
|     | Hs Slope Policy     : _tmnx_hs_default
|     |

-------------------------------------------------------------------------------
Queue Information
-------------------------------------------------------------------------------
Queue Name         : 1->1/1/2:1->1
FC Map             : be l2 l1 h2 nc
Admin PIR          : 40000              Oper PIR               : 0
Admin MBS          : 64 KB              Oper MBS               : 64 KB
HS Wrr Group       : 1
HS Wrr Class Weight: 1                  HS Wrr Weight          : 2
Depth              : 0
HS Class           : 1                  HS Alt Port Class Pool : No
HS Slope Policy    : _tmnx_hs_default
Queue Name         : 1->1/1/2:1->2
FC Map             : af
Admin PIR          : 40000              Oper PIR               : 0
Admin MBS          : 64 KB              Oper MBS               : 64 KB
HS Wrr Group       : 1
HS Wrr Class Weight: 1                  HS Wrr Weight          : 1
Depth              : 0
HS Class           : 1                  HS Alt Port Class Pool : No
HS Slope Policy    : _tmnx_hs_default
Queue Name         : 1->1/1/2:1->6
FC Map             : ef
Admin PIR          : 20000              Oper PIR               : 20000
Admin MBS          : 64 KB              Oper MBS               : 64 KB
HS Wrr Group       : (not-applicable)
HS Wrr Class Weight: 1                  HS Wrr Weight          : 0
Depth              : 0
HS Class           : 4                  HS Alt Port Class Pool : No
HS Slope Policy    : _tmnx_hs_default
Queue Name         : 1->1/1/2:1->7
FC Map             : h1
Admin PIR          : 10000              Oper PIR               : 10000
Admin MBS          : 64 KB              Oper MBS               : 64 KB
HS Wrr Group       : (not-applicable)
HS Wrr Class Weight: 1                  HS Wrr Weight          : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Depth              : 0
HS Class           : 5                  HS Alt Port Class Pool : No
HS Slope Policy    : _tmnx_hs_default

-------------------------------------------------------------------------------
===============================================================================
```

11.19 hs-port-pool-policy

hs-port-pool-policy

Syntax

hs-port-pool-policy [*policy-name*] [**association** | **detail**]

Context

[Tree] (show>qos hs-port-pool-policy)

Full Context

show qos hs-port-pool-policy

Description

This command displays information about HS port pool policies in the system.

Parameters

policy-name

Displays information about the specified HS port pool policy name, up to 32 characters.

association

Displays the entities associated with all HS port pool policies or the specified HS port pool policy.

detail

Displays detailed policy information, including policy associations, of all HS port pool policies, or the specified HS port pool policy.

Platforms

7750 SR-7/12/12e

Output

The following output is an example of HS port pool policy information.

Output Example

```
*A:PE# show qos hs-port-pool-policy

===============================================================================
HS Port Pool Policy Summary
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Policy Name              Description
-------------------------------------------------------------------------------
default                  Default hs port pool QoS policy
no-class-pools           (Not Specified)
hs-port-pool-pol-1       (Not Specified)
-------------------------------------------------------------------------------
No. of Policies: 3
===============================================================================
*A:PE# show qos hs-port-pool-policy default detail

===============================================================================
HS Port Pool Policy Information
===============================================================================
Policy Name             : default
Description             : Default hs port pool QoS policy

-------------------------------------------------------------------------------
Standard Port Class Pool Information
-------------------------------------------------------------------------------
Class Id                : 1             Parent Mid Pool     : 1
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 2             Parent Mid Pool     : 2
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 3             Parent Mid Pool     : 3
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 4             Parent Mid Pool     : 4
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 5             Parent Mid Pool     : 5
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 6             Parent Mid Pool     : 6
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Alternate Port Class Pool Information
-------------------------------------------------------------------------------
Class Id                : 1             Parent Mid Pool     : 0
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 2             Parent Mid Pool     : 0
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 3             Parent Mid Pool     : 0
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 4             Parent Mid Pool     : 0
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 5             Parent Mid Pool     : 0
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default
Class Id                : 6             Parent Mid Pool     : 0
Alloc Port BW Weight    : 1             Alloc Explicit Prcnt: 0.00
Slope Policy            : _tmnx_hs_default

-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Port Ethernet Egress Associations
-------------------------------------------------------------------------------
1/2/1
-------------------------------------------------------------------------------
===============================================================================
*A:PE#
```

11.20 hs-scheduler-hierarchy

hs-scheduler-hierarchy

Syntax

hs-scheduler-hierarchy port *port-id* [**hs-secondary-shaper** *shaper-name*] [**interval** *time-in-seconds*]

hs-scheduler-hierarchy port *port-id* [**interval** *time-in-seconds*] **hs-secondary-shapers**

hs-scheduler-hierarchy port *port-id* [**interval** *time-in-seconds*] **queue-group** *queue-group-name* **instance** *instance-id* {**access** | **network**}

hs-scheduler-hierarchy sap *sap-id* **egress** [**interval** *time-in-seconds*]

hs-scheduler-hierarchy subscriber *sub-ident* **egress** [**interval** *time-in-seconds*]

Context

[Tree] (show>qos hs-scheduler-hierarchy)

Full Context

show qos hs-scheduler-hierarchy

Description

This command displays the egress HS scheduler hierarchy for the HS scheduler policy applied to the related port. The output includes the current maximum rate and each scheduling class rate on the port. The parameters allow for the current rates for the scheduling classes for all HS secondary shapers or a specific HS secondary shaper, or for the queue rates in a specified access or network queue group instance, SAP or subscriber to be included in the output.

Parameters

port-id

Specifies the physical port ID in the slot/mda/port format.

shaper-name

Displays information about the specified HS secondary name, up to 32 characters, and includes the scheduling class rates for the HS secondary shaper on the port.

time-in-seconds

Displays the time interval used to calculate the rates, in seconds.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 5

hs-secondary-shapers

Displays information about scheduling class rates for all HS secondary shapers on the port.

queue-group-name

Displays information about the specified queue group name on the port, up to 32 characters.

instance-id

Displays information about the specified queue group instance.

Values 1 to 65535

sap-id

Displays information about the queue rates for the specified SAP, up to 64 characters, on the specified port.

sub-ident

Displays information about the specified subscriber, up to 64 characters, on the specified port.

Platforms

7750 SR-7/12/12e

Output

The following output is an example of HS scheduler hierarchy information.

Output Example

```
*A:PE# show qos hs-scheduler-hierarchy port 1/1/1 hs-secondary-shaper "default"

===============================================================================
Hs Scheduler Hierarchy Information
===============================================================================
Hs Sched Policy Name         : hs-sched-pol-1

Port Max-Rate : 0 Mbps
Hs-Sec-Shaper:default Agg-Rate : 0 Kbps

Scheduler Priority 6
  Scheduler Class 6  Rate : 0 Mbps
    Hs-Sec-Shaper:default Class 6 Rate : 0 Kbps

Scheduler Priority 5
  Scheduler Class 5  Rate : 0 Mbps
    Hs-Sec-Shaper:default Class 5 Rate : 0 Kbps

Scheduler Priority 4
  Scheduler Class 4  Rate : 0 Mbps
    Hs-Sec-Shaper:default Class 4 Rate : 0 Kbps

Scheduler Priority 3
  Scheduler Class 3  Rate : 0 Mbps
    Hs-Sec-Shaper:default Class 3 Rate : 0 Kbps
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Scheduler Priority 2
  Scheduler Class 2  Rate : 0 Mbps
    Hs-Sec-Shaper:default Class 2 Rate : 0 Kbps

Scheduler Priority 1
  Scheduler Class 1  Rate : 0 Mbps
    Hs-Sec-Shaper:default Class 1 Rate : 0 Kbps
===============================================================================
*A:PE# show qos hs-scheduler-hierarchy port 1/1/1 hs-secondary-shapers

===============================================================================
Hs Scheduler Hierarchy Information
===============================================================================
Hs Sched Policy Name         : hs-sched-pol-1

Port Max-Rate : 0 Mbps

Scheduler Priority 6
  Scheduler Class 6  Rate : 0 Mbps

Scheduler Priority 5
  Scheduler Class 5  Rate : 0 Mbps

Scheduler Priority 4
  Scheduler Class 4  Rate : 0 Mbps

Scheduler Priority 3
  Scheduler Class 3  Rate : 0 Mbps

Scheduler Priority 2
  Scheduler Class 2  Rate : 0 Mbps

Scheduler Priority 1
  Scheduler Class 1  Rate : 0 Mbps

-------------------------------------------------------------------------------
HS Secondary Shaper Rates
-------------------------------------------------------------------------------
Hs-Sec-Shaper:default Agg-Rate : 0 Kbps
        Class 6     Rate : 0 Kbps
        Class 5     Rate : 0 Kbps
        Class 4     Rate : 0 Kbps
        Class 3     Rate : 0 Kbps
        Class 2     Rate : 0 Kbps
        Class 1     Rate : 0 Kbps

-------------------------------------------------------------------------------
===============================================================================
*A:PE#
```

11.21 hs-scheduler-policy

hs-scheduler-policy

Syntax

hs-scheduler-policy [*policy-name*] [**association** | **detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>qos hs-scheduler-policy)

Full Context

show qos hs-scheduler-policy

Description

This command displays information about HS scheduler policies in the system.

Parameters

policy-name

Displays information about the specified HS scheduler policy name, up to 32 characters.

association

Displays the entities associated with all HS scheduler policies or the specified HS pool policy.

detail

Displays the policy information, including policy associations, of all HS scheduler policies or the specified HS scheduler policy.

Platforms

7750 SR-7/12/12e

Output

The following output is an example of HS scheduler policy information.

Output Example

```
*A:PE# show qos hs-scheduler-policy

===============================================================================
HS Scheduler Policy Summary
===============================================================================
Policy Name              Description
-------------------------------------------------------------------------------
default                  Default hs scheduler QoS policy
hs-sched-pol-1           (Not Specified)
-------------------------------------------------------------------------------
No. of Policies: 2
===============================================================================

*A:PE# show qos hs-scheduler-policy "default" detail

===============================================================================
HS Scheduler Policy Information
===============================================================================
Policy Name             : default
Description             : Default hs scheduler QoS policy
Max Rate                : max

-------------------------------------------------------------------------------
Scheduling Class    Rate                Group               Weight in Group
-------------------------------------------------------------------------------
1                   max                 0                   1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2                   max                 0                   1
3                   max                 0                   1
4                   max                 0                   1
5                   max                 0                   1
6                   max                 0                   1

-------------------------------------------------------------------------------
Group               Rate
-------------------------------------------------------------------------------
1                   max

-------------------------------------------------------------------------------
Port Ethernet Egress Associations

-------------------------------------------------------------------------------
1/1/2
1/1/3
1/1/4
1/1/5
1/1/6
1/1/7
1/1/8
1/1/9
1/1/10
1/2/1
-------------------------------------------------------------------------------
===============================================================================
*A:PE#
```

11.22 hs-secondary-shaper

hs-secondary-shaper

Syntax

hs-secondary-shaper *secondary-shaper-name* [**statistics** | **associations**]

Context

[Tree] (show>port hs-secondary-shaper)

Full Context

show port hs-secondary-shaper

Description

This command displays port HS secondary shaper information.

Parameters

secondary-shaper-name

Specifies the secondary shaper name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Displays the statistics related to the port HS secondary shaper.

association

Displays the associations related to the port HS secondary shaper.

Platforms

7750 SR-7/12/12e

11.23 http-client

http-client

Syntax

http-client any

http-client [*ip-address/prefix-length*]

http-client [*ipv6-address/prefix-length*]

Context

[Tree] (tools>dump>router>web-rd http-client)

Full Context

tools dump router web-rd http-client

Description

Commands in this context dump the HTTP client hash table.

Parameters

any

Specifies all HTTP clients.

ip-address/prefix-length

Dumps HTTP clients only matching the specified IP address and prefix length.

Values

ip-address:	a.b.c.d
prefix-length:	0 to 32

ipv6-address/prefix-length

Dumps HTTP clients only matching the specified IPv6 address and prefix length.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
prefix-length:	0 to 128

Platforms

All

Output

The following output is an example of HTTP client information.

Output Example

```
*A:Dut-F#  tools dump router web-rd http-client any

===============================================================================
Webredirect HTTP Clients
===============================================================================
SvcId                     MAC Address          Connection Rate (conn/min)
        IP Address
-------------------------------------------------------------------------------
31                        10:00:00:00:14:22    1
        7fe1:0:0:1::
31                        10:00:00:00:14:21    1
        30.0.0.2
-------------------------------------------------------------------------------
No. of HTTP clients: 2/2
===============================================================================
```

11.24 http-enrich

http-enrich

Syntax

http-enrich

Context

[Tree] (show>app-assure http-enrich)

Full Context

show application-assurance http-enrich

Description

This command displays HTTP enrichment static definitions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

http-enrich

Syntax

http-enrich *enrichment-name*

Context

[Tree] (show>app-assure>group http-enrich)

Full Context

show application-assurance group http-enrich

Description

This command displays HTTP enrichment information.

Parameters

enrichment-name

Specifies the name of the HTTP enrichment policy, up to 32 characters.

Platforms

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

Output

The following output is an example of the output for the **http-enrich** command and Table 195: Output fields: HTTP enrichment describes the output fields.

Output Example HTTP Enrichment

```
show application-assurance group 1 http-enrich "MyTemplate"
===============================================================================
Application Assurance Group 1 HTTP Enrichment "MyTemplate"
===============================================================================
Description   : (Not Specified)
Admin Status  : Up
AQP Referenced: No

-------------------------------------------------------------------------------
Name                        Field                       Enabled
                                                        Features
-------------------------------------------------------------------------------
subscriber-ip               MyField                     M
subscriber-id               Sub-ID                      AC
i msi                       I MSI
msi sdn                     MSI SDN
rat                         RAT
-------------------------------------------------------------------------------
                     A=anti-spoof,C=encode-cert,M=encode-md5,R=encode-rc4
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Group               Enriched                Not Enriched
-------------------------------------------------------------------------
1                   0                       0
-------------------------------------------------------------------------
Total               0                       0
-------------------------------------------------------------------------
=========================================================================
```

Table 195: Output fields: HTTP enrichment

Label	Description
Description	HTTP header enrichment template description string
Admin Status	Administrative state of the HTTP header enrichment template
AQP Referenced	Referenced Application QoS Policy (AQP)
Name	Type of field with which HTTP traffic is enriched
Field	Header name that AA adds in the HTTP packet
Enabled features	Features configured for the specified field
Group	AA group to which the HTTP enrichment policy is applied
Enriched	Number of times the HTTP traffic for the specified AA group was enriched
Not Enriched	Number of times the HTTP traffic for the specified AA group was not enriched

11.25 http-error-redirect

http-error-redirect

Syntax

http-error-redirect *redirect-name*

Context

[Tree] (show>app-assure>group http-error-redirect)

Full Context

show application-assurance group http-error-redirect

Description

Commands in this context display http-error-redirect static definitions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

redirect-name

Specifies the HTTP error redirect policy, up to 32 characters.

Platforms

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

Output

The following output is an example of the **policy** command information.

Output Example

```
*A:cses-E11>show application-assurance group 1 http-error-redirect <redirect-name>
===============================================================================
Application-Assurance Group 1 http-error-redirect <redirect-name>
===============================================================================
description    : <description-string>
template       : <template-id>
               : text description of template
participant-id : <string>
http-host      : <http-host-name>
error code     : <http-error-code>    custom-msg-size : <msg size>
admin status   : Up
-------------------------------------------------------------------------------
Grp:Part  Error     Redirects    Redirects Not Sent
          Code      Sent         > Custom     Out ofFile    Error
                              size  Resourcetype
-------------------------------------------------------------------------------
1:1       404     1250          52           10           10
1:56789   404     2000          952          81           01
-------------------------------------------------------------------------------
Total               3250      1004          91           1     1
-------------------------------------------------------------------
===================================================================
*A:cses-E11>
```

http-error-redirect

Syntax

http-error-redirect

Context

[Tree] (show>app-assure http-error-redirect)

Full Context

show application-assurance http-error-redirect

Description

Commands in this context display HTTP error redirect static definitions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

11.26 http-host-recorder

http-host-recorder

Syntax

http-host-recorder detail [**isa** *mda-id/esa-vm-id*] **url** *file-url*

http-host-recorder status [**isa** *mda-id*]

http-host-recorder top *granularity* [**max-count** *max-count*] [**isa** *mda-id*]

Context

[Tree] (tools>dump>app-assure>group http-host-recorder)

Full Context

tools dump application-assurance group http-host-recorder

Description

This command configures the dump of application-assurance http-host-recorder information. The http-host-recorder is configured using debug commands.

Parameters

detail

Saves the http host values recorded by the tool into a file.

status

.Displays the current status of the http-host-recorder with current-time, start-time, stop-time, sample-rates, filters, buffer as well as number of bytes and flows recorded for the specified AA ISA.

top

.Displays by bytes or flows the top values recorded by the tool.

isa mda-id /esa-vm-id

Specifies the AA ISA.

Values slot 1 to 10, mda 1 to 2

url *file-url*

Specifies the URL for the file to direct the http-host-recorder output to.

Values

local-url: <cflash-id>/][<file-path>]

200 chars max, including cflash-id

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

directory length 99 chars max each

remote-url: [{ftp://| tftp://}<login>:<pswd>@<remote-locn>/][<file-path>]

255 chars max

directory length 99 chars max each

remote-locn: <hostname> | <ipv4-address> | <ipv6-address>]

ipv4-address a.b.c.d

ipv6-address x:x:x:x:x:x:x:x[-interface]

x:x:x:x:x:x:d.d.d.d[-interface]

x - [0..FFFF]H

d - [0..255]D

interface 32 chars max, for link local addresses

cflash-id flash slot ID

granularity

Specifies if the output is sorted by bytes or flows.

Values bytes, flows

max-count *max-count*

Specifies the maximum count of flows to display.

Values 1 to 25

Platforms

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

11.27 http-notification

http-notification

Syntax

http-notification

Context

[Tree] (show>app-assure http-notification)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance http-notification

Description

This command displays HTTP notification static definitions.

Platforms

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

http-notification

Syntax

http-notification *http-notification-name* [**summary**]

Context

[Tree] (show>app-assure>group http-notification)

Full Context

show application-assurance group http-notification

Description

This command displays information about the configured http-notification policy with associated raw statistics:

- Template: Template Id in use
- Script URL: URL address of the script used in the notification message
- Admin Status: Up / Down
- AQP Referenced: Yes/No
- Notified: Total number of notifications sent
- Notification criteria selection not matched: Number of HTTP request not matching the selection criteria for in browser notification

Parameters

http-notification-name

Displays the name of the http-notification policy.

Platforms

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

Output

The following output is an example of the **http-notification** command information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:7750# show application-assurance group 1 http-notification "in-browser-notification"
===============================================================================
Application Assurance Group 1 HTTP Notification "in-browser-notification"
===============================================================================
Description  : IBN Demo ALU Message
Template     : 1 - Javascript-url with subId and optional Http-Url-Param
Script URL   : http://10.1.1.1/In-Browser-Notification/script.js
Admin Status : Up
AQP Ref      : Yes
-------------------------------------------------------------------------------
                                  Notified        Notification Selection
                                                    Criteria Not Matched
-------------------------------------------------------------------------------
1:1                                     3                              0
1:2                                     2                              0
1:3                                     0                              0
1:4                                     0                              0
1:5                                     0                              0
-------------------------------------------------------------------------------
Total                                   5                              0
-------------------------------------------------------------------------------
===============================================================================
```

11.28 http-redirect

http-redirect

Syntax

http-redirect

Context

[Tree] (show>app-assure http-redirect)

Full Context

show application-assurance http-redirect

Description

This command displays HTTP redirect static definitions.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

http-redirect

Syntax

http-redirect *redirect-name* [**detail**]

Context

[Tree] (show>app-assure>group http-redirect)

Full Context

show application-assurance group http-redirect

Description

This command displays application assurance http-redirect statistics and status information.

Parameters

redirect-name

Specifies the name of the http-redirect policy.

detail

Displays detailed information.

Platforms

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

Output

The following table describes the show command output fields:

Table 196: Output fields: HTTP redirect

Label	Description
Template	Specifies HTTP redirect template id information. Each HTTP redirect template returns a specific HTTP redirect message such as HTTP 302 or Javascript and can optionally use macro substitution.
Redirect URL	Specifies the address the subscriber will be redirected to.
Captive Redirect	Specifies Yes if captive redirect is used and No if captive redirect is not used.
Redirect HTTPS	Specifies Yes if redirect https is used and No if redirect https is not used.
VLAN ID	Specifies the AA interface VLAN id used for captive redirect.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Admin Status	Specifies the administrative status (Up/Down) of the HTTP redirect policy.
AQP Ref	Specifies Yes if the HTTP redirect policy is referenced in AQP, and No if it is not.

Output Example

```
*A:7750# show application-assurance group 1 http-redirect "redirect-portal"

===============================================================================
Application Assurance Group 1 HTTP Redirect redirect-portal
===============================================================================
Description        : (Not Specified)
Template           : 5
                   : Redirect supporting macro substitution using HTTP 302
Redirect URL       : http://172.16.70.100/Redirect/redirect-
portal.html?RequestedURL=$URL
Captive Redirect   : Yes
    Redirect HTTPS : Yes
    VLAN ID        : 20
Admin Status       : Up
AQP Ref            : Yes

-------------------------------------------------------------------------------
Summary Statistics
-------------------------------------------------------------------------------
Grp:Part             Redirects           Client Resets               Redirects
                          Sent                    Sent                Not Sent
-------------------------------------------------------------------------------
1:1                          0                       0                       0
1:2                          0                       0                       0
1:3                          0                       0                       0
-------------------------------------------------------------------------------
Total                        0                       0                       0
-------------------------------------------------------------------------------
===============================================================================
```

http-redirect

Syntax

http-redirect [**detail**]

Context

[Tree] (tools>dump>filter>resources http-redirect)

Full Context

tools dump filter resources http-redirect

Description

This command displays the number of unique and total installed HTTP redirect destinations per system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

detail

Displays the number of unique and total installed HTTP redirect destinations per system, together with a list of unique HTTP redirect destinations.

Platforms

All

Output

The following output is an example of filter resource HTTP redirect information.

Output Example

```
A:SROS# /tools dump filter resources http-redirect detail
===============================================================================
Unique http-redirects
===============================================================================
Num   Not emb.       Emb. Override URL
-------------------------------------------------------------------------------
  1          1          0 no ovr.  http://portal_1.com
-------------------------------------------------------------------------------
  2         10          1 no ovr.  http://portal_2.com
-------------------------------------------------------------------------------
  3          1          0 no ovr.  http://portal_3.com
-------------------------------------------------------------------------------
  4          1          0 no ovr.  http://portal_4.com
-------------------------------------------------------------------------------
  5          1          0 no ovr.  http://portal_5.com
===============================================================================
===================================
Http-redirects
===================================
Name                           Count
-----------------------------------
Unique redirects                   5
Not embedded redirects            14
Embedded redirects                 1
All redirects                     15
===================================
```

11.29 http-redirect-policy

http-redirect-policy

Syntax

http-redirect-policy *name*

Context

[Tree] (show>subscr-mgmt http-redirect-policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show subscriber-mgmt http-redirect-policy

Description

This command displays HTTP redirect policy information.

Parameters

name

Specifies the HTTP redirect policy name, up to 32 characters.

Platforms

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

11.30 hunt

hunt

Syntax

hunt [**brief**]

Context

[Tree] (show>router>bgp>routes hunt)

Full Context

show router bgp routes hunt

Description

This command displays detailed information about the BGP routes, including information about the advertised routes (RIB-OUT).

hunt is a parameter of the **show router bgp routes** command. Depending on the parameters that are used to issue the command, the output can display a narrower or wider set of routes, including routes belonging to other address families. See the **show router bgp routes** command description for syntax variants, parameter descriptions and values, and output examples.

Parameters

brief

Displays summary information about the BGP routes.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

11.31 hw-agg-shaper-scheduler-policy

hw-agg-shaper-scheduler-policy

Syntax

hw-agg-shaper-scheduler-policy [*hw-agg-shaper-scheduler-policy-name*] [**association**]

Context

[Tree] (show>qos hw-agg-shaper-scheduler-policy)

Full Context

show qos hw-agg-shaper-scheduler-policy

Description

This command displays hardware aggregate shaper scheduler policy information.

Parameters

hw-agg-shaper-scheduler-policy-name

Specifies the hardware aggregate shaper scheduler policy name, up to 64 characters.

association

Displays hardware aggregate shaper scheduler policy associations.

Platforms

7750 SR-1, 7750 SR-s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12 i Commands

12.1 i-vpls

i-vpls

Syntax

i-vpls

Context

[Tree] (show>service>id i-vpls)

Full Context

show service id i-vpls

Description

Displays I-VPLS services associated with the B-VPLS service. This command only applies when the service is a B-VPLS.

Platforms

All

Output

The following output is an example of service I-VPLS information.

Output Example

```
*A:SetupCLI# show service id 2002 i-vpls
===============================================================
Related iVpls services for bVpls service 2002
===============================================================
iVpls SvcId         Oper ISID           Admin               Oper
-------------------------------------------------------------------------------
2001                122                 Up                  Down
-------------------------------------------------------------------------------
Number of Entries : 1
-------------------------------------------------------------------------------
*A:alcag1-R6#
*A:term17>show>service>id# i-vpls
===============================================================================
Related iVpls services for bVpls service 2000
===============================================================================
iVpls SvcId         Oper ISID           Admin               Oper
-------------------------------------------------------------------------------
2100                2100                Up                  Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2110                123                 Up                  Up
-------------------------------------------------------------------------------
Number of Entries : 2
-------------------------------------------------------------------------------
*A:SetupCLI#
```

12.2 icmp

icmp

Syntax

icmp

Context

[Tree] (show>router icmp)

Full Context

show router icmp

Description

This command displays Internet Control Message Protocol version 4 (ICMP) statistics. ICMP generates error messages (for example, ICMP destination unreachable messages) to report errors during processing and other diagnostic functions.

Platforms

All

Output

The following output is an example of router ICMP statistics, and Table 197: Output fields: ICMP describes the fields.

Output Example

```
*A:cses-V93# show router icmp
===============================================================================
Global ICMP Stats
===============================================================================
Received
Total                   : 0             Error                   : 0
Destination Unreachable : 0             Redirect                : 0
Echo Request            : 0             Echo Reply              : 0
TTL Expired             : 0             Source Quench           : 0
Timestamp Request       : 0             Timestamp Reply         : 0
Address Mask Request    : 0             Address Mask Reply      : 0
Parameter Problem       : 0
-------------------------------------------------------------------------------
Sent
Total                   : 0             Error                   : 0
Destination Unreachable : 0             Redirect                : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Echo Request            : 0             Echo Reply              : 0
TTL Expired             : 0             Source Quench           : 0
Timestamp Request       : 0             Timestamp Reply         : 0
Address Mask Request    : 0             Address Mask Reply      : 0
Parameter Problem       : 0
===============================================================================
*A:cses-V93# show router icmp interface "sample1"
===============================================================================
Interface ICMP Stats
===============================================================================
Interface "sample1"
-------------------------------------------------------------------------------
Received
Total                   : 0             Error                   : 0
Destination Unreachable : 0             Redirect                : 0
Echo Request            : 0             Echo Reply              : 0
TTL Expired             : 0             Source Quench           : 0
Timestamp Request       : 0             Timestamp Reply         : 0
Address Mask Request    : 0             Address Mask Reply      : 0
Parameter Problem       : 0             Discarded               : 0
-------------------------------------------------------------------------------
Sent
Total                   : 0             Error                   : 0
Destination Unreachable : 0             Redirect                : 0
Echo Request            : 0             Echo Reply              : 0
TTL Expired             : 0             Source Quench           : 0
Timestamp Request       : 0             Timestamp Reply         : 0
Address Mask Request    : 0             Address Mask Reply      : 0
Parameter Problem       : 0             Discarded               : 0
===============================================================================
```

Table 197: Output fields: ICMP

Label	Description
Total	The total number of all messages
Error	The number of error messages
Destination Unreachable	The number of message that did not reach the destination
Redirect	The number of packet redirects
Echo Request	The number of echo requests
Echo Reply	The number of echo replies
TTL Expired	The number of messages that exceeded the time to live threshold
Source Quench	The number of source quench requests (deprecated)
Timestamp Request	The number of timestamp requests (deprecated); ICMP timestamp requests are counted and dropped on ingress
Timestamp Reply	The number of timestamp replies (deprecated); sending ICMP timestamp replies is not supported, so this counter will always be 0

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Address Mask Request	The number of address mask requests (deprecated)
Address Mask Reply	The number of address mask replies (deprecated)
Parameter Problem	The number of packets with a parameter problem in the IP header
Discarded	The number of messages that exceed the configured interface ICMP rate or have an expired TTL

icmp

Syntax

icmp

Context

[Tree] (show>test-oam icmp)

Full Context

show test-oam icmp

Description

Commands in this context show ping-templates or ping-template detail.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

icmp

Syntax

icmp all

icmp global

icmp interface *interface-name*

Context

[Tree] (clear>router icmp)

Full Context

clear router icmp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears ICMP statistics.

Parameters

all

Clears all statistics.

global

Clears global router statistics.

interface-name

Clears ICMP statistics for the specified interface, up to 32 characters.

Platforms

All

icmp

Syntax

icmp

Context

[Tree] (tools>perform>test-oam icmp)

Full Context

tools perform test-oam icmp

Description

Commands in this context perform test OAM ICMP functions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.3 icmp-redirect-route

icmp-redirect-route

Syntax

icmp-redirect-route {**all** | *ip-address*}

Context

[Tree] (clear>router icmp-redirect-route)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear router icmp-redirect-route

Description

This command deletes routes created as a result of ICMP redirects received on the management interface.

Parameters

all

Clears all routes.

ip-address

Clears the routes associated with the specified IP address.

Values a.b.c.d

Platforms

All

12.4 icmp-stats

icmp-stats

Syntax

icmp-stats

icmp-stats interface {*ip-int-name* | *ip-address* | *ipv6-address*}

Context

[Tree] (tools>dump>router icmp-stats)

Full Context

tools dump router icmp-stats

Description

Commands in this context dump ICMP statistics information.

Parameters

ip-int-name

Specifies the interface information associated with the specified IP interface name, up to 32 characters.

ip-address

Specifies the IPv4 address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values a.b.c.d

ipv6-address

Specifies the IPv6 address.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D

Platforms

All

Output

The following output is an example of ICMP statistics information.

Output Example

```
*A:Dut-C>config>router>isis# /tools dump router icmp-stats
         icmpInMsgs 18
        icmpInErrors 0
  icmpInDestUnreachs 0
     icmpInTimeExcds 0
     icmpInParmProbs 0
    icmpInSrcQuenchs 0
     icmpInRedirects 0
         icmpInEchos 7
      icmpInEchoReps 11
    icmpInTimestamps 0
 icmpInTimestampReps 0
icmpInUnsupportedType 0
     icmpInAddrMasks 0
  icmpInAddrMaskReps 0
        icmpOutMsgs 18
       icmpOutErrors 0
 icmpOutDestUnreachs 0
    icmpOutTimeExcds 0
    icmpOutParmProbs 0
   icmpOutSrcQuenchs 0
    icmpOutRedirects 0
        icmpOutEchos 11
     icmpOutEchoReps 7
   icmpOutTimestamps 0
icmpOutTimestampReps 0
    icmpOutAddrMasks 0
 icmpOutAddrMaskReps 0
     icmpOutDiscards 0

*A:Dut-C>config>router>isis# /tools dump router icmp-stats interface "system"
         icmpInMsgs 0
        icmpInErrors 0
  icmpInDestUnreachs 0
     icmpInTimeExcds 0
     icmpInParmProbs 0
    icmpInSrcQuenchs 0
     icmpInRedirects 0
         icmpInEchos 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      icmpInEchoReps 0
    icmpInTimestamps 0
 icmpInTimestampReps 0
icmpInUnsupportedType 0
     icmpInAddrMasks 0
  icmpInAddrMaskReps 0
        icmpOutMsgs 0
       icmpOutErrors 0
 icmpOutDestUnreachs 0
    icmpOutTimeExcds 0
    icmpOutParmProbs 0
   icmpOutSrcQuenchs 0
    icmpOutRedirects 0
        icmpOutEchos 0
     icmpOutEchoReps 0
   icmpOutTimestamps 0
icmpOutTimestampReps 0
    icmpOutAddrMasks 0
 icmpOutAddrMaskReps 0
     icmpOutDiscards 0

*A:Dut-C>config>router>isis# /tools dump router icmp-stats interface 1.1.1.3
          icmpInMsgs 0
        icmpInErrors 0
  icmpInDestUnreachs 0
     icmpInTimeExcds 0
     icmpInParmProbs 0
    icmpInSrcQuenchs 0
     icmpInRedirects 0
         icmpInEchos 0
      icmpInEchoReps 0
    icmpInTimestamps 0
 icmpInTimestampReps 0
icmpInUnsupportedType 0
     icmpInAddrMasks 0
  icmpInAddrMaskReps 0
        icmpOutMsgs 0
       icmpOutErrors 0
 icmpOutDestUnreachs 0
    icmpOutTimeExcds 0
    icmpOutParmProbs 0
   icmpOutSrcQuenchs 0
    icmpOutRedirects 0
        icmpOutEchos 0
     icmpOutEchoReps 0
   icmpOutTimestamps 0
icmpOutTimestampReps 0
    icmpOutAddrMasks 0
 icmpOutAddrMaskReps 0

*A:Dut-C>config>router>isis# /tools dump router icmp-stats interface 3fe::1.1.1.3

          icmpInMsgs 0
        icmpInErrors 0
  icmpInDestUnreachs 0
     icmpInTimeExcds 0
     icmpInParmProbs 0
    icmpInSrcQuenchs 0
     icmpInRedirects 0
         icmpInEchos 0
      icmpInEchoReps 0
    icmpInTimestamps 0
 icmpInTimestampReps 0
icmpInUnsupportedType 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
     icmpInAddrMasks 0
  icmpInAddrMaskReps 0
         icmpOutMsgs 0
       icmpOutErrors 0
 icmpOutDestUnreachs 0
    icmpOutTimeExcds 0
    icmpOutParmProbs 0
   icmpOutSrcQuenchs 0
    icmpOutRedirects 0
        icmpOutEchos 0
     icmpOutEchoReps 0
   icmpOutTimestamps 0
icmpOutTimestampReps 0
    icmpOutAddrMasks 0
 icmpOutAddrMaskReps 0
     icmpOutDiscards 0
*A:Dut-C>config>router>isis#
```

12.5 icmp6

icmp6

Syntax

icmp6

Context

[Tree] (show>router icmp6)

Full Context

show router icmp6

Description

This command displays Internet Control Message Protocol Version 6 (ICMPv6) statistics. ICMP generates error messages (for example, ICMP destination unreachable messages) to report errors during processing and other diagnostic functions. ICMPv6 packets can be used in the neighbor discovery protocol and path MTU discovery.

Platforms

All

Output

The following output is an example of router ICMPv6 statistics, and Table 198: Output fields: ICMPv6 describes the fields.

Output Example

```
A:SR-3# show router icmp6
===============================================================================
Global ICMPv6 Stats
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Received
Total                   : 0            Errors                 : 0
Destination Unreachable : 0            Redirects              : 0
Time Exceeded           : 0            Pkt Too Big            : 0
Echo Request            : 0            Echo Reply             : 0
Router Solicits         : 0            Router Advertisements  : 0
Neighbor Solicits       : 0            Neighbor Advertisements : 0
Parameter Problem       : 0
-------------------------------------------------------------------------------
Sent
Total                   : 2            Errors                 : 0
Destination Unreachable : 0            Redirects              : 0
Time Exceeded           : 0            Pkt Too Big            : 0
Echo Request            : 0            Echo Reply             : 0
Router Solicits         : 0            Router Advertisements  : 0
Neighbor Solicits       : 2            Neighbor Advertisements : 0
Parameter Problem       : 0            Discarded              : 0
===============================================================================
A:SR-3#
A:SR-3# show router icmp6 interface "sample1"
===============================================================================
Interface ICMPv6 Stats
===============================================================================
===============================================================================
Interface "sample1"
-------------------------------------------------------------------------------
Received
Total                   : 0            Errors                 : 0
Destination Unreachable : 0            Redirects              : 0
Time Exceeded           : 0            Pkt Too Big            : 0
Echo Request            : 0            Echo Reply             : 0
Router Solicits         : 0            Router Advertisements  : 0
Neighbor Solicits       : 0            Neighbor Advertisements : 0
Parameter Problem       : 0
-------------------------------------------------------------------------------
Sent
Total                   : 2            Errors                 : 0
Destination Unreachable : 0            Redirects              : 0
Time Exceeded           : 0            Pkt Too Big            : 0
Echo Request            : 0            Echo Reply             : 0
Router Solicits         : 0            Router Advertisements  : 0
Neighbor Solicits       : 2            Neighbor Advertisements : 0
Parameter Problem       : 0            Discarded              : 0
===============================================================================
A:SR-3#
```

Table 198: Output fields: ICMPv6

Label	Description
Total	The total number of all messages
Destination Unreachable	The number of message that did not reach the destination
Time Exceeded	The number of messages that exceeded the time threshold
Echo Request	The number of echo requests
Router Solicits	The number of times the local router was solicited

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Neighbor Solicits	The number of times the neighbor router was solicited
Errors	The number of error messages
Redirects	The number of packet redirects
Pkt Too big	The number of packets that exceed appropriate size
Echo Reply	The number of echo replies
Router Advertisements	The number of times the router advertised its location
Neighbor Advertisements	The number of times the neighbor router advertised its location
Parameter Problem	The number of packets with a parameter problem in the IP header
Discarded	The number of ICMPv6 messages that exceed the configured interface ICMPv6 rate or have an expired TTL

icmp6

Syntax

icmp6 all

icmp6 global

icmp6 interface *interface-name*

Context

[Tree] (clear>router icmp6)

Full Context

clear router icmp6

Description

This command clears ICMPv6 statistics.

Parameters

all

Clears all statistics.

global

Clears global router statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

interface-name

Clears ICMPv6 statistics for the specified interface, up to 32 characters.

Platforms

All

12.6 icmp6-redirect-route

icmp6-redirect-route

Syntax

icmp6-redirect-route {**all** | *ipv6-address*}

Context

[Tree] (clear>router icmp6-redirect-route)

Full Context

clear router icmp6-redirect-route

Description

This command deletes routes created as a result of ICMPv6 redirects received on the management interface.

Parameters

all

Clears all routes.

ipv6-address

Clears the routes associated with the specified IPv6 address.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.7 icport

icport

Syntax

icport [**down**] [**degraded**]

Context

[Tree] (show>sfm icport)

Full Context

show sfm icport

Description

This command displays SFM interconnect port information.

Parameters

down

Displays interconnect ports that are not operational.

degraded

Displays interconnect ports that are associated with fabric degradation.

Platforms

7950 XRS

12.8 id

id

Syntax

id *service-id*

id *service-id* **mac-notification**

id *service-id* **macsec**

id *service-id* **mvrp vlan [detail]**

id *service-id* **vpls-group** [*vpls-group-id*]

id *service-id* **vpls-group** *vpls-group-id* **non-template-saps**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service id)

Full Context

show service id

Description

This command displays information for a particular service ID.

Platforms

All

id

Syntax

id *service-id*

Context

[Tree] (clear>service id)

[Tree] (clear>service>statistics id)

Full Context

clear service id

clear service statistics id

Description

This command clears the identification for a specific service.

Parameters

service-id

The ID that uniquely identifies a service.

Values service-id: 1 to 214748364

svc-name: A string up to 64 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

id

Syntax

id *service-id*

Context

[Tree] (tools>dump>service id)

[Tree] (tools>perform>service id)

Full Context

tools dump service id

tools perform service id

Description

This command specifies a service for which service debugging tools are enabled.

Parameters

service-id

Specifies the service ID.

Values 1 to 2148278386, *svc-name*: 64 chars max

Platforms

All

id

Syntax

id *service-id*

Context

[Tree] (clear>video id)

Full Context

clear video id

Description

This command clears video information pertaining to the specified service ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

service *service-id*

Specifies the service ID to clear.

Values 1 to 2148278317

svc-name — a string up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

id

Syntax

id *service-id*

Context

[Tree] (clear>video>statistics id)

Full Context

clear video statistics id

Description

This command clears video statistics for a particular service.

Parameters

service *service-id*

Specifies the service ID to clear statistics.

Values 1 to 2148278317

svc-name — a string up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

id

Syntax

id *service-id*

Context

[Tree] (monitor>service id)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

monitor service id

Description

This command displays statistics for a specific service, specified by the *service-id*, at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the *service-id*. The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

service-id

Specifies the unique service identification number which identifies the service in the service domain.

Platforms

All

12.9 idle-only-msap

idle-only-msap

Syntax

idle-only-msap *msap-policy-name*

Context

[Tree] (clear>subscr-mgmt idle-only-msap)

Full Context

clear subscriber-mgmt idle-only-msap

Description

This command removes all idle MSAPs associated with the MSAP policy. This command only removes idle MSAPs without active subscribers. This command is considered safer than the **clear>subscr-mgmt>msap-policy** *msap-policy-name* **idle-only** command because in that command, the parameter **idle-only** is optional. Not specifying **idle-only** deletes MSAPs with active subscribers.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

msap-policy-name

Specifies the MSAP policy for which all associated idle MSAPs are cleared.

Platforms

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

12.10 if-attribute

if-attribute

Syntax

if-attribute

Context

[Tree] (show>router if-attribute)

Full Context

show router if-attribute

Description

Commands in this context display interface attribute related information.

Platforms

All

12.11 if-policy

if-policy

Syntax

if-policy [*if-policy-name*]

if-policy *if-policy-name* **users**

Context

[Tree] (show>router>mcac if-policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router mcac if-policy

Description

This command displays information about MCAC interface policies. Display options are:

- no parameters: displays summary of configured MCAC interface policies in the system
- *if-policy-name*: if an existing interface policy name is specified, the configuration and operational details for the specified policy are displayed
- *if-policy-name* **users**: if **user** options is specified with the existing MCAC interface policy, then all instances where a given MCAC interface policy is used are listed

Platforms

All

Output

The following output is an example of MCAC interface information.

Output Example

```
*A:bkvm34>show>router>mcac# if-policy
===============================================================================
Multicast CAC If-Policies
===============================================================================
If-Policy                        Description
-------------------------------------------------------------------------------
if_poll                            test policy
if_poll2
-------------------------------------------------------------------------------
If-Policies : 2
===============================================================================


*A:bkvm34>show>router>mcac# if-policy "if_poll"
===============================================================================
Multicast CAC If-Policy
===============================================================================
If-Policy        : if_poll
Description      : test policy
Admin state      : enabled
Unconstrained BW : 100000
Pre rsvd mand BW : 10000
In use mand BW   : 0
In use opt BW    : 0
Avail mand BW   : 10000
Avail opt BW     : 90000
===============================================================================


*A:bkvm34>show>router>mcac# if-policy "if_poll"  users
===============================================================================
Multicast CAC If-Plcy if_pol1 Application Interfaces
===============================================================================
Application       Service ID    Interface
-------------------------------------------------------------------------------
IGMP              1             redir_itf1
IGMP              1             gi_1_1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MLD               1             redir_itf1
MLD               1             gi_1_1
IGMP              2             to_B2
MLD               2             to_B2
PIM               3             to_B3
-------------------------------------------------------------------------------
Application Interfaces : 7
===============================================================================
===============================================================================
Multicast CAC If-Plcy if_pol1 Application Ports
===============================================================================
Application       Service ID    Sap/Sdp
-------------------------------------------------------------------------------
IGMP-Snpg         4             Sap:lag-1:4
IGMP-Snpg         5             Sdp:22:5
IGMP-Snpg         6             Sdp:23:6
IGMP-Snpg         7             Sap:lag-1:7
-------------------------------------------------------------------------------
Application Ports : 4
===============================================================================
```

12.12 igmp

igmp

Syntax

igmp [**subscriber** *sub-ident-string*][**detail**]

Context

[Tree] (show>service>active-subscribers igmp)

Full Context

show service active-subscribers igmp

Description

This command displays active subscriber IGMP information.

Parameters

sub-ident-string

Displays the subscriber ID of the active subscriber, up to 32 characters.

detail

Displays detailed IGMP information for the specified subscriber ID.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of IGMP information for active subscribers.

Output Example

```
*A:eng-BNG-2# show  service active-subscribers igmp
===============================================================================
Active Subscribers
===============================================================================
Subscriber
  IGMP-Policy
  HostAddr                      GrpItf                          NumGroups
-------------------------------------------------------------------------------
user_1
  igmp-policy-01
  192.168.0.14                  grp-int-01                      1
-------------------------------------------------------------------------------
Number of Subscribers : 1
===============================================================================
```

igmp

Syntax

igmp

Context

[Tree] (clear>router igmp)

Full Context

clear router igmp

Description

Commands in this context clear and reset IGMP entities.

Platforms

All

igmp

Syntax

igmp

Context

[Tree] (show>router igmp)

Full Context

show router igmp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display IGMP related information.

Platforms

All

12.13 igmp-policy

igmp-policy

Syntax

igmp-policy

igmp-policy *policy-name* **association**

igmp-policy *policy-name*

Context

[Tree] (show>subscr-mgmt igmp-policy)

Full Context

show subscriber-mgmt igmp-policy

Description

This command displays IGMP policy information and only applies to the 7750 SR.

Parameters

policy-name

Specifies an existing IGMP policy.

association

Displays the information configured with the IGMP policy.

Platforms

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

Output

The following output is an example of subscriber management IGMP policy information.

Output Example

```
*B:Dut-C# show subscriber-mgmt igmp-policy
===============================================================================
IGMP Policies
===============================================================================
IGMP Policy
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Import Policy                    Admin Version
Description
  Num Subscribers                  Host Max Groups
  Fast Leave
-------------------------------------------------------------------------------
pol1
                                   3
  2                                0
  fast-leave
pol2
                                   3
  0                                0
  fast-leave
===============================================================================
*B:Dut-C#


*B:Dut-C# show subscriber-mgmt igmp-policy "pol1"
===============================================================================
IGMP Policy pol1
===============================================================================
Import Policy                        :
Admin Version                        : 3
Num Subscribers                      : 2
Host Max Group                       : 0
Fast Leave                           : yes
===============================================================================
*B:Dut-C#


*B:Dut-C# show subscriber-mgmt igmp-policy "pol1" association
===============================================================================
IGMP Policy pol1 Associations
===============================================================================
sub_1
sub_2
-------------------------------------------------------------------------------
No. of subscriber(s): 2
===============================================================================
*B:Dut-C#
```

Table 199: Output fields: IGMP policy describes subscriber management IGMP policy output fields.

Table 199: Output fields: IGMP policy

Field	Description
IGMP Policy	The IGMP policy name
Import Policy	The import policy name to filter packets
Admin Version	The version of IGMP which is running for this host
Description	The user-provided description of this IGMP policy
Num Subscribers	The number of subscribers
Host Max Groups	The maximum number of groups for which IGMP can have local receiver information based on received IGMP reports for this host

© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Fast Leave	Whether fast leave is allowed for this host
Pol1	Information about the first reported IGMP policy
Pol2	Information about the second reported IGMP policy
Associations	The subscribers associated with the policy

12.14 igmp-snooping

igmp-snooping

Syntax

igmp-snooping

Context

[Tree] (show>service>id igmp-snooping)

Full Context

show service id igmp-snooping

Description

This command displays the Internet Group Management Protocol (IGMP) snooping information.

Platforms

All

igmp-snooping

Syntax

igmp-snooping

Context

[Tree] (clear>service>id igmp-snooping)

Full Context

clear service id igmp-snooping

Description

Commands in this context clear IGMP snooping-related data.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

12.15 ignore-sap-port-state

ignore-sap-port-state

Syntax

ignore-sap-port-state

Context

[Tree] (tools>dump>service>id>interface ignore-sap-port-state)

Full Context

tools dump service id interface ignore-sap-port-state

Description

This command displays all service interfaces that have accepted an **ignore-sap-port-state start** command.

Run this command without a *service-id* to display a complete list of interfaces that have accepted an **ignore-sap-port-state start** command. The command can be run within a specific *service-id* context for a list of all interfaces for the specified service that have accepted the **ignore-sap-port-state start** command. The *ip-int-name* parameter may be optionally configured to display results only for the specified interface. If the command is run against a specific interface that has not accepted an **ignore-sap-port-state start** command, the display command will display a message indicating that no action has been started for the interface.

Platforms

All

Output

The following output is an example of **ignore-sap-port-state** information.

Output Example

```
tools dump service ignore-sap-port-state
===============================================================================
Interface Marked Ignore SAP Operational State
===============================================================================
SvcId      Interface-Name              Adm/Opr(v4/v6)  Type    Port/SapId
           IP-Address                                          PfxState
-------------------------------------------------------------------------------
1001       ies-1001                    Up/(Up/Down)    IES     1/1/1:1001.
                                                               1001
           192.168.3.30/24                                     n/a
-------------------------------------------------------------------------------
Number of entries: 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

ignore-sap-port-state

Syntax

ignore-sap-port-state {**start** | **stop**}

Context

[Tree] (tools>perform>service>id>interface ignore-sap-port-state)

Full Context

tools perform service id interface ignore-sap-port-state

Description

This command enables bypassing of the Ethernet operational state check, which would otherwise be part of the Ethernet SAP operational state checking function. All other checks are performed as normal.

This command may be run against IES and VPRN service IP interfaces directly configured over an Ethernet SAP. When the command is run against an operational Ethernet SAP, the command enters a pending state, waiting for a non-operational change. Network interfaces have no SAP association and do not support this feature. When using **subscriber-interface** and **group-interface**, the command is only applicable to the **group-interface** associated with the SAP. R-VPLS does not have Ethernet SAPs directly configured under the interface, and is not supported.

This command is meant to allow service validation and reachability testing when a physical Ethernet port has not been connected. The command may be run for a non-operational SAP that is cabled. However, if the SAP transitions to an operational state, ingress and egress packet processing may still occur.

This command configuration does not survive a system restart.

Parameters

start

Enables port state bypass mode for the interface. If the Ethernet port SAP is already operational, there is no immediate effect of the command, and the Ignore Port state under the **show service id all** command will show "pending". However, if the interface Ethernet port transitions to a non-operational state, the command then bypasses this port state and executes the remainder of the operational checks, and the flag for the Ignore Port state transitions to "active". When this command is in effect, the SAP represents the state of the SAP ignoring the port state.

stop

Disables port state bypass mode for the interface attached to the SAP.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.16 ike-exchange-failure-rate

ike-exchange-failure-rate

Syntax

ike-exchange-failure-rate esa-vm *esa-id/vm-id*

ike-exchange-failure-rate gateway *name*

ike-exchange-failure-rate reason *reason* **gateway** *name* [**show-oid**]

ike-exchange-failure-rate isa *mda*

ike-exchange-failure-rate reason *reason* **isa** *mda* [**show-oid**]

ike-exchange-failure-rate reason *reason* [**show-oid**] **esa-vm** *esa-id/vm-id*

ike-exchange-failure-rate system

ike-exchange-failure-rate reason *reason* **system** [**show-oid**]

ike-exchange-failure-rate tunnel-group *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

ike-exchange-failure-rate reason *reason* **tunnel-group** *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

Context

[Tree] (show>isa>stats>ipsec-stats ike-exchange-failure-rate)

Full Context

show isa statistics ipsec-stats ike-exchange-failure-rate

Description

This command displays IKE exchange failure rate statistics of the specified scope.

This command supports following scopes:

- per system
- per ISA
- per tunnel group
- per IPsec GW

The rate includes the following reasons:

- authentication failure
- non-proposal chosen
- internal address assignment failure
- invalid traffic selector (TS)
- invalid key exchange (KE)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- DPD timeout
- Others

The start time value indicates the starting timestamp of measurement. The sampling duration indicates the duration of the measurement.

If a record has non-zero value, the system also shows the timestamp and local or remote tunnel endpoint for the first and last occurrence in the sampling duration.

Parameters

name

Displays information about the specified IPsec GW name up to 32 characters in length.

tunnel-type

Displays information about the specified the tunnel type.

Values all, sl2l, dl2l, ra

reason

Displays information for the cause of the failure.

Values auth-failure, non-proposal-chosen, internal-addr-assignment-failure, invalid-ts, invalid-ke, dpd-timeout, other

system

Displays information about the system.

mda

Displays information about the specified ISA ID.

Values slot/mda

tunnel-group-id

Displays information about the specified tunnel group ID.

Values 1 to 16

name

Displays information about the specified IPsec GW name up to 32 characters in length.

count

Displays information for the number of statistics intervals to be displayed (starting with the most recent).

Values 1 to 96

minutes

Displays information about the specified period covered by the statistics to be displayed (starting with the most recent).

Values 1 to 1440

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

current

Displays information about the current statistic value. The values of count and minutes are ignored by the system once this parameter is specified.

show-oid

Displays information about the Object Identifier (OID) of the current statistical value.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values	esa-vm:	*esa-id*/*vm-id*	
		esa-id	1 to 16
		vm-id	1 to 4

Platforms

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

Output

The following output is an example of the **show isa stats ipsec-stats ike-exchange-failure-rate** command.

Output Example

```
show>isa>stats>ipsec-stats# ike-exchange-failure-rate gateway "rw2"
===============================================================================
STATISTICS FOR IPSEC GATEWAY "RW2"
===============================================================================
INDEX        VALUE                     START TIME          SAMPLING DURATION
  FAILURE TM              INFO
-------------------------------------------------------------------------------
IKE EXCHANGE FAILURE RATE (FAILURES/SEC) - AUTHENTICATION FAILURE
1 (CURRENT)  0.00                      2017/07/31 23:00:00 MIN 4 SEC 51
2            0.02                      2017/07/31 22:52:15 MIN 7 SEC 40
  FST: 2017/07/31 22:54:30 RMT:10.1.1.100:[500]
                           LCL:172.16.200.1:[500]
  LST: 2017/07/31 22:54:33 RMT:10.1.1.100:[500]
                           LCL:172.16.200.1:[500]
IKE EXCHANGE FAILURE RATE (FAILURES/SEC) - NON-PROPOSAL CHOSEN
1 (CURRENT)  0.00                      2017/07/31 23:00:00 MIN 4 SEC 51
2            0.00                      2017/07/31 22:52:15 MIN 7 SEC 40
IKE EXCHANGE FAILURE RATE (FAILURES/SEC) - ADDRESS ASSIGNMENT FAILURE
1 (CURRENT)  0.00                      2017/07/31 23:00:00 MIN 4 SEC 51
2            0.00                      2017/07/31 22:52:15 MIN 7 SEC 40
IKE EXCHANGE FAILURE RATE (FAILURES/SEC) - INVALID TRAFFIC SELECTOR
1 (CURRENT)  0.00                      2017/07/31 23:00:00 MIN 4 SEC 51
2            0.00                      2017/07/31 22:52:15 MIN 7 SEC 40
IKE EXCHANGE FAILURE RATE (FAILURES/SEC) - INVALID KEY EXCHANGE
1 (CURRENT)  0.00                      2017/07/31 23:00:00 MIN 4 SEC 51
2            0.00                      2017/07/31 22:52:15 MIN 7 SEC 40
IKE EXCHANGE FAILURE RATE (FAILURES/SEC) - DPD TIMEOUT
1 (CURRENT)  0.00                      2017/07/31 23:00:00 MIN 4 SEC 51
2            0.00                      2017/07/31 22:52:15 MIN 7 SEC 40
IKE EXCHANGE FAILURE RATE (FAILURES/SEC) - OTHER FAILURE REASONS
1 (CURRENT)  0.00                      2017/07/31 23:00:00 MIN 4 SEC 51
2            0.00                      2017/07/31 22:52:15 MIN 7 SEC 40
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
NO. OF ENTRIES: 18
===============================================================================
```

12.17 ike-initiate

ike-initiate

Syntax

ike-initiate tunnel-group-id *ipsec-group-id*

ike-initiate tunnel-name *ipsec-tunnel-name*

Context

[Tree] (tools>perform>ipsec ike-initiate)

Full Context

tools perform ipsec ike-initiate

Description

This command initiates tunnel setup for the specified LAN-to-LAN tunnel or for all static LAN-to-LAN tunnels in the specified tunnel group. This command initiates tunnel setup regardless of the configuration of the **ipsec-responder-only** command under the specified tunnel group.

The command only initiates tunnel setup when the tunnel group is in the MC-IPsec master state, or if MC-IPsec is not enabled for the tunnel group. If MC-IPsec is enabled and the tunnel group is not in the master state, the system will abort tunnel setup if MIMP goes down or if mastership changes during the tunnel setup.

Operationally up tunnels are not affected by this command. The system will not try to initiate a tunnel setup if the tunnel's operation flags are not clear.

The system does not automatically retry tunnel setup if a tunnel setup fails.

Parameters

ipsec-group-id

Specifies the ID of the tunnel group where all static LAN-to-LAN tunnels are initiated.

ipsec-tunnel-name

Specifies the name of the IPsec tunnel to be initiated.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.18 ike-policy

ike-policy

Syntax

ike-policy

ike-policy *ike-policy-id*

ike-policy *ike-policy-id* **association** [**all**]

Context

[Tree] (show>ipsec ike-policy)

Full Context

show ipsec ike-policy

Description

This command displays content for the specified **ike-policy**.

Parameters

ike-policy-id

Specifies the ID of an IKE policy entry.

Values 1 to 2048

association

Lists the **ipsec-tunnel**, **ipsec-gw** and dynamic tunnel using the specified **ike-policy**.

Platforms

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

Output

The following output is an example of the **show ipsec ike-policy** command.

Output Example

```
*A:ALA-48# show ipsec ike-policy 10
===============================================================================
IPsec IKE policy Configuration Detail
===============================================================================
Policy Id        : 10                   IKE Mode         : main
DH Group         : Group2               Auth Method      : psk
PFS              : False                PFS DH Group     : Group2
Auth Algorithm   : Sha1                 Encr Algorithm   : Aes128
ISAKMP Lifetime  : 86400                IPsec Lifetime   : 3600
NAT Traversal    : Disabled
NAT-T Keep Alive : 0                    Behind NAT Only  : True
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
DPD              : Disabled
DPD Interval     : 30                  DPD Max Retries  : 3
Description      : (Not Specified)
===============================================================================
*A:ALA-48#
```

12.19 ike-stats

ike-stats

Syntax

ike-stats esa-vm *esa-id/vm-id*

ike-stats gateway *name* [**dynamic-tunnel** *ip-address:port*]

ike-stats isa *mda*

ike-stats *ipsec-tunnel-name*

Context

[Tree] (tools>dump>ipsec>stats ike-stats)

Full Context

tools dump ipsec stats ike-stats

Description

This command dumps various internal IKE statistics for the specified scope:

- per ISA
- per static LAN-to-LAN tunnel
- per dynamic tunnel

The start time indicates the time of the last reset.

Parameters

name

Dumps information about the name of the IPsec GW, up to 32 characters.

ip-address:port

Dumps information about the IP address and port of the peer for dynamic tunneling.

mda

Dumps information about the specified ISA.

Values slot/mda

ipsec-tunnel-name

Dumps the name of the static LAN-to-LAN tunnel, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

All

ike-stats

Syntax

ike-stats esa-vm *esa-id/vm-id*

ike-stats gateway *name* [**dynamic-tunnel** *ip-address:port*]

ike-stats isa *mda*

ike-stats *ipsec-tunnel-name*

Context

[Tree] (clear>ipsec>stats ike-stats)

Full Context

clear ipsec stats ike-stats

Description

This command clears various internal IKE statistics for the specified scope:

- per ISA
- per static LAN-to-LAN tunnel
- per dynamic tunnel

The start time indicates the time of the last reset.

Parameters

name

Clears information about the name of the IPsec GW up to 32 characters.

ip-address:port

Clears information about the IP address and port of the peer for dynamic tunneling.

mda

Clears information about the specified ISA.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values slot/mda

ipsec-tunnel-name

Clears the name of the static LAN-to-LAN tunnel up to 32 characters.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

12.20 ike-transform

ike-transform

Syntax

ike-transform [*ike-transform-id*]

Context

[Tree] (show>ipsec ike-transform)

Full Context

show ipsec ike-transform

Description

This command displays information for the specified IKE transform instance. Information for all IKE transform instances is displayed when an *ike-transform-id* is not specified.

Parameters

ike-transform-id

Specifies an existing IKE transform instance

Values 1 to 4096

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of IKE transform information.

Output Example

```
Node# show ipsec ike-transform
===============================================================================
IKE Transforms
===============================================================================
ID      Diffie-Hellman    Authentication        Encryption       ISAKMP
        Group             Algorithm             Algorithm        Lifetime
-------------------------------------------------------------------------------
100     14                sha1                  aes128           86400
-------------------------------------------------------------------------------
No. of IKE Transforms: 1
===============================================================================
```

12.21 ikev2-msg-drop

ikev2-msg-drop

Syntax

ikev2-msg-drop message-type *message-type* [**show-oid**] **esa-vm** *esa-id/vm-id*

ikev2-msg-drop message-type *message-type* **isa** *mda* [**show-oid**]

Context

[Tree] (show>isa>stats>ipsec-stats ikev2-msg-drop)

Full Context

show isa statistics ipsec-stats ikev2-msg-drop

Description

This command displays the early drop counter for received IKEv2 messages on the specified ISA. These counters reflect the number of packets dropped early in the process when ISA is congested.

Parameters

message-type

Specifies the exchange type of the packet to display.

Values ike-sa-init, ike-auth, create-child-and-info

mda

Specifies the slot and MDA in the format *slot/mda*.

Values *slot — 1 to 10*

mda — 1 or 2

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show-oid

Displays the SNMP object ID of the counter.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

Output

The following output is an example of the **ikev2-msg-drop message-type** command.

Output Example

```
show>isa>stats>ipsec-stats# ikev2-msg-drop message-type ike-sa-init isa 1/2 show-oid
-------------------------------------------------------------------------------
Current Statistic Info
-------------------------------------------------------------------------------
OID: tmnxIPsecIsaHistStatsValue32.1.1.2.700.1
-------------------------------------------------------------------------------
===============================================================================
Statistics for ISA 1/2
===============================================================================
Index        Value                     Start Time          Sampling Duration
-------------------------------------------------------------------------------
Number of IKE-SA-INIT exchange packet drops
1 (current)  0                         2018/03/06 21:28:37 min 3 sec 59
-------------------------------------------------------------------------------
No. of entries: 1
```

12.22 ilm

ilm

Syntax

ilm

Context

[Tree] (tools>dump>router>mpls ilm)

Full Context

tools dump router mpls ilm

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description
This command dumps ILM information for MPLS.

Platforms
All

12.23 inactive-peers

inactive-peers

Syntax
inactive-peers

Context
[Tree] (clear>system>ptp inactive-peers)

Full Context
clear system ptp inactive-peers

Description
This command clears inactive peer information.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

12.24 inband-tunnel

inband-tunnel

Syntax
inband-tunnel [**type** {**rx** | **tx**}] [**prefix** *prefix*] [**tunnel-id** *tunnel-id*]

inband-tunnel [**prefix** *prefix*] [**tunnel-id** *tunnel-id*] **leaf**

Context
[Tree] (show>router>bier inband-tunnel)

Full Context
show router bier inband-tunnel

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command shows the BIER tunnels.

Parameters

type

Specifies the type of tunnel.

Values tx, rx

prefix

Specifies the BFR prefix of the tunnel in IP address form.

tunnel-id

Specifies the tunnel ID.

Values 0 to 4294967295

leaf

Specifies that the tunnel leafs are displayed.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of a BIER in-band tunnel configuration. Table 200: Output fields: BIER tunnel provides BIER in-band tunnel descriptions.

Output Example

```
*A:Dut-B# /show router bier inband-tunnel
===============================================================================
BIER Tunnels
===============================================================================
Tunnel-id           Type                Oper                No. Of Leaves
BFR Prefix          Bfr-ID              Mpls Label          Sub-domain
-------------------------------------------------------------------------------
73748               rx                  In service          0
10.20.1.4           4                   0                   0
===============================================================================
BIER Tunnel entries : 1
===============================================================================
```

Table 200: Output fields: BIER tunnel

Label	Description
Tunnel-id	The tunnel ID
Type	The tunnel type - Tx or Rx
Oper	The operational state of the tunnel
No. Of Leaves	The number of leafs in the tunnel

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
BFR Prefix	The BFR prefix of the tunnel
Bfr-IFD	The BFR ID of the tunnel
MPLS Label	The MPLS Label of the tunnel
Sub-domain	The sub-domain associated with the tunnel

12.25 incl-mcast

incl-mcast

Syntax

incl-mcast [**hunt** | **detail**] [**rd** *rd*] [**originator-ip** *originator-ip*] [**next-hop** *next-hop*] [**community** *comm-id*] **[tag** *tag*] **[aspath-regex** *reg-exp*]

Context

[Tree] (show>router>bgp>routes>evpn incl-mcast)

Full Context

show router bgp routes evpn incl-mcast

Description

This command displays BGP-EVPN inclusive multicast routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

originator-ip

Specifies the IPv4 or IPv6 originator address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

x:x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

comm-id

Specifies community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{ *ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535

  – *comm-val1* — 0 to 65535

  – **type** — target, origin

  – *ip-address* — a.b.c.d

  – *comm-val2* — 0 to 4294967295

  – *as-number2* — 0 to 4294967295
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

tag

Specifies the inclusive multicast route tag.

Values 0to 4294967295 | MAX-ET

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

12.26 information

information

Syntax

information

Context

[Tree] (show>system information)

Full Context

show system information

Description

This command displays general system information including basic system, SNMP server, last boot and DNS client information.

Platforms

All

Output

The following output is an example of system information. Table 201: Output fields: system information describes the output fields.

Output example

```
A:admin@node-2# show system information

===============================================================================
System Information
===============================================================================
System Name            : Dut-B
System Type            : 7750 SR-7s
Chassis Topology       : Standalone
System Version         : C-0.0.I7584
Crypto Module Version  : SRCM 5.3.1.4
System Contact         :
System Location        :
System Coordinates     :
System Active Slot     : B
System Up Time         : 12 days, 04:01:43.17 (hr:min:sec)
System Up Time (64-bit): 12 days, 04:01:43.18 (hr:min:sec)

Configuration Mode Cfg : mixed
Configuration Mode Oper: mixed
Last Mode Changed      : 2023/12/06 12:32:16 Duration: 0d 00:00:00
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
SNMP Port              : 161
SNMP Engine ID         : 0000197f0000dec0ff000000
SNMP Engine Boots      : 10
SNMP Max Message Size  : 1500
SNMP Max Bulk Duration : N/A
SNMP Admin State       : Enabled
SNMP Oper State        : Enabled
SNMP Index Boot Status : Not Persistent
SNMP Sync State        : OK

Tel/Tel6/SSH/FTP Admin : Enabled/Disabled/Enabled/Enabled
Tel/Tel6/SSH/FTP Oper  : Up/Down/Up/Up
Console Port Logins    : Enabled/Disabled

BOF Source             : cf3:
Image Source           : primary
Config Source          : primary
Last Booted Config File: ftp://*:*@[192.168.192.135]/./images/dut-b.cfg
Last Boot Cfg Version  : N/A
Last Boot Config Header: N/A
Last Boot Index Version: N/A
Last Boot Index Header : N/A
Last Saved Config      : ftp://*:*@192.168.192.135/kanvmplm3/results/2023/Month
                         _11/Nov_29/10:34:17.peter.roberts/device_logs/saved_co
                         nfigs/Dut-B.finished.cfg
Time Last Saved        : 2023/11/29 10:49:54
Changes Since Last Save: Yes
User Last Modified     : admin
Time Last Modified     : 2023/12/06 12:32:16
Max Cfg/BOF Backup Rev : 5
Cfg-OK Script          : ftp://*:*@[192.168.192.135]/./images/env.cfg
Cfg-OK Script Status   : success
Cfg-Fail Script        : N/A
Cfg-Fail Script Status : not used

IPv4 autoconfiguration : Disabled
IPv6 autoconfiguration : Disabled
Management IPv4 Addr   : 192.168.239.192/18
Management IPv6 Addr   : 3000::c0a8:efc0/114
Primary DNS Server     : 138.120.252.55
Secondary DNS Server   : 138.120.252.57
Tertiary DNS Server    : N/A
DNS Domain             : labs.ca.alcatel-lucent.com
DNS Resolve Preference : ipv4-only
DNSSEC AD Validation   : False
DNSSEC Response Control: drop
BOF Static Routes      :
  To                   Next Hop
  128.251.10.0/24      192.168.192.134

  135.0.0.0/8          192.168.192.134

  138.0.0.0/8          192.168.192.134

  172.20.0.0/14        192.168.192.134

  172.31.0.0/16        192.168.192.134


ICMP Vendor Enhancement: Disabled
EFM OAM Grace Tx Enable: False
EFM OAM Dying Gasp Rst : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
System Reboot Required : Yes
Reason(s)              : FP Resource Allocation Change

Last Reboot Reason     : admin
  Admin Reboot User    : admin
  Admin Reboot Router  : management
  Admin Reboot Address : 192.168.192.134
  Admin Reboot Time    : 2023/07/28 15:36:45 UTC
```

Table 201: Output fields: system information

Label	Description
System Name	The configured system name
System Type	The system is administratively configured to function as a Nokia SR OS Ethernet Service Switch (ESS) or not.
Chassis Topology	Indicates the inter-chassis topology mode in which the system is operating. It indicates how multiple chassis are arranged and operate together as a single system. A value of 'standalone' indicates that the system is composed of a single physical router chassis. A value of 'extended' (for a 7950 XRS based system) indicates that two router chassis are connected together in a 'back-to-back' topology with no additional switch fabric chassis. An extended chassis topology is composed of two XRS-20 chassis and is also known as an XRS-40 system.
System Version	The software product release version number for the software image currently running
Crypto Module Version	Version of the SR OS cryptographic module
System Contact	A text string that describes the system contact information
System Location	A text string that describes the system location
System Coordinates	A text string that describes the system coordinates
System Active Slot	Slot of the active CPM
System Up Time	The system uptime as a 32-bit value from the RFC 2578 sys UpTime MIB object. This value rolls over every 497 days.
System Up Time (64-bit)	The system uptime as a 64-bit value that does not roll over
Configuration Mode Cfg	Configured setting of the management interface configuration mode. The configuration mode affects the management interfaces (such as classic CLI and model-driven interfaces) that can be used to configure the router.
Configuration Mode Oper	Current management interface configuration mode that is operational in the router. The configuration mode affects the

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	management interfaces (such as classic CLI and model-driven interfaces) that can be used to configure the router.
Last Mode Changed	The date and time at which the operational management interface configuration mode last changed
SNMP Port	The port number used by this node to receive SNMP request messages and to send replies
SNMP Engine ID	The SNMP engineID to uniquely identify the SNMPv3 node
SNMP Engine Boots	The number of times the SNMP engine has rebooted with the current SNMP Engine ID
SNMP Max Message Size	The maximum SNMP packet size generated by this node
SNMP Max Bulk Duration	The maximum duration to process before bulk responses are returned
SNMP Admin State	Enabled — SNMP is administratively enabled and running. Disabled — SNMP is administratively shutdown and not running.
SNMP Oper State	Enabled — SNMP is operationally enabled. Disabled — SNMP is operationally disabled.
SNMP Failure Reason	Additional information about general failure of the SNMP engine to be ready for normal operation
SNMP Index Boot Status	Persistent — System indices are saved between reboots. Not Persistent — System indices are not saved between reboots.
SNMP Sync State	The SNMP persistent indices synchronization state. • Mismatch — There is a mismatch between the primary and standby CPM. • N/A — The standby CPM is not inserted or is offline, or indices are not persistent. • OK — The standby CPM is present and synchronized.
Tel/Tel6/SSH/FTP Admin	Displays the administrative state of the Telnet, SSH, and FTP sessions
Tel/Tel6/SSH/FTP Oper	Displays the operational state of the Telnet, SSH, and FTP sessions
Console Port Logins	Enabled — Logins on the serial console port of the active CPM are enabled. Disabled — Logins on the serial console port of the active CPM are disabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
BOF Source	The location of the BOF
Image Source	Primary — Indicates that the directory location for runtime image file was loaded from the primary source. Secondary — Indicates that the directory location for runtime image file was loaded from the secondary source. Tertiary — Indicates that the directory location for runtime image file was loaded from the tertiary source.
Config Source	Primary — Indicates that the directory location for configuration file was loaded from the primary source. Secondary — Indicates that the directory location for configuration file was loaded from the secondary source. Tertiary — Indicates that the directory location for configuration file was loaded from the tertiary source.
Last Booted Config File	The URL and filename of the last loaded configuration file
Last Boot Cfg Version	The date and time of the last boot
Last Boot Config Header	The header information, such as image version, date built, date generated
Last Boot Index Version	The version of the persistence index file read when this card was last rebooted
Last Boot Index Header	The header of the persistence index file read when this card was last rebooted.
Last Saved Config	The location and filename of the last saved configuration file
Time Last Saved	The date and time of the last time configuration file was saved
Changes Since Last Save	Yes — There are unsaved configuration file changes. No — There are no unsaved configuration file changes.
Max Cfg/BOF Backup Rev	The maximum number of backup revisions maintained for a configuration file. This value also applies to the number of revisions maintained for the BOF file.
Cfg-OK Script	URL — The location and name of the CLI script file executed following successful completion of the bootup configuration file execution.
Cfg-OK Script Status	Successful/Failed — The results from the execution of the CLI script file specified in the Cfg-OK Script location. Not used — No CLI script file was executed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Cfg-Fail Script	URL — The location and name of the CLI script file executed following a failed bootup configuration file execution. Not used — No CLI script file was executed.
Cfg-Fail Script Status	Successful/Failed — The results from the execution of the CLI script file specified in the Cfg-Fail Script location. Not used — No CLI script file was executed.
IPv4 autoconfiguration	Indicates whether the IPv4 DHCP-based router autoconfigure functionality is enabled or disabled
IPv6 autoconfiguration	Indicates whether the IPv6 DHCP-based router autoconfigure functionality is enabled or disabled
Management IP Addr	The management IPv4 address and mask
Management IP Addr	The management IPv6 address and mask
Primary DNS Server	The IP address of the primary DNS server
Secondary DNS Server	The IP address of the secondary DNS server
Tertiary DNS Server	The IP address of the tertiary DNS server
DNS Domain	The DNS domain name of the node
DNS Resolve Preference	ipv4-only — Dns-names are queried for A-records only. ipv6-first — Dns-server is queried for AAAA-records first and a successful reply is not received, the dns-server is queried for A-records.
DNSSEC AD Validation	Indicates whether the presence of the AD-bit is validated in responses from DNS servers
DNSSEC Response Control	fall-through — Permit DNS responses that do not pass DNSSEC validation fail — Reject DNS Responses that do not pass DNSSEC validation
BOF Static Routes	To — The static route destination. Next Hop — The next hop IP address used to reach the destination. Metric — Displays the priority of this static route versus other static routes. None — No static routes are configured.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
ICMP Vendor Enhancement	Indicates whether vendor specific extensions to ICMP are enabled or disabled
Eth QinQ Untagged SAP	False — The **new-qinq-untagged-sap** flag is disabled. True — The **new-qinq-untagged-sap** flag is enabled.
EFM OAM Grace Tx Enable	True — Sending of EFM OAM grace period messages is enabled. False — Sending of EFM OAM grace period messages is disabled.
EFM OAM Dying Gasp Rst	Indicates whether EFM OAM dying gasp messages on reset are enabled or disabled
System Reboot Required	Indicates if a configuration change has been made that requires an operator-driven reboot to fully active
Reason(s)	Indicates the configuration change reason(s) that set the System Reboot Required to true
Last Reboot Reason	Indicates the reason that the system was last rebooted. • admin – Administrative reboot (for example, **admin reboot** command) from any management interface (for example, CLI, SNMP, and so on) • other – The system was rebooted for other unspecified reasons (for example, power cycle, system crash).
Admin Reboot User	Indicates the name of the user who initiated the reboot. Value of “CRON/EHS”, indicate that the system was rebooted by a script. This is only displayed if the "Last System Reboot Reason" is "admin".
Admin Reboot Router	Indicates the source router for the management session used to reboot the router. If the session was via the console ports, the router shall be “Base” and the address shall be “0.0.0.0”. This is only displayed if the "Last System Reboot Reason" is "admin".
Admin Reboot Address	Indicates the IP address for the management session used to reboot the router. If the session was via the console ports, the router is “Base” and the address is “0.0.0.0”. This is only displayed if the "Last System Reboot Reason" is "admin".
Admin Reboot Time	Indicates the date and time that the reboot was initiated. Format is based on settings at time of the reboot. This is only displayed if the "Last System Reboot Reason" is "admin".

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

information

Syntax

information

Context

[Tree] (show>log>event-handling information)

Full Context

show log event-handling information

Description

This command displays general information about EHS, as well as handler and trigger statistics.

Platforms

All

Output

The following output is an example of log event handling information.

Output Example

```
===============================================================================
Event Handling System - Event Trigger Statistics
===============================================================================
_______________________________________________________________________________
Application Name
Event Id                    Total     Success   ErrNoEntry AdmStatus
-------------------------------------------------------------------------------
OAM
2001                        0         0         0          0
  -----------------------------------------------------------------------------
   Entry FilMatch  Trigger   Debounce  FilFail   ErrAdmSta  ErrFilter ErrHandler
  -----------------------------------------------------------------------------
   1     0         0         0         0         0          0         0
   10    0         0         0         0         0          0         0
  -----------------------------------------------------------------------------
   SUM   0         0         0         0         0          0         0
_______________________________________________________________________________
Application Name
Event Id                    Total     Success   ErrNoEntry AdmStatus
-------------------------------------------------------------------------------
OAM
2004                        0         0         0          0
  -----------------------------------------------------------------------------
   Entry FilMatch  Trigger   Debounce  FilFail   ErrAdmSta  ErrFilter ErrHandler
  -----------------------------------------------------------------------------
   1     0         0         0         0         0          0         0
  -----------------------------------------------------------------------------
   SUM   0         0         0         0         0          0         0
===============================================================================
EVENTS PROCESSED            Total     Success   ErrNoEntry AdmStatus
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                            0         0         0         0
===============================================================================
===============================================================================
Event Handling System - Event Handler Statistics
===============================================================================
-------------------------------------------------------------------------------
Handler                     Total     Success   ErrNoEntry AdmStatus
my-handler-1                0         0         0          0
  -------------------------------------------------------------------------
   Entry Id        Launch    MinDelay  ErrLaunch  ErrAdmSta
  -------------------------------------------------------------------------
   1               0         0         0          0
  -------------------------------------------------------------------------
   SUMMARY         0         0         0          0
===============================================================================
HANDLERS SUMMARY            Total     Success   ErrNoEntry AdmStatus
-------------------------------------------------------------------------------
                            0         0         0          0
===============================================================================
```

information

Syntax

information

Context

[Tree] (clear>log>event-handling information)

Full Context

clear log event-handling information

Description

This command clears handler statistics in the **show log event-handling information** output.

Platforms

All

12.27 ingress-label

ingress-label

Syntax

ingress-label *start-label* [*end-label*]

Context

[Tree] (show>service ingress-label)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service ingress-label

Description

This command displays services using the range of ingress labels.

If only the mandatory *start-label* parameter is specified, only services using the specified label are displayed.

If both *start-label* and *end-label* parameters are specified, the services using the range of labels X, where *start-label* <= X <= *end-label* are displayed.

Use the **show router ldp bindings** command to display dynamic labels.

Parameters

start-label

Specifies the starting ingress label value for which to display services using the label range. If only *start-label* is specified, services only using *start-label* are displayed.

Values 0, 18432 to 524287

end-label

Specifies the ending ingress label value for which to display services using the label range.

Values 18432 to 524287

Default *start-label* value

Platforms

All

Output

The following output is an example of service ingress label information, and Table 202: Output fields: service ingress label describes the output fields.

Output Example

```
*A:ALA-12# show service ingress-label 0
===============================================================================
Martini Service Labels
===============================================================================
Svc Id     Sdp Id             Type I.Lbl        E.Lbl
-------------------------------------------------------------------------------
1          10:1               Mesh 0            0
1          20:1               Mesh 0            0
1          30:1               Mesh 0            0
1          50:1               Mesh 0            0
1          100:1              Mesh 0            0
1          101:1              Mesh 0            0
1          102:1              Mesh 0            0
1          103:1              Mesh 0            0
1          104:1              Mesh 0            0
1          105:1              Mesh 0            0
1          106:1              Mesh 0            0
1          107:1              Mesh 0            0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1          108:1              Mesh 0            0
1          300:1              Mesh 0            0
1          301:1              Mesh 0            0
1          302:1              Mesh 0            0
1          400:1              Mesh 0            0
100        300:100            Spok 0            0
200        301:200            Spok 0            0
300        302:300            Spok 0            0
400        400:400            Spok 0            0
-------------------------------------------------------------------------------
Number of Bindings Found : 21
-------------------------------------------------------------------------------
*A:ALA-12#
```

Table 202: Output fields: service ingress label

Label	Description
Svc ID	The service identifier
SDP Id	The SDP identifier
Type	Indicates whether the SDP is spoke or mesh
I.Lbl	The ingress label used by the far-end device to send packets to this device in this service by the SDP
E.Lbl	The egress label used by this device to send packets to the far-end device in this service by the SDP
Number of Bindings Found	The number of SDP bindings within the label range specified

12.28 ingress-statistics

ingress-statistics

Syntax

ingress-statistics color *color* [**end-point** {*ipv4-address* | *ipv6-address*}]

Context

[Tree] (show>router>segment-routing>sr-policies ingress-statistics)

Full Context

show router segment-routing sr-policies ingress-statistics

Description

This command displays the ingress traffic statistics of the SR policy specified by its color and end-point.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

color

Displays the color that is configured for this SR policy.

Values 0 to 4294967295

ipv4-address* | *ipv6-address

Displays the IPv4 or IPv6 address expressed in dotted decimal notation.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

Output

The following output is an example of ingress traffic statistics of the SR policy, and Table 203: Output fields: ingress statistics describes the output fields.

Output Example Show Router Segment Route Policy Ingress Statistics

```
show router segment-routing sr-policies ingress-statistics color 10 end-point 3ffe::a14:102
===============================================================================
SR-Policies Ingress Statistics
===============================================================================

Ingress Statistics:

Color           : 10                    Endpoint Addr   : 3ffe::a14:102
TunnelId        : 917520                BSID            : 100008
Pkt Count       : 3015                  Octet Count     : 301500

===============================================================================
```

Table 203: Output fields: ingress statistics

Label	Description
Color	Indicates the color of the SR policy.
Endpoint Addr	Indicates the end-point address of the SR policy.
TunnelId	Indicates the tunnel identifier of the SR policy.
BSID	Indicates the binding SID value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Pkt Count	Indicates the count of packets for the corresponding segment list.
Octet Count	Indicates the count of octets for the corresponding segment list.

ingress-statistics

Syntax

ingress-statistics color *color* [**end-point** {*ipv4-address* | *ipv6-address*}]

Context

[Tree] (clear>router>segment-routing>sr-policies ingress-statistics)

Full Context

clear router segment-routing sr-policies ingress-statistics

Description

This command clears the ingress traffic statistics of the SR policy specified by its color and end-point.

Parameters

color

Displays the color that is configured for this SR policy.

Values 0 to 4294967295

ipv4-address* | *ipv6-address

Displays the IPv4 or IPv6 address expressed in dotted decimal notation.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ingress-statistics

Syntax

ingress-statistics color [*0..4294967295*] **end-point** *ip-address* | *ipv6-address* [**interval** *seconds*] [**repeat** *repeat*]

Context

[Tree] (monitor>router>seg-rt>sr-policies ingress-statistics)

Full Context

monitor router segment-routing sr-policies ingress-statistics

Description

This command monitors SR policy ingress statistics.

Parameters

ip-address* | *ipv6-address

Displays the IPv4 or IPv6 address expressed in dotted decimal notation.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

seconds

Configures the interval for each display in seconds.

Values 3 to 60

repeat

Configures how many times the command is repeated.

Values 1 to 999

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.29 ingress-stats-template

ingress-stats-template

Syntax

ingress-stats-template [**type** {**p2p** | **p2mp**}] [SessionNameString] [**sender** *ip-address*] [**detail**]

Context

[Tree] (show>router>mpls ingress-stats-template)

Full Context

show router mpls ingress-stats-template

Description

This command displays ingress statistics template details.

Parameters

SessionNameString

Displays the session name, up to 64 characters.

ip-address

Displays the sender IP address.

detail

Displays the number of static LSPs that terminate at the router.

Platforms

All

Output

The following output is an example of MPLS ingress statistics template information

Table 204: Output fields: ingress statistics template describes MPLS Ingress Statistics Template output fields.

Output Example

```
*A:cses-V23# show router mpls ingress-stats-template
===============================================================================
MPLS LSP Template Ingress Stats
===============================================================================
Session Name                          Type      Sender         Session Count
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 204: Output fields: ingress statistics template

Label	Description
Session Name	Specifies the session name.
Type	p2p – Specifies that p2p is the ingress stats template type p2mp – Specifies that p2mp is the ingress stats template type
Sender	Specifies the sender IP address.
Session Count	Specifies the session count.
No Matching Entries Found	Specifies the number of matching entries.

12.30 inside

inside

Syntax

inside routes

Context

[Tree] (show>router>nat inside)

Full Context

show router nat inside

Description

This command displays information about inside NAT routes.

Platforms

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

Output

The following output is an example of a NAT inside routes. Table 205: Output fields: NAT inside routes describes NAT the output fields.

Output Example

```
*A:Dut-C# /show router 101 nat inside routes
===============================================================================
NAT Inside Routes
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Router         Route Address                              Prefix
               NAT Policy                                 Type
-------------------------------------------------------------------------------
vprn101        200.0.0.0                                  16
                                                          static
vprn101        200.1.0.0                                  16
               n44Pool2-1                                 static
vprn101        210.0.1.0                                  24
               n44Pool1-1                                 dynamic
vprn101        210.1.1.0                                  24
               n44Pool2-1                                 dynamic
vprn101        210.6.1.0                                  24
               n44Pool7-1                                 dynamic
vprn101        210.7.1.0                                  24
               n44Pool8-1                                 dynamic
-------------------------------------------------------------------------------
No. of routes: 6
===============================================================================
```

Table 205: Output fields: NAT inside routes

Label	Description
Router	The router name
Route Address	The route address
NAT Policy	The NAT policy name
Prefix	The router prefix
Type	The router type; dynamic or static

12.31 instance

instance

Syntax

instance

instance interface *interface-name* [**vrid** *virtual-router-id*]

instance interface *interface-name* **vrid** *virtual-router-id* **ipv6**

Context

[Tree] (show>router>vrrp instance)

Full Context

show router vrrp instance

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information for VRRP instances.

If no command line options are specified, summary information for all VRRP instances displays.

Parameters

interface-name

Displays detailed information for the VRRP instances on the specified IP interface including status and statistics.

Default Summary information for all VRRP instances.

virtual-router-id

Displays detailed information for the specified VRRP instance on the IP interface.

Default All VRIDs for the IP interface.

Values 1 to 255

ipv6

Specifies the IPv6 instance.

Platforms

All

Output

The following output is an example of VRRP instance information for the 7450 ESS, and Table 206: Output fields: VRRP instance interface describes the fields.

Output Example

```
*A:Dut-B# show router vrrp instance interface "base-1-1" vrid 1

===============================================================================
VRRP Instance 1 for interface "base-1-1"
===============================================================================
Owner               : No                  VRRP State        : Master
Primary IP of Master: 50.1.0.1 (Self)
Primary IP          : 50.1.0.1            Standby-Forwarding: Disabled
VRRP Backup Addr    : 50.1.0.10
Admin State         : Up                  Oper State        : Up
Up Time             : 02/03/2022 20:37:28 Virt MAC Addr     : 00:00:5e:00:01:01
Auth Type           : None
Config Mesg Intvl   : 5                   In-Use Mesg Intvl : 5
Master Inherit Intvl: No
Base Priority       : 130                 In-Use Priority   : 130
Policy ID           : n/a                 Preempt Mode      : Yes
Ping Reply          : Yes                 Telnet Reply      : No
Ntp Reply           : No
SSH Reply           : No                  Traceroute Reply  : No
Init Delay          : 0                   Init Timer Expires: 0.000 sec
Creation State      : Active
OperGroup           : op-ipv4-1
-------------------------------------------------------------------------------
BFD Interface
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service ID          : None
Service Name        : 100
Interface Name      : bfd-1-1
Src IP              :
Dst IP              : 120.1.1.2
Session Oper State  : notConfigured

-------------------------------------------------------------------------------
Master Information
-------------------------------------------------------------------------------
Primary IP of Master: 50.1.0.1 (Self)
Addr List Mismatch  : No                  Master Priority   : 130
Master Since        : 02/03/2022 20:37:43

-------------------------------------------------------------------------------
Masters Seen (Last 32)
-------------------------------------------------------------------------------
Primary IP of Master   Last Seen             Addr List Mismatch     Msg Count
-------------------------------------------------------------------------------
50.1.0.1               02/03/2022 20:37:43   No                            0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Become Master       : 1                   Master Changes    : 1
Adv Sent            : 154                 Adv Received      : 0
Pri Zero Pkts Sent  : 0                   Pri Zero Pkts Rcvd: 0
Preempt Events      : 0                   Preempted Events  : 0
Mesg Intvl Discards : 0                   Mesg Intvl Errors : 0
Addr List Discards  : 0                   Addr List Errors  : 0
Auth Type Mismatch  : 0                   Auth Failures     : 0
Invalid Auth Type   : 0                   Invalid Pkt Type  : 0
IP TTL Errors       : 0                   Pkt Length Errors : 0
Total Discards      : 0

===============================================================================
*A:Dut-B# show router vrrp instance interface "base-1-1" vrid 2

===============================================================================
VRRP Instance 2 for interface "base-1-1"
===============================================================================
Owner               : No                  VRRP State        : Master
Primary IP of Master: 50.1.0.1 (Self)
Primary IP          : 50.1.0.1            Standby-Forwarding: Disabled
VRRP Backup Addr    : 50.1.1.10
Admin State         : Up                  Oper State        : Up
Up Time             : 02/03/2022 20:37:28 Virt MAC Addr     : 00:00:5e:00:01:02
Auth Type           : None
Config Mesg Intvl   : 5                   In-Use Mesg Intvl : 5
Master Inherit Intvl: No
Base Priority       : 130                 In-Use Priority   : 130
Policy ID           : n/a                 Preempt Mode      : Yes
Ping Reply          : Yes                 Telnet Reply      : No
Ntp Reply           : No
SSH Reply           : No                  Traceroute Reply  : No
Init Delay          : 0                   Init Timer Expires: 0.000 sec
Creation State      : Active
Monitor OperGroup   : op-ipv4-1
-------------------------------------------------------------------------------
BFD Interface
-------------------------------------------------------------------------------
Service ID          : None
Service Name        : 100
Interface Name      : bfd-1-1
Src IP              :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dst IP              : 120.1.1.2
Session Oper State  : notConfigured

-------------------------------------------------------------------------------
Master Information
-------------------------------------------------------------------------------
Primary IP of Master: 50.1.0.1 (Self)
Addr List Mismatch  : No                  Master Priority   : 130
Master Since        : 02/03/2022 20:37:47

-------------------------------------------------------------------------------
Masters Seen (Last 32)
-------------------------------------------------------------------------------
Primary IP of Master   Last Seen             Addr List Mismatch     Msg Count
-------------------------------------------------------------------------------
50.1.0.1               02/03/2022 20:37:47   No                            0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Become Master       : 1                   Master Changes    : 1
Adv Sent            : 0                   Adv Received      : 0
Pri Zero Pkts Sent  : 0                   Pri Zero Pkts Rcvd: 0
Preempt Events      : 0                   Preempted Events  : 0
Mesg Intvl Discards : 0                   Mesg Intvl Errors : 0
Addr List Discards  : 0                   Addr List Errors  : 0
Auth Type Mismatch  : 0                   Auth Failures     : 0
Invalid Auth Type   : 0                   Invalid Pkt Type  : 0
IP TTL Errors       : 0                   Pkt Length Errors : 0
Total Discards      : 0

===============================================================================
*A:Dut-B#
*A:Dut-B# show service oper-group "op-ipv4-1" detail

===============================================================================
Service Oper Group Information
===============================================================================
Oper Group       : op-ipv4-1
Creation Origin  : manual                          Oper Status: up
Hold DownTime    : 0 secs                          Hold UpTime: 4 secs
Members          : 1                               Monitoring : 3
===============================================================================

===============================================================================
Member VRRP instance for OperGroup: op-ipv4-1
===============================================================================
ID        Service        Interface                       Admin     Oper
-------------------------------------------------------------------------------
1         0              base-1-1                        up        master
-------------------------------------------------------------------------------
VRRP instance Entries found: 1
===============================================================================

===============================================================================
Monitoring VRRP instance for OperGroup: op-ipv4-1
===============================================================================
ID        Service        Interface                       Admin     Oper
-------------------------------------------------------------------------------
2         0              base-1-1                        up        master
3         0              base-1-1                        up        master
4         0              base-1-1                        up        master
-------------------------------------------------------------------------------
VRRP instance Entries found: 3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-B#
```

The following output is an example of VRRP instance information for the 7750 SR and 7950 XRS, and Table 206: Output fields: VRRP instance interface describes the fields.

Output Example

```
*A:ALA-A# show router vrrp instance interface n2 vrid 1 ipv6
===============================================================================
VRRP Instance 1 for interface "n2"
===============================================================================
No Matching Entries
===============================================================================
*A:ALA-A#


*A:ALA-A# show router vrrp instance interface n2 vrid 10 ipv6
===============================================================================
VRRP Instance 10 for interface "n2"
===============================================================================
Owner               : No                  VRRP State        : Master
Primary IP of Master: FE80::1 (Self)
Primary IP          : FE80::1
                                          Standby-Forwarding: Disabled
VRRP Backup Addr    : 5::10
                    : FE80::10
Admin State         : Up                  Oper State        : Up
Up Time             : 09/23/2004 06:55:12 Virt MAC Addr     : 00:00:5e:00:02:0a
Config Mesg Intvl   : 1.0                 In-Use Mesg Intvl : 1.0
Master Inherit Intvl: Yes
Base Priority       : 100                 In-Use Priority   : 100
Policy ID           : n/a                 Preempt Mode      : Yes
Ping Reply          : No                  Telnet Reply      : No
                                          Traceroute Reply  : No
Init Delay          : 0                   Init Timer Expires: 0.000 sec
Creation State      : Active
-------------------------------------------------------------------------------
Master Information
-------------------------------------------------------------------------------
Primary IP of Master: FE80::1 (Self)
Addr List Mismatch  : No                  Master Priority   : 100
Master Since        : 09/23/2004 06:55:16
===============================================================================
Masters Seen (Last 32)
===============================================================================
Primary IP of Master
                      Last Seen             Addr List Mismatch     Msg Count
-------------------------------------------------------------------------------
FE80::1
                      09/23/2004 06:55:16   No                            0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Master Transitions  : 1                   Discontinuity Time: 09/09/2004 01:57*
Adv Sent            : 23                  Adv Received      : 0
Pri Zero Pkts Sent  : 0                   Pri Zero Pkts Rcvd: 0
Preempt Events      : 0                   Preempted Events  : 0
Mesg Intvl Discards : 0                   Mesg Intvl Errors : 0
Total Discards      : 0                   Addr List Errors  : 0
Auth Failures       : 0                   Invalid Pkt Type  : 0
IP TTL Errors       : 0                   Pkt Length Errors : 0
===============================================================================
* indicates that the corresponding row element may have been truncated.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 206: Output fields: VRRP instance interface

Label	Description
Interface name	The name of the IP interface
VR ID	The virtual router ID for the IP interface
Own Owner	Yes — specifies that the virtual router instance as owning the virtual router IP addresses
	No — indicates that the virtual router instance is operating as a non-owner
Adm	Up — indicates that the administrative state of the VRRP instance is up
	Down — indicates that the administrative state of the VRRP instance is down
Opr	Up — indicates that the operational state of the VRRP instance is up
	Down — indicates that the operational state of the VRRP instance is down
State	• When owner, **backup** defines the IP addresses that are advertised within VRRP advertisement messages • When non-owner, **backup** actually creates an IP interface IP address used for routing IP packets and communicating with the system when the access commands are defined (**ntp-reply**, **ping-reply**, **telnet-reply**, and **ssh-reply**)
Pol Id	The value that uniquely identifies a priority control policy
Base Priority	The *base-priority* value used to derive the in-use priority of the virtual router instance as modified by any optional VRRP priority control policy
InUse Priority	The current in-use priority associated with the VRRP virtual router instance
Msg Int	The administrative advertisement message timer used by the master virtual router instance to send VRRP advertisement messages and to derive the master down timer as backup
Inh Int	Yes — when the VRRP instance is a non-owner and is operating as a backup and the **master-int-inherit** command is enabled, the master down timer is indirectly derived from the value in the advertisement interval field of the VRRP message received from the current master

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	No — when the VRRP instance is operating as a backup and the **master-int-inherit** command is *not* enabled, the configured advertisement interval is matched against the value in the advertisement interval field of the VRRP message received from the current master; if the two values do not match then the VRRP advertisement is discarded; if the VRRP instance is operating as a master, this value has no effect
Backup Addr	The backup virtual router IP address
BFD	Indicates BFD is enabled
VRRP State	Specifies whether the VRRP instance is operating in a master or backup state
Policy ID	The VRRP priority control policy associated with the VRRP virtual router instance A value of 0 indicates that no control policy is associated with the virtual router instance
Preempt Mode	Yes — the preempt mode is enabled on the virtual router instance where it will preempt a VRRP master with a lower priority
	No — the preempt mode is disabled and prevents the non-owner virtual router instance from preempting another, less desirable virtual router
Ping Reply	Yes — a non-owner master is enabled to reply to ICMP Echo requests directed to the virtual router instance IP addresses Ping Reply is valid only if the VRRP virtual router instance associated with this entry is a non-owner A non-owner backup virtual router never responds to such ICMP echo requests irrespective if Ping Reply is enabled
	No — ICMP echo requests to the virtual router instance IP addresses are discarded
Telnet Reply	Yes — non-owner masters can to reply to TCP port 23 Telnet requests directed at the virtual router instances IP addresses
	No — telnet requests to the virtual router instance IP addresses are discarded
SSH Reply	Yes — non-owner masters can to reply to SSH requests directed at the virtual router instances IP addresses
	No — all SSH request messages destined to the non-owner virtual router instance IP addresses are discarded

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Primary IP of Master	The IP address of the VRRP master
Primary IP	The IP address of the VRRP owner
Up Time	The date and time when the operational state of the event last changed
Virt MAC Addr	The virtual MAC address used in ARP responses when the VRRP virtual router instance is operating as a master
Auth Type	Specifies the VRRP authentication Type 0 (no authentication), Type 1 (simple password), or Type 2 (MD5) for the virtual router
Addr List Mismatch	Specifies whether a trap was generated when the IP address list received in the advertisement messages received from the current master did not match the configured IP address list This is an edge triggered notification; a second trap will not be generated for a packet from the same master until this event has been cleared
Master Priority	The priority of the virtual router instance which is the current master
Master Since	The date and time when operational state of the virtual router changed to master For a backup virtual router, this value specifies the date and time when it received the first VRRP advertisement message from the virtual router which is the current master
OperGroup	The operational group name associated with the VRRP interface, if configured
Monitor OperGroup	The monitor operational group associated with the VRRP

instance

Syntax

instance [**ipv4** | **ipv6**]

Context

[Tree] (clear>router>ldp instance)

Full Context

clear router ldp instance

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command resets the LDP instance.

Platforms

All

instance

Syntax

instance

Context

[Tree] (tools>dump>router>ldp instance)

Full Context

tools dump router ldp instance

Description

This command dumps information for the LDP instance.

Platforms

All

instance

Syntax

instance interface *interface-name* **vr-id** *virtual-router-id* [**ipv6**] [**interval** *seconds*] [**repeat** *repeat*] [{ **absolute** | **rate**}]

Context

[Tree] (monitor>router>vrrp instance)

Full Context

monitor router vrrp instance

Description

Monitor statistics for a VRRP instance.

Parameters

interface-name

Specifies the name of the existing IP interface on which VRRP is configured.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

virtual-router-id

Specifies the virtual router ID for the existing IP interface, expressed as a decimal integer.

ipv6

Monitors IPv6 instances.

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 5 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

When the **absolute** keyword is specified, the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

When the **rate** keyword is specified, the rate-per-second for each statistic is displayed instead of the delta.

Platforms

All

Output

The following output is an example of VRRP instance information.

Output Example

```
*A:ALA-A# monitor router vrrp instance interface n2 vr-id 1
===============================================================================
Monitor statistics for VRRP Instance 1 on interface "n2"
===============================================================================
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Become Master       : 1                  Master Changes    : 1
Adv Sent            : 1439               Adv Received      : 0
Pri Zero Pkts Sent  : 0                  Pri Zero Pkts Rcvd: 0
Preempt Events      : 0                  Preempted Events  : 0
Mesg Intvl Discards : 0                  Mesg Intvl Errors : 0
Addr List Discards  : 0                  Addr List Errors  : 0
Auth Type Mismatch  : 0                  Auth Failures     : 0
Invalid Auth Type   : 0                  Invalid Pkt Type  : 0
IP TTL Errors       : 0                  Pkt Length Errors : 0
Total Discards      : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following output is an example of VRRP instance information for the 7750 SR and 7950 XRS.

Output Example

```
*A:ALA-A# monitor router vrrp instance interface n2 vr-id 10 ipv6
===============================================================================
Monitor statistics for VRRP Instance 10 on interface "n2"
===============================================================================
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Master Transitions  : 1                  Discontinuity Time: 09/09/2004 01:57*
Adv Sent            : 1365               Adv Received      : 0
Pri Zero Pkts Sent  : 0                  Pri Zero Pkts Rcvd: 0
Preempt Events      : 0                  Preempted Events  : 0
Mesg Intvl Discards : 0                  Mesg Intvl Errors : 0
Total Discards      : 0                  Addr List Errors  : 0
Auth Failures       : 0                  Invalid Pkt Type  : 0
IP TTL Errors       : 0                  Pkt Length Errors : 0
===============================================================================
```

12.32 inter-as-label

inter-as-label

Syntax

inter-as-label [**next-hop** *ip-address* | **backup-next-hop** *ip-address*] [**received-label** *received-label*]

Context

[Tree] (show>router>bgp inter-as-label)

Full Context

show router bgp inter-as-label

Description

This command displays BGP inter-AS label information.

Parameters

ip-address

Displays information for the specified IP address.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

received-label

Displays information for the received label.

Values 0 to 429496729

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

12.33 inter-chassis

inter-chassis

Syntax

inter-chassis

Context

[Tree] (tools>perform>system inter-chassis)

Full Context

tools perform system inter-chassis

Description

Commands in this context provide inter-chassis tools.

Platforms

7950 XRS

12.34 interface

interface

Syntax

interface *subscriber-interface* [**id** *srrp-id*]

Context

[Tree] (clear>router>srrp interface)

Full Context

clear router srrp interface

Description

This command clears and resets SRRP interface instances.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

subscriber-interface

Specifies an existing subscriber interface name up to 32 characters.

srrp-id

Specifies an existing SRRP ID.

Values 1 to 4294967295

Platforms

All

interface

Syntax

interface [{[*ip-address* | *ip-int-name*] [**interface-type**] [**detail**] [**family**]} **summary**]

Context

[Tree] (show>service>id interface)

Full Context

show service id interface

Description

This command displays information for the IP interfaces associated with the service.

If no optional parameters are specified, a summary of all IP interfaces associated to the service are displayed.

Parameters

ip-address

Specifies the IP address of the interface for which to display information.

Values 1.0.0.0 — 223.255.255.255

ip-int-name

Specifies the IP interface name for which to display information, 32 characters.

family

Specifies the family to display.

Values ipv4, ipv6

interface-type

Specifies the interface type.

Values subscriber, group, redundant

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

detail

Displays detailed IP interface information.

Default IP interface summary output

summary

Displays a summary.

Platforms

All

Output

The following output is an example of IP interface information, and Table 207: Output fields: service ID interface describes the output fields.

Output Example

```
A:cses-V96# /show service id 1 interface
  - interface [{[<ip-address|ip-int-name>] [interface-type] [detail]
    [family]} | summary]
 <ip-int-name|ip-ad*> : ip-int-name    - 32 chars max
                        ipv4-address   - a.b.c.d
                        ipv6-address   - x:x:x:x:x:x:x:x   (eight 16-bit
                                         pieces)
                                         x:x:x:x:x:x:d.d.d.d
                                         x - [0..FFFF]H
                                         d - [0..255]D
 <detail>             : keyword - adds details to the display
 <family>             : ipv4|ipv6
 <interface-type>     : subscriber|group|redundant
 <summary>            : keyword - displays summary
```

Output Example

```
*A:ALA-12# show service id 321 interface
===============================================================================
Interface Table
===============================================================================
Interface-Name                   Type IP-Address         Adm    Opr  Type
-------------------------------------------------------------------------------
test                             Pri  10.11.1.1/24       Up     Up   IES
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:ALA-12#


A:ALA-49# show service id 88 interface detail
===============================================================================
Interface Table
===============================================================================
Interface
-------------------------------------------------------------------------------
If Name      : Sector A
Admin State  : Up                               Oper State       : Down
Protocols    : None

IP Addr/mask : Not Assigned
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Details
-------------------------------------------------------------------------------
Description  :
If Index     : 26                              Virt. If Index   : 26
SAP Id       : 7/1/1.2.2
TOS Marking  : Untrusted                       If Type          : IES
SNTP B.Cast  : False                           IES ID           : 88
MAC Address  : Not configured.                 Arp Timeout      : 14400
IP MTU       : 1500                            ICMP Mask Reply  : True
Arp Populate : Disabled
Cflowd       : None

Proxy ARP Details
Proxy ARP    : Enabled                         Local Proxy ARP  : Disabled
Policies     : ProxyARP

DHCP Details
Admin State  : Up                              Lease Populate   : 0
Action       : Keep                            Trusted          : Disabled
ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name      : test
Admin State  : Up                              Oper State       : Down
Protocols    : None
IP Addr/mask : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description  :
If Index     : 27                              Virt. If Index   : 27
SAP Id       : 10/1/2:0
TOS Marking  : Untrusted                       If Type          : IES
SNTP B.Cast  : False                           IES ID           : 88
MAC Address  : Not configured.                 Arp Timeout      : 14400
IP MTU       : 1500                            ICMP Mask Reply  : True
Arp Populate : Disabled
Cflowd       : None

Proxy ARP Details
Proxy ARP    : Disabled                        Local Proxy ARP  : Disabled

DHCP Details
Admin State  : Up                              Lease Populate   : 0
Action       : Keep                            Trusted          : Disabled

ICMP Details
Redirects    : Number - 100                    Time (seconds)   - 10
Unreachables : Number - 100                    Time (seconds)   - 10
TTL Expired  : Number - 100                    Time (seconds)   - 10
-------------------------------------------------------------------------------
Interfaces : 2
===============================================================================
A:ALA-49#


*A:SetupCLI# show service id 3 interface "ab" detail
===============================================================================
Interface Table
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name      : ab
Admin State  : Up                                Oper (v4/v6)     : Down/--
Protocols    : None

IP Addr/mask : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description  : (Not Specified)
If Index     : 2                                 Virt. If Index   : 2
Last Oper Chg: 10/08/2009 07:07:58               Global If Index  : 329
SDP Id       : spoke-2000:1

Spoke-SDP Details
Admin State  : Up                                Oper State       : Down
Hash Label   : Enabled
Flags              : SvcAdminDown SdpOperDown
                     NoIngVCLabel NoEgrVCLabel

TOS Marking  : Trusted                           If Type          : VPRN
SNTP B.Cast  : False
MAC Address  : 76:6d:ff:00:00:00                 Arp Timeout      : 14400
IP Oper MTU  : 0                                 ICMP Mask Reply  : True
Arp Populate : Disabled                          Host Conn Verify : Disabled
Cflowd       : None
LdpSyncTimer : None
LSR Load Bal*: system
uRPF Chk     : disabled
uRPF Fail By*: 0                                 uRPF Chk Fail Pk*: 0

Proxy ARP Details
Rem Proxy ARP: Disabled                          Local Proxy ARP  : Disabled
Policies     : none

Proxy Neighbor Discovery Details
Local Pxy ND : Disabled
Policies     : none

DHCP no local server

DHCP Details
Description  : (Not Specified)
Admin State  : Down                              Lease Populate   : 0
Gi-Addr      : Not configured                    Gi-Addr as Src Ip: Disabled
Action       : Keep                              Trusted          : Disabled

DHCP Proxy Details
Admin State  : Down
Lease Time   : N/A
Emul. Server : Not configured

Subscriber Authentication Details
Auth Policy  : None

DHCP6 Relay Details
Description  : (Not Specified)
Admin State  : Down                              Lease Populate   : 0
Oper State   : Down                              Nbr Resolution   : Disabled
If-Id Option : None                              Remote Id        : Disabled
Src Addr     : Not configured
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
DHCP6 Server Details
Admin State  : Down                             Max. Lease States: 8000

ICMP Details
Redirects    : Number - 100                     Time (seconds)   - 10
Unreachables : Number - 100                     Time (seconds)   - 10
TTL Expired  : Number - 100                     Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr*: Not configured
Peer Pri DNS*: Not configured
Peer Sec DNS*: Not configured

Routed VPLS Details
VPLS Name    :                                  Binding Status   : Up
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:SetupCLIp#
```

```
#  show service id 1000 interface "group-int-1-1" detail
===============================================================================
Interface Table
===============================================================================
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name          : group-int-1-1
Sub If Name      : sub-int-1
Red If Name      :
Admin State      : Up                   Oper (v4/v6)      : Up/Up
Protocols        : None
Ignore Port State: None
Ping Template    : N/A
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description      : This is a group interface
If Index         : 16                   Virt. If Index    : 16
Last Oper Chg    : 12/17/2020 12:32:13  Global If Index   : 265
Mon Oper Grp     : None
Srrp En Rtng     : Disabled             Hold time         : N/A
MACSec           : N/A
Group Port       : 1/1/4
TOS Marking      : Untrusted            If Type           : IES Grp
SNTP B.Cast      : False                IES ID            : 1000
MAC Address      : 06:0c:01:01:00:04    Mac Accounting    : Disabled
Ingress stats    : Enabled              IPv6 DAD          : Enabled
TCP MSS V4       : 0                    TCP MSS V6        : 0
ARP Timeout      : 14400s               IPv6 Nbr ReachTime: 30s
ARP Retry Timer  : 5000ms
ARP Limit        : Disabled             IPv6 Nbr Limit    : Disabled
ARP Threshold    : Disabled             IPv6 Nbr Threshold: Disabled
ARP Limit Log On*: Disabled             IPv6 Nbr Log Only : Disabled
IP MTU           : (default)
IP Oper MTU      : 1500
Ignore DF Bit    : Disabled
ARP Populate     : Enabled              Host Conn Verify  : Disabled
SHCV pol         : None
SHCV pol IPv4    : None
SHCV pol IPv6    : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Cflowd (unicast) : None                 Cflowd (multicast): None
LdpSyncTimer     : None
LSR Load Balance : system
EGR Load Balance : both
Vas If Type      : none
TEID Load Balance: Disabled
SPI Load Balance : Disabled
uRPF Chk         : disabled
uRPF Ipv6 Chk    : disabled
uRPF Select VPRN : False
PTP HW Assist    : Disabled
Rx Pkts          : 3                    Rx Bytes          : 817
Rx V4 Pkts       : 2                    Rx V4 Bytes       : 608
Rx V4 Help. Pkts : 0                    Rx V4 Help. Bytes : 0
Rx V6 Pkts       : 1                    Rx V6 Bytes       : 209
Tx Pkts          : 0                    Tx Bytes          : 0
Tx V4 Pkts       : 0                    Tx V4 Bytes       : 0
Tx V4 Discard Pk*: 0                    Tx V4 Discard Byt*: 0
Tx V6 Pkts       : 0                    Tx V6 Bytes       : 0
Tx V6 Discard Pk*: 0                    Tx V6 Discard Byt*: 0
Tx DBcast Dis. P*: 0                    Tx DBcast Dis. By*: 0
Mpls Rx Pkts     : 0                    Mpls Rx Bytes     : 0
Mpls Tx Pkts     : 0                    Mpls Tx Bytes     : 0
GRE Termination  : Disabled
Inter-AS selective ILM untrusted      : Disabled
Untrusted default forwarding          : forward
OperDCpuProtPlcy : N/A
IP-Helper Address: Disabled
Static Delay     : <none>
Proxy ARP Details
Rem Proxy ARP    : Disabled             Local Proxy ARP   : Enabled
Policies         : none
Proxy Neighbor Discovery Details
Local Pxy ND     : Disabled
Policies         : none
DHCP no local server
DHCP Details
Description  : (Not Specified)
Filter-Id        : None
Admin State      : Up                   Lease Populate    : 1
Servers          : 192.0.2.3
Gi-Addr          : 10.250.13.254        Gi-Addr as Src Ip : Enabled
* = inferred gi-address from interface IP address
Action           : Keep                 Trusted           : Enabled
Match CircId     : Disabled             MAC from L2 Hdr   : Disabled
Fixed L2 MAC     : N/A
User-DB          : N/A
Client Appls     : DHCP
Python policy    : N/A
DHCP Proxy Details
Admin State      : Up
Lease Time       : 0d 00:15:00          Radius Override   : False
Emul. Server     : Not configured
DHCP Relay Proxy Details
Relay ucast      : none
Siaddr ovr       : N/A
DHCP Offer Selection Details
Discover Delay   : N/A
Client MAC       : N/A
Discover Delay  : N/A
Subscriber Authentication Details
Auth Policy      : None
Diam app plcy    : None
DHCP6 Details
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
User Db          : ludb-1
If-Id Option     : AsciiTuple           Remote Id         : Disabled
PD Mngd Route    : Enabled              PD Mngd Route NH  : ipv6
Override SLAAC   : Disabled
Filter-id        : No
User-ident       : mac
Python policy    :
DHCP6 Snooping Details
Admin State      : Down
DHCP6 Proxy Details
Admin State      : Down
Renew Timer      : 0d 00:30:00          Rebind Timer      : 0d 00:48:00
Valid LT         : 1d 00:00:00          Pref LT           : 0d 01:00:00
Applications     : DHCP6
Server Id        : duid-ll
DHCP6 Relay Details
Description      : (Not Specified)
Admin State      : Up                   Applications      : DHCP6
Oper State       : Up
Link Address     : Not configured
Servers          : 2001:db8::3
Source Address   : Not configured
DHCP6 Relay Advertise Selection Details
Solicit Delay    : N/A                  Preference        : N/A
Client MAC       : N/A
Solicit Delay   : N/A                 Preference        : N/A
DHCP6 Lease Split Details
Admin State      : Up
Valid LT         : 0d 00:15:00
IPv6 Bridging Details
IPoE Bridging    : Disabled
IPoE Linking Details
Admin State      : Down
Share CircId     : Disabled
Grat Rtr-Adv     : Disabled
ARP host
Admin State      : outOfService         Min Auth Interval : 15 minutes
Host Limit       : 1                    SAP Host Limit    : 1
Data trigger
Admin state      : disabled
ICMP Details
Redirects        : Number - 100         Time (seconds)   - 10
Unreachables     : Number - 100         Time (seconds)   - 10
TTL Expired      : Number - 100         Time (seconds)   - 10
Parameter Problem: Number - 100         Time (seconds)   - 10
ICMP Mask Reply  : True
ICMPv6 Details
Packet Too Big   : Number - 100         Time (seconds)   - 10
Parameter Problem: Number - 100         Time (seconds)   - 10
Redirects        : Number - 100         Time (seconds)   - 10
Time Exceeded    : Number - 100         Time (seconds)   - 10
Unreachables     : Number - 100         Time (seconds)   - 10
IPCP Address Extension Details
Peer IP Addr     : Not configured
Peer Pri DNS Addr: Not configured
Peer Sec DNS Addr: Not configured
IPoE Details
Description      : (Not Specified)
Last Mgmt Chg    : 12/16/2020 13:24:15
Session Limit    : N/A                                SAP Session Limit: 2
IPoE Policy      : ipoe-policy-1                      Admin State      : Up
User-DB          : ludb-1
Min Auth Interval: 60 seconds
Force Auth       : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Stateless red.   : disabled
PPPoE Details
Description  : (Not Specified)
Last Mgmt Chg: 12/16/2020 13:24:11
Session Limit: 1                                SAP Session Limit: 1
PPPoE Policy : default                          Admin State      : Down
User-DB      : N/A
PPP Details
Description  : (Not Specified)
Last Mgmt Chg    : 12/16/2020 13:24:11
Session Limit    : 1
PPP Policy       : default              Admin State       : Down
User-DB          : N/A
===============================================================================
SAP(Summary), Service 1000 Interface group-int-1-1
===============================================================================
PortId                          SvcId      Ing.  Ing.    Egr.  Egr.   Adm  Opr
                                          QoS   Fltr    QoS   Fltr
-------------------------------------------------------------------------------
[1/1/4:2111.51]                 1000       1     none    1     none   Up   Up
-------------------------------------------------------------------------------
Number of SAPs : 1
-------------------------------------------------------------------------------
Number of Managed SAPs : 1, indicated by [<sap-id>]
Flags : (I) = Idle MSAP
-------------------------------------------------------------------------------
===============================================================================
Network Domains Associated
default
-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp  : (none)               Egress Port QGrp  : (none)
Ing FP QGrp Inst : (none)               Egr Port QGrp Inst: (none)
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

The Oper Hash Label and Hash Lbl Sig Cap spoke SDP fields display when signal-capability is enabled and operational state of hash-label in datapath.

```


-------------------------------------------------------------------------
Service Destination Points(SDPs)
-------------------------------------------------------------------------
-------------------------------------------------------------------------
 Sdp Id 1:555  -(10.2.2.2)
-------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id             : 1:555                    Type              : Spoke
Spoke Descr     : (Not Specified)
VC Type            : Ether                    VC Tag            : n/a
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin Path MTU     : 0                          Oper Path MTU     : 1568
Far End            : 10.2.2.2                   Delivery          : MPLS
Tunnel Far End     : n/a                        LSP Types         : RSVP
Hash Label         : Disabled                   Hash Lbl Sig Cap  : Disabled
Oper Hash Label    : Disabled

Admin State        : Up                         Oper State        : Up
Acct. Pol          : None                       Collect Stats     : Disabled
Ingress Label      : 131065                     Egress Label      : 131059
Ingr Mac Fltr-Id   : n/a                        Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id    : n/a                        Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id  : n/a                        Egr IPv6 Fltr-Id  : n/a
Admin ControlWord  : Not Preferred              Oper ControlWord  : False
Admin BW(Kbps)     : 0                          Oper BW(Kbps)     : 0
Last Status Change : 11/25/2010 13:06:14        Signaling         : TLDP
Last Mgmt Change   : 11/24/2010 13:00:48        Force Vlan-Vc     : Disabled
Endpoint           : N/A                        Precedence        : 4
PW Status Sig      : Enabled
Class Fwding State : Down
Flags              : None
Peer Pw Bits       : None
Peer Fault Ip      : None
Peer Vccv CV Bits  : lspPing
Peer Vccv CC Bits  : mplsRouterAlertLabel
Application Profile: None
Standby Sig Slave  : False

……
……
===============================================================================
```

ping-template information can be displayed and extracted using the **detail** parameter and the **match** statement below.

```
show service id 12101 interface "int-PE-2-CE-101" detail | match "Ping Template Values in Use"
 post-lines 29
Ping Template Values in Use
Name             : base-template
Description      : Basic standard template
Dscp             : nc1
Dot1p            : 7
Interval         : 60
Timeout          : 5
Failure Threshold: 4
React Fail Thresh: 3
React Interval   : 1
React Timeout    : 1
React Threshold  : 3
Size             : 56
TTL              : 1
Ping Template Operational Data
Admin State      : Up
Destination      : 172.16.101.2
Current Interval : Interval
Current State    : Success
Ping Template Counters
Fail Counter     : 0
Pass Counter     : 444
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 207: Output fields: service ID interface

Label	Description
Interface-Name	The name used to refer to the interface.
Type	Specifies the interface type.
IP-Address	Specifies the IP address/IP subnet/broadcast address of the interface.
Adm	The desired state of the interface.
Opr	The operating state of the interface.
Interface	
If Name	The name used to refer to the interface.
Admin State	The desired state of the interface.
Oper State	The operating state of the interface.
IP Addr/mask	Specifies the IP address/IP subnet/broadcast address of the interface.
Ignore Port State	Indicates whether or not the **tools perform service id** *service-id* **interface** *ip-int-name* **ignore-sap port-state** command has been executed for a service interface directly connected to a SAP: none — The command has not been executed for or accepted by the interface. active — The command has been executed and accepted, and the port state check is currently being bypassed for the interface. pending — The command has been executed and accepted, but the port state for the interface is already operational.
Details	
If Index	The index corresponding to this interface. The primary index is 1. For example, all interfaces are defined in the Base virtual router context.
If Type	Specifies the interface type.
Port Id	Specifies the SAP’s port ID.
SNTP B.Cast	Specifies whether SNTP broadcast client mode is enabled or disabled.
Arp Timeout	Specifies the timeout for an ARP entry learned on the interface.
MAC Address	Specifies the 48-bit IEEE 802.3 MAC address.
ICMP Mask Reply	Specifies whether ICMP mask reply is enabled or disabled.
Cflowd	Specifies whether cflowd collection and analysis on the interface is enabled or disabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
ICMP Details	
Redirects	Specifies the rate for ICMP redirect messages.
Unreachables	Specifies the rate for ICMP unreachable messages.
TTL Expired	Specifies the rate for ICMP TTL messages.
Admin State (DHCP6 Lease Split)	DHCPv6 lease split admin state (subscriber and group interfaces only)
Valid LT	DHCPv6 lease split valid lifetime (subscriber and group interfaces only)

interface

Syntax

interface [*ip-int-name* | *ip-address*] [**group**] [*grp-ip-address*] [**detail**]

Context

[Tree] (show>router>igmp interface)

Full Context

show router igmp interface

Description

This command displays IGMP interface information.

Parameters

ip-int-name

Displays information associated with the specified IP interface name.

ip-address

Displays information associated with the specified IP address.

group *grp-ip-address*

Displays IP multicast group address information for the specified group IP address.

detail

Displays detailed IP interface information along with the source group information learned on that interface.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of IGMP interface information. Table 208: Output fields: IGMP interface provides IGMP field descriptions.

Output Example

```
*A:ALA-BA# show router 100 interface
===============================================================================
Interface Table (Service: 100)
===============================================================================
Interface-Name                   Adm         Opr(v4/v6)  Mode    Port/SapId
   IP-Address                                                    PfxState
-------------------------------------------------------------------------------
IGMP_to_CE                       Up          Up          VPRN    1/1/7
   10.1.1.1/24                                                   n/a
system                           Up          Up          VPRN    loopback
   10.20.1.2/32                                                  n/a
-------------------------------------------------------------------------------
Interfaces : 2
===============================================================================
*A:ALA-BA#

*A:ALA-BA# show router 100 interface IGMP_to_CE
===============================================================================
Interface Table (Service: 100)
===============================================================================
Interface-Name                   Adm         Opr(v4/v6)  Mode    Port/SapId
   IP-Address                                                    PfxState
-------------------------------------------------------------------------------
IGMP_to_CE                       Up          Up          VPRN    1/1/7
   10.1.1.1/24                                                   n/a
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:ALA-BA#

*A:ALA-BA# show router 100 igmp interface
===============================================================================
IGMP Interfaces
===============================================================================
Interface              Adm  Oper Querier         Cfg/Opr Num     Policy
                                                 Version Groups
-------------------------------------------------------------------------------
IGMP_to_CE             Up   Up   10.1.1.1        1/1     3       igmppol
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:ALA-BA#

*A:ALA-BA# show router 100 igmp interface IGMP_to_CE
===============================================================================
IGMP Interface IGMP_to_CE
===============================================================================
Interface              Adm  Oper Querier         Cfg/Opr Num     Policy
                                                 Version Groups
-------------------------------------------------------------------------------
IGMP_to_CE             Up   Up   10.1.1.1        1/1     3       igmppol
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:ALA-BA#

*A:ALA-BA# show router 100 igmp interface 10.1.1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
IGMP Interface 10.1.1.1
===============================================================================
Interface              Adm  Oper Querier         Cfg/Opr Num     Policy
                                                 Version Groups
-------------------------------------------------------------------------------
IGMP_to_CE             Up   Up   10.1.1.1        1/1     3       igmppol
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:ALA-BA#

*A:ALA-BA# show router 100 igmp interface IGMP_to_CE group 239.1.1.1
===============================================================================
IGMP Interface IGMP_to_CE
===============================================================================
Interface              Adm  Oper Querier         Cfg/Opr Num     Policy
                                                 Version Groups
-------------------------------------------------------------------------------
IGMP_to_CE             Up   Up   10.1.1.1        1/1     3       igmppol
-------------------------------------------------------------------------------
IGMP Group
-------------------------------------------------------------------------------
Group Address : 239.1.1.1              Up Time       : 0d 00:03:52
Interface     : IGMP_to_CE             Expires       : never
Last Reporter : 0.0.0.0                Mode          : exclude
V1 Host Timer : Not running            Type          : static
V2 Host Timer : Not running            Compat Mode   : IGMP Version 3
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:ALA-BA#

*A:ALA-BA# show router 100 igmp interface IGMP_to_CE group 239.1.1.1 detail
===============================================================================
IGMP Interface IGMP_to_CE
===============================================================================
Interface          : IGMP_to_CE
Admin Status       : Up                Oper Status        : Up
Querier            : 10.1.1.1          Querier Up Time    : 0d 00:04:01
Querier Expiry Time: N/A               Time for next query: 0d 00:13:42
Admin/Oper version : 1/1               Num Groups         : 3
Policy             : igmppol           Subnet Check       : Disabled
Max Groups Allowed : 16000             Max Groups Till Now: 3
MCAC Policy Name   :                   MCAC Const Adm St  : Enable
MCAC Max Unconst BW: no limit          MCAC Max Mand BW   : no limit
MCAC In use Mand BW: 0                 MCAC Avail Mand BW : unlimited
MCAC In use Opnl BW: 0                 MCAC Avail Opnl BW : unlimited
-------------------------------------------------------------------------------
IGMP Group
-------------------------------------------------------------------------------
Group Address : 239.1.1.1              Up Time       : 0d 00:04:02
Interface     : IGMP_to_CE             Expires       : never
Last Reporter : 0.0.0.0                Mode          : exclude
V1 Host Timer : Not running            Type          : static
V2 Host Timer : Not running            Compat Mode   : IGMP Version 3
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:ALA-BA#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 208: Output fields: IGMP interface

Label	Description
Interface	The interfaces that participate in the IGMP protocol.
Adm Admin Status	The administrative state for the IGMP protocol on this interface.
Oper Oper Status	The current operational state of IGMP protocol on the interface.
Querier	The address of the IGMP querier on the IP subnet to which the interface is attached.
Querier Up Time	The time since the querier was last elected as querier.
Querier Expiry Timer	The time remaining before the querier ages out. If the querier is the local interface address, the value will be zero.
Cfg/Opr Version Admin/Oper version	Cfg — The configured version of IGMP running on this interface. For IGMP to function correctly, all routers on a LAN must be configured to run the same version of IGMP on that LAN. Opr — The operational version of IGMP running on this interface. If the cfg value is 3 but all of the routers in the local subnet of this interface use IGMP version v1 or v2, the operational version will be v1 or v2.
Num Groups	The number of multicast groups which have been learned by the router on the interface.
Policy	The policy that is to be applied on the interface.
Group Address	The IP multicast group address for which this entry contains information.
Up Time	The time since this source group entry got created.
Last Reporter	The IP address of the source of the last membership report received for this IP Multicast group address on this interface. If no membership report has been received, this object has the value 0.0.0.0.
Mode	The mode is based on the type of membership report(s) received on the interface for the group. In the 'include' mode, reception of packets sent to the specified multicast address is requested only from those IP source addresses listed in the source-list parameter of the IGMP membership report. In 'exclude' mode, reception of packets sent to the given multicast address is requested from all IP source addresses except those listed in the source-list parameter.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
V1 Host Timer	The time remaining until the local router will assume that there are no longer any IGMP version 1 members on the IP subnet attached to this interface. Upon hearing any IGMPv1 Membership Report, this value is reset to the group membership timer. While this time remaining is non-zero, the local router ignores any IGMPv2 Leave messages for this group that it receives on this interface.
V2 Host Timer	The time remaining until the local router will assume that there are no longer any IGMP version 2 members on the IP subnet attached to this interface. Upon hearing any IGMPv2 Membership Report, this value is reset to the group membership timer. While this time remaining is non-zero, the local router ignores any IGMPv3 Leave messages for this group that it receives on this interface.
Type	Indicates how this group entry was learned. If this group entry was learned by IGMP, it will be set to "dynamic". For statically configured groups, the value will be set to 'static'.
Compat Mode	Used in order for routers to be compatible with older version routers. IGMPv3 hosts must operate in version 1 and version 2 compatibility modes. IGMPv3 hosts must keep state per local interface regarding the compatibility mode of each attached network. A host's compatibility mode is determined from the Host Compatibility Mode variable which can be in one of three states: IGMPv1, IGMPv2 or IGMPv3. This variable is kept per interface and is dependent on the version of General Queries heard on that interface as well as the Older Version Querier Present timers for the interface.

interface

Syntax

interface

Context

[Tree] (show>service>id>spb interface)

Full Context

show service id spb interface

Description

This command displays SPB interfaces.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of service SPB interface information.

Output Example

```
*A:Dut-A# show service id 100001 spb interface
===============================================================================
ISIS Interfaces
===============================================================================
Interface                       Level CircID  Oper State   L1/L2 Metric
-------------------------------------------------------------------------------
sap:1/1/20:500                  L1    65536   Up           10/-
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
```

interface

Syntax

interface [{*ip-int-name* | *ip-address*}] [**urpf-stats**] [**statistics**] [**hold-time**]

interface [{*ip-int-name* | *ip-address*}] **policy-accounting** [**class**] [**index**]

interface {*ip-int-name* | *ip-address*} **mac** [*ieee-address*]

Context

[Tree] (clear>router interface)

Full Context

clear router interface

Description

This command clears IP interface statistics.

If no IP interface is specified either by IP interface name or IP address, the command will perform the clear operation on all IP interfaces.

Parameters

ip-int-name* | *ip-address

Specifies IP interface name or IP interface address.

Values ip-int-name: 32 chars max

ip-address: a.b.c.d

Default all IP interfaces

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

urpf-stats

Resets the statistics associated with uRPF failures.

statistics

Resets the IP interface traffic statistics.

hold-time

Clears the IP interface activation hold time.

policy-accounting

Clears the accounting statistics.

class

Specifies whether to clear source class counters or destination class counters.

Values source-class, dest-class

index

Specifies the source or destination class index.

Values 1 to 255

ieee-address

Specifies the MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Platforms

All

interface

Syntax

interface *interface-name* [**vrid** *virtual-router-id*]

interface *interface-name* **vrid** *virtual-router-id* **ipv6**

Context

[Tree] (clear>router>vrrp interface)

Full Context

clear router vrrp interface

Description

This command resets VRRP protocol instances on an IP interface.

Parameters

interface-name

Specifies the IP interface to reset the VRRP protocol instances.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

virtual-router-id

Resets the VRRP protocol instance for the specified VRID on the IP interface.

Default All VRIDs on the IP interface.

Values 1 to 255

ipv6

Clears IPv6 information for the specified interface.

Platforms

All

interface

Syntax

interface *ip-int-name*

Context

[Tree] (tools>dump>service>id interface)

[Tree] (tools>perform>service>id interface)

Full Context

tools dump service id interface

tools perform service id interface

Description

This command specifies an IP interface for which service debugging tools are enabled.

Parameters

ip-int-name

Specifies the name of the IP interface, up to 32 characters.

Platforms

All

interface

Syntax

interface [{{[{*ip-address* | *ip-int-name*}] [**detail**] [**family**]} | **summary** | **exclude-services**}]

interface {*ip-address* | *ip-int-name*} **eth-cfm** [**detail**]

interface {*ip-address* | *ip-int-name*} **mac** [*ieee-address*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

interface {*ip-address* | *ip-int-name*} **statistics**

interface {*ip-address* | *ip-int-name*} **dist-cpu-protection** [**detail**]

interface {*ip-address* | *ip-int-name*} **policy-accounting** [**class** [*index*]]

interface description

interface global-if-index *global-if-index* [**family**] [**detail**]

interface global-if-index *global-if-index* **statistics**

Context

[Tree] (show>router interface)

Full Context

show router interface

Description

This command displays the router IP interface table sorted by interface index.

Parameters

ip-address

Displays the interface information associated with the specified IP address.

Values

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	where:
	x: [0 to FFFF]H
	d: [0 to 255]D

ip-int-name

Displays the interface information associated with the specified IP interface name, up to 32 characters.

detail

Keyword to display detailed IP interface information. For **dist-cpu-protection**, **detail** includes the adapted operational rate parameters in the CLI output. The adapted operational rate parameters are only applicable if the policer is instantiated (for example, if the associated forwarding plane is operational, or for an interface if there is a physical port configured for the interface, or if the dynamic policers are allocated), otherwise, values of 0 kb/s, and so on, are displayed and include the adapted operational rate parameters in the CLI output. The adapted operational rate parameters are only applicable if the policer is instantiated (for example, if the associated forwarding plane is operational, or for an interface if there is a physical port configured for the interface, or if the dynamic policers are allocated), otherwise, values of 0 kb/s, and so on, are displayed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

family

Keyword to specify the router IP interface family to display.

Values **ipv4** — Displays only those peers that have the IPv4 family enabled.

ipv6 — Displays the peers that are IPv6-capable.

summary

Keyword to display summary IP interface information for the router.

exclude-services

Keyword to display IP interface information, excluding IP interfaces configured for customer services. Only core network IP interfaces are displayed.

eth-cfm

Keyword to display Ethernet CFM information.

mac

Keyword to display information associated with the MAC address.

ieee-address

Displays the information associated with the specified IEEE address. The address is in the *xx-xx-xx-xx-xx-xx* or *xx:xx:xx:xx:xx:xx* format.

statistics

Keyword to display packet statistics for an interface on the router.



Note:
The **show router interface statistics** command also shows the MPLS statistics that are displayed when using the **show router mpls interface statistics** command. This allows the user to see MPLS statistics from interfaces that are not added to MPLS, such as the network interfaces of a carrier. Output example for an example of the MPLS fields that are displayed. These fields are displayed regardless of the state of MPLS.

dist-cpu-protection

Keyword to display the distributed CPU protection parameters and status at the interface level.

class

Displays whether to display accounting policy statistics for the source or destination class.

Values source-class, dest-class

index

Displays interface information for a specific an integer value for the accounting source or destination class index.

Values 1 to 255

description

Keyword to display all interfaces in all routing contexts.

global-if-index

Displays information for a specific global interface index value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 262144

Platforms

All

Output

Standard IP interface output — The following output is an example of standard IP interface information, and Table 209: Output fields: IP interface describes the fields.

Output example

```
A:node-2# show router Base interface description
===============================================================================
Router Interface Summary
===============================================================================
Port/SAP                        Admin Oper   Description
                                      v4/v6
-------------------------------------------------------------------------------
system                          Up    Up/Dn
1/1/2                           Up    Up/Dn  this is the interface towards dut-d
1/1/3                           Up    Up/Dn
1/1/1                           Up    Up/Dn
1/1/10                          Up    Dn/Dn  interface_ies_1-with a long
                                             description that wraps to multiple
                                             lines.
```

Output example

```
A:node-2# show router 20 interface description
===============================================================================
Router Interface Summary
===============================================================================
Port/SAP                        Admin Oper   Description
                                      v4/v6
-------------------------------------------------------------------------------
1/1/11                          Up    Dn/Dn  This is a very long description
                                             for the interface vprn_1 which
                                             belogns to vprn 1
===============================================================================
```

Output example

```
A:node-2# show router interface "to101port1-1"
===============================================================================
Interface Table (Router: Base)
===============================================================================
Interface-Name                   Adm       Opr(v4/v6)  Mode    Port/SapId
   IP-Address                                                   PfxState
   MACSec       admin    subport     encap     ca
   status
-------------------------------------------------------------------------------
to101port1-1                     Up        Up/Down     Network 1/1/c1/1
   100.101.1.1/24                                               n/a
   Enabled     5         un-tag      ca-5
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:node-2# show router interface
===============================================================================
Interface Table (Router: Base)
===============================================================================
Interface-Name                   Adm       Opr(v4/v6)  Mode    Port/SapId
   IPAddress     MACSec sp                                          PfxState
-------------------------------------------------------------------------------
loop1                            Up        Up/Down     Network loopback
   100.0.1.100/32                na                              n/a
loop2                            Up        Up/Down     Network loopback
   100.0.2.100/32                na                              n/a
system                           Up        Up/Down     Network system
   100.0.0.100/32                na                              n/a
to101port1-1                     Up        Up/Down     Network 1/1/c1/1
   100.101.1.1/24                10                              n/a
-------------------------------------------------------------------------------
Interfaces : 4
```

Output example

```
A:node-2# show router interface 10.10.0.3/32
===============================================================================
Interface Table
===============================================================================
Interface-Name                   Type IP-Address         Adm    Opr  Mode
-------------------------------------------------------------------------------
system                           Pri  10.10.0.3/32       Up     Up   Network
===============================================================================
A:node-2# show router interface exclude-services
===============================================================================
Interface Table
===============================================================================
Interface-Name                   Type IP-Address         Adm    Opr  Mode
-------------------------------------------------------------------------------
system                           Pri  10.10.0.3/32       Up     Up   Network
to-ser1                          Pri  10.10.13.3/24      Up     Up   Network
to-ser4                          Pri  10.10.34.3/24      Up     Up   Network
to-ser5                          Pri  10.10.35.3/24      Up     Up   Network
to-ser6                          n/a  n/a                Up     Down Network
management                       Pri  192.168.2.93/20    Up     Up   Network
===============================================================================
```

Output example

```
A:node-2>config>router# /show router interface "second" policy-accounting

===============================================================================
Accounting Statistics
===============================================================================
If Name            : second
Admin State        : Up                Oper State (v4/v6) : Up/Down
-------------------------------------------------------------------------------
Class              : source-class 1
Rx Fwd Packets     : 0                 Rx Fwd Bytes       : 0
-------------------------------------------------------------------------------
Class              : source-class 10
Rx Fwd Packets     : 0                 Rx Fwd Bytes       : 0
-------------------------------------------------------------------------------
Class              : dest-class 1      Policer            : 1
Rx Fwd Packets     : 0                 Rx Fwd Bytes       : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Class              : dest-class 2       Policer            : 5
Rx Fwd Packets     : 2000               Rx Fwd Bytes       : 356000
-------------------------------------------------------------------------------
Class              : dest-class 10      Policer            : 10
Rx Fwd Packets     : 0                  Rx Fwd Bytes       : 0
===============================================================================
Policer Stats
-------------------------------------------------------------------------------
Policer            : 1
Drop Packets       : 0                  Drop Bytes         : 0
Fwd Packets        : 0                  Fwd Bytes          : 0
-------------------------------------------------------------------------------
Policer            : 2
Drop Packets       : 0                  Drop Bytes         : 0
Fwd Packets        : 0                  Fwd Bytes          : 0
-------------------------------------------------------------------------------
Policer            : 5
Drop Packets       : 1891               Drop Bytes         : 378200
Fwd Packets        : 109                Fwd Bytes          : 21800
-------------------------------------------------------------------------------
Policer            : 10
Drop Packets       : 0                  Drop Bytes         : 0
Fwd Packets        : 0                  Fwd Bytes          : 0
===============================================================================
```

Table 209: Output fields: IP interface

Label	Description
Interface-Name IF Name	The IP interface name
Type	n/a — no IP address has been assigned to the IP interface, so the IP address type is not applicable Pri — the IP address for the IP interface is the primary address on the IP interface Sec — the IP address for the IP interface is a secondary address on the IP interface
IP-Address	The IP address and subnet mask length of the IP interface n/a — indicates no IP address has been assigned to the IP interface
Adm Admin State	Down — the IP interface is administratively disabled Up — the IP interface is administratively enabled
Opr Oper State	Down — the IP interface is operationally disabled Up — the IP interface is operationally disabled
Mode	Network — the IP interface is a network or core IP interface Service — the IP interface is a service IP interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Port/SAP Id	The physical network port or the SAP identifier associated with the IP interface
MACSec	Lists the MACsec settings for the IP interface
Class	The source or destination class index
Policer	The policer ID
Rx Fwd Packets	The number of received forwarded packets
Rx Fwd Bytes	The number of received forwarded bytes
Drop Packets	The number of dropped packets
Drop Bytes	The number of dropped bytes
Fwd Packets	The number of forwarded packets
Fwd Bytes	The number of forwarded bytes

Detailed IP interface output — The following output is an example of detailed IP interface information, and Table 210: Output fields: IP interface detail describes the fields.

Output example

```
A:node-2# show router interface "to101port1-1" detail
===============================================================================
Interface Table (Router: Base)
===============================================================================

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name          : to101port1-1
Admin State      : Up                    Oper (v4/v6)      : Up/Down
Down Reason V6   : ifProtoOperDown
Protocols        : OSPFv2 ISIS LDP
IP Addr/mask     : 100.101.1.1/24        Address Type      : Primary
IGP Inhibit      : Disabled              Broadcast Address : Host-ones
HoldUp-Time      : 0                     Track Srrp Inst   : 0
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description      : (Not Specified)
If Index         : 4                     Virt. If Index    : 4
Last Oper Chg    : 07/23/2018 17:55:49   Global If Index   : 3
Lag Link Map Prof: none
Lag Per Link Hash
Class            : 1                     Weight            : 1
Port Id          : 1/1/c1/1
Macsec: enabled, subport 5, encap-match un-tag, ca ca-5
TOS Marking      : Trusted               If Type           : Network
```

Output example

```
A:node-2>config>router>if# show router interface "to-ASBR-F" detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Interface Table (Router: Base)
===============================================================================
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name          : to-ASBR-F
Admin State      : Up                   Oper (v4/v6)      : Up/Up
Protocols        : ISIS MPLS RSVP LDP
IP Addr/mask     : 10.10.14.2/24        Address Type      : Primary
IGP Inhibit      : Disabled             Broadcast Address : Host-ones
HoldUp-Time      : 0                    Track Srrp Inst   : 0
IPv6 Address     : 3ffe::a0a:e02/120
IPv6 Address Type: Primary
IPv6 Addr State  : PREFERRED
CGA modifier     : (Not Specified)
HoldUp-Time      : 0                    Track Srrp Inst   : 0
Link Lcl Address : fe80::208b:1ff:fe01:8/64
Link Lcl State   : PREFERRED
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description      : (Not Specified)
If Index         : 4                    Virt. If Index    : 4
Last Oper Chg    : 10/15/2018 15:43:04  Global If Index   : 3
Lag Link Map Prof: none
Lag Per Link Hash
Class            : 1                    Weight            : 1
Port Id          : 1/1/8
TOS Marking      : Trusted              If Type           : Network
Egress Filter    : none                 Ingress Filter    : none
Egr IPv6 Flt     : none                 Ingr IPv6 Flt     : none
SNTP B.Cast      : False                Network QoS Policy: 1
MAC Address      : 22:8b:01:01:00:08    Mac Accounting    : Disabled
Ingress stats    : Disabled             IPv6 DAD          : Enabled
TCP MSS V4       : 0                    TCP MSS V6        : 0
ARP Timeout      : 14400s               IPv6 Nbr ReachTime: 30s
ARP Retry Timer  : 5000ms               IPv6 stale time   : 14400s
ARP Limit        : Disabled             IPv6 Nbr Limit    : Disabled
ARP Threshold    : Disabled             IPv6 Nbr Threshold: Disabled
ARP Limit Log On*: Disabled             IPv6 Nbr Log Only : Disabled
ARP Learn Unsoli*: Disabled             ND Learn Unsolici*: None
ARP Proactive Re*: Disabled             ND Proactive Refr*: None
IP MTU           : (default)
IP Oper MTU      : 1500
ARP Populate     : Disabled
Cflowd (unicast) : None                 Cflowd (multicast): None
LdpSyncTimer     : None                 Strip-Label       : Disabled
LSR Load Balance : system
EGR Load Balance : both
Vas If Type      : none
TEID Load Balance: Disabled
SPI Load Balance : Disabled
uRPF Chk         : disabled
uRPF Ipv6 Chk    : disabled
uRPF Select VPRN : False
PTP HW Assist    : Disabled
Rx Pkts          : 996                  Rx Bytes          : 94024
Rx V4 Pkts       : N/A                  Rx V4 Bytes       : N/A
Rx V6 Pkts       : N/A                  Rx V6 Bytes       : N/A
Tx Pkts          : 1583                 Tx Bytes          : 153481
Tx V4 Pkts       : 1161                 Tx V4 Bytes       : 110788
Tx V4 Discard Pk*: 0                    Tx V4 Discard Byt*: 0
Tx V6 Pkts       : 422                  Tx V6 Bytes       : 42693
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Tx V6 Discard Pk*: 0                    Tx V6 Discard Byt*: 0
Tx DBcast Dis. P*: 0                    Tx DBcast Dis. By*: 0
Mpls Rx Pkts     : 249                  Mpls Rx Bytes     : 24301
Mpls Tx Pkts     : 340                  Mpls Tx Bytes     : 32109
GRE Termination  : Disabled
Inter-AS selective ILM untrusted      : Disabled
Untrusted default forwarding          : forward
```

Table 210: Output fields: IP interface detail

Label	Description
If Name	The IP interface name
Admin State	Down — the IP interface is administratively disabled Up — the IP interface is administratively enabled
Oper (v4/v6)	Down — the IP interface is operationally disabled Up — the IP interface is operationally enabled
IP Addr/mask	The IP address and subnet mask length of the IP interface Not Assigned — indicates no IP address has been assigned to the IP interface
IPv6 Addr	The IPv6 address of the interface
If Index	The interface index of the IP router interface
Virt If Index	The virtual interface index of the IP router interface
Last Oper Change	The last change in operational status
Global If Index	The global interface index of the IP router interface
Sap ID	The SAP identifier
TOS Marking	The ToS byte value in the logged packet
If Type	Network — the IP interface is a network or core IP interface Service — the IP interface is a service IP interface
SNTP B.cast	Displays if the **broadcast-client** global parameter is configured
IES ID	The IES identifier
QoS Policy	The QoS policy ID associated with the IP interface
MAC Address	The MAC address of the interface
Arp Timeout	The ARP timeout for the interface, in seconds, which is the time an ARP entry is maintained in the ARP cache without being refreshed

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
ICMP Mask Reply	False — the IP interface does not reply to a received ICMP mask request True — the IP interface does reply to a received ICMP mask request
Arp Populate	Displays whether ARP is enabled or disabled
Host Conn Verify	The host connectivity verification
LdpSyncTimer	The IGP/LDP sync timer value
uRPF Chk	Displays whether unicast RPF (uRPF) Check is enabled on this interface
uRPF Iv6 Chk	Displays whether unicast RPF (uRPF) Check IPv6 is enabled on this interface
PTP HW Assist	Displays whether the PTP Hardware Assist function is enabled on this interface
cflowd	Displays the type of cflowd analysis that is applied to the interface acl — ACL cflowd analysis is applied to the interface interface — interface cflowd analysis is applied to the interface none — no cflowd analysis is applied to the interface
Inter-AS selective ILM untrusted	Displays whether the inter-AS selective ILM untrusted function is enabled on this interface
Untrusted default forwarding	Displays whether the untrusted default forwarding function is enabled on this interface

Detailed IP interface output — The following output is an example of detailed IP interface information showing detailed link delay information, and Table 211: Output fields: IP interface detail output describes the output fields.

Output example

```
A:node-2# show router interface "system" detail

===============================================================================
Interface Table (Router: Base)
===============================================================================

-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name          : system
Admin State      : Up                   Oper (v4/v6)      : Down/Down
Down Reason Code : noIfAddress
Down Reason V4   : noIfAddress
Down Reason V6   : ifProtoOperDown
Protocols        : ISIS
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IP Address       : Not Assigned
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description      : (Not Specified)
If Index         : 1                    Virt. If Index    : 1
Last Oper Chg    : 01/25/2024 10:36:39  Global If Index   : 256
Lag Link Map Prof: none
MACSec           : N/A
Port Id          : system
TOS Marking      : Trusted              If Type           : Network
Egress Filter    : none                 Ingress Filter    : none
Egr IPv6 Flt     : none                 Ingr IPv6 Flt     : none
SNTP B.Cast      : False                Network QoS Policy: 1
MAC Address      : 00:03:fe:00:00:00    Mac Accounting    : Disabled
Ingress stats    : Disabled             IPv6 DAD          : Enabled
ARP Timeout      : 14400s               IPv6 Nbr ReachTime: 30s
ARP Retry Timer  : 5000ms               IPv6 stale time   : 14400s
ARP Limit        : Disabled             IPv6 Nbr Limit    : Disabled
ARP Threshold    : Disabled             IPv6 Nbr Threshold: Disabled
ARP Limit Log On*: Disabled             IPv6 Nbr Log Only : Disabled
ARP Learn Unsoli*: Disabled             ND Learn Unsolici*: None
ARP Proactive Re*: Disabled             ND Proactive Refr*: None
TCP MSS V4       : 0                    TCP MSS V6        : 0
IP MTU           : (default)
IP Oper MTU      : 1500
ARP Populate     : Disabled
Cflowd (unicast) : None                 Cflowd (multicast): None
LdpSyncTimer     : None                 Strip-Label       : Disabled
LSR Load Balance : system
EGR Load Balance : both
Vas If Type      : none
TEID Load Balance: Disabled
SPI Load Balance : Disabled
uRPF Chk         : disabled
uRPF Ipv6 Chk    : disabled
uRPF Select VPRN : False
PTP HW Assist    : Disabled
Rx Pkts          : 0                    Rx Bytes          : 0
Rx V4 Pkts       : N/A                  Rx V4 Bytes       : N/A
Rx V4 Help. Pkts : 0                    Rx V4 Help. Bytes : 0
Rx V6 Pkts       : N/A                  Rx V6 Bytes       : N/A
Tx Pkts          : 0                    Tx Bytes          : 0
Tx V4 Pkts       : 0                    Tx V4 Bytes       : 0
Tx V4 Discard Pk*: 0                    Tx V4 Discard Byt*: 0
Tx V6 Pkts       : 0                    Tx V6 Bytes       : 0
Tx V6 Discard Pk*: 0                    Tx V6 Discard Byt*: 0
Tx DBcast Dis. P*: 0                    Tx DBcast Dis. By*: 0
Mpls Rx Pkts     : 0                    Mpls Rx Bytes     : 0
Mpls Tx Pkts     : 0                    Mpls Tx Bytes     : 0
GRE Termination  : Disabled
Inter-AS selective ILM untrusted     : Disabled
Untrusted default forwarding         : forward
OperDCpuProtPlcy : N/A
IP-Helper Address: Disabled
Ingress destination class lookup     : Disabled

Link Delay Details
Operational Delay: Not specified        Delay selection   : static-preferred
Static Delay     : Not specified        Dynamic Delay     : Not specified
Link Measure Tmpl: Not specified

Proxy ARP Details
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rem Proxy ARP    : Disabled             Local Proxy ARP   : Disabled
Policies         : none

Proxy Neighbor Discovery Details
Local Pxy ND     : Disabled
Policies         : none

ICMP Details
Redirects        : Number - 100         Time (seconds)   - 10
Unreachables     : Number - 100         Time (seconds)   - 10
TTL Expired      : Number - 100         Time (seconds)   - 10
Parameter Problem: Number - 100         Time (seconds)   - 10
ICMP Mask Reply  : True

ICMPv6 Details
Packet Too Big   : Number - 100         Time (seconds)   - 10
Parameter Problem: Number - 100         Time (seconds)   - 10
Redirects        : Number - 100         Time (seconds)   - 10
Time Exceeded    : Number - 100         Time (seconds)   - 10
Unreachables     : Number - 100         Time (seconds)   - 10

IPCP Address Extension Details
Peer IP Addr     : Not configured
Peer Pri DNS Addr: Not configured
Peer Sec DNS Addr: Not configured

Network Domains Associated
default

-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp  : (none)               Egress Port QGrp  : (none)
Ing FP QGrp Inst : (none)               Egr Port QGrp Inst: (none)
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Table 211: Output fields: IP interface detail

Label	Description
If Name	The IP interface name
Admin State	Down — the IP interface is administratively disabled Up — the IP interface is administratively enabled
Oper (v4/v6)	Down — the IP interface is operationally disabled Up — the IP interface is operationally enabled
Down Reason Code	The down reason code

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Down Reason V4	The down reason for IPv4
Down Reason V6	The down reason for IPv6
Protocols	The protocols for the interface
IP Address	The IP address and subnet mask length of the IP interface Not Assigned — indicates no IP address has been assigned to the IP interface
Description	The description for the IP interface
If Index	The interface index of the IP router interface
Virt. If Index	The virtual interface index of the IP router interface
Last Oper Change	The last change in operational status
Global If Index	The global interface index of the IP router interface
Lag Link Map Prof	The LAG link map profile for the IP router interface
MACSec	The MACsec information for the IP router interface
Port Id	The port ID for the IP router interface
TOS Marking	Displays the ToS marking: • Trusted – the ToS field is not remarked by egress network IP interfaces unless the egress network IP interface has the remark-trusted state set, in which case the egress network interface treats all VPRN and network IP interfaces as untrusted • Untrusted – all egress network IP interfaces remark IP packets received on the network interface according to the egress marking definitions on each network interface
If Type	Displays the interface type: • Network – the IP interface is a network or core IP interface • Service – the IP interface is a service IP interface
Egress Filter	The egress filter policy
Ingress Filter	The ingress filter policy
Egr Ipv6 Flt	The egress IPv6 filter policy
Ingr IPv6 Flt	The ingress IPv6 filter policy
SNTP B.Cast	Displays if the **broadcast-client** global parameter is configured: • True – the **broadcast-client** is enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• False – the **broadcast-client** is disabled
Network QoS Policy	The network QoS policy ID
MAC Address	The MAC address of the IP interface
Mac Accounting	The state of MAC accounting: • Enabled – MAC accounting is enabled • Disabled – MAC accounting is disabled
Ingress stats	The state of ingress statistics collection: • Enabled – ingress statistics are being collected • Disabled – ingress statistics are not being collected
IPv6 DAD	The state of IPv6 duplicate address detection (DAD) on the IP interface: • Enabled – IPv6 DAD is enabled • Disabled – IPv6 DAD is disabled
ARP Timeout	The ARP timeout for the interface, which is the time an ARP entry is maintained in the ARP cache without being refreshed
IPv6 Nbr ReachTime	The IPv6 neighbor reachable time
ARP Retry Timer	The ARP retry timer value
IPv6 stale time	The maximum interval in which to confirm if an IPv6 neighbor is reachable
ARP Limit	The state of the ARP limit on the IP interface: • Enabled – the ARP limit is enabled • Disabled – the ARP limit is disabled
IPv6 Nbr Limit	The state of the IPv6 neighbor limit on the IP interface: • Enabled – the IPv6 neighbor limit is enabled • Disabled – the IPv6 neighbor limit is disabled
ARP Threshold	The state of the ARP threshold on the IP interface: • Enabled – the ARP threshold is enabled • Disabled – the ARP threshold is disabled
IPv6 Nbr Threshold	The state of the IPv6 neighbor threshold on the IP interface: • Enabled – the IPv6 neighbor threshold is enabled • Disabled – the IPv6 neighbor threshold is disabled
ARP Limit Log On*	The state of ARP limit log only configuration on the IP interface:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• Enabled – the ARP limit log only configuration is enabled • Disabled – the ARP limit log only configuration is disabled
IPv6 Nbr Log Only	The state of the IPv6 neighbor log only configuration on the IP interface: • Enabled – the IPv6 neighbor log only configuration is enabled • Disabled – the IPv6 neighbor log only configuration is disabled
ARP Learn Unsoli*	The state of ARP learn unsolicited on the IP interface: • Enabled – ARP learn unsolicited is enabled • Disabled – ARP learn unsolicited is disabled
ND Learn Unsolici*	Displays if neighbor discovery learn unsolicited is configured
ARP Proactive Re*	The state of ARP proactive refresh on the IP interface: • Enabled – ARP proactive refresh is enabled • Disabled – ARP proactive refresh is disabled
ND Proactive Refr*	Displays if neighbor proactive refresh is configured. When configured, neighbor proactive refresh helps keep the entries active by sending an ARP refresh 30 seconds before the timeout or by starting neighbor unreachable detection (NUD) when the stale time expires.
TCP MSS V4	The TCP maximum segment size (MSS) for TCP connections originated from the associated IPv4 interface
TCP MSS V6	The TCP MSS for TCP connections originated from the associated IPv6 interface
IP MTU	The IP maximum transmission unit (MTU) for the IP interface
IP Oper MTU	The IP oper MTU
ARP Populate	The state of ARP populate on the IP interface: • Enabled – ARP populate is enabled • Disabled – ARP populate is disabled
Cflowd (unicast)	The type of cflowd unicast analysis that is applied to the interface: • acl — ACL cflowd analysis is applied to the interface • interface — interface cflowd analysis is applied to the interface • none — no cflowd analysis is applied to the interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Cflowd (multicast)	The cflowd multicast configuration
LdpSyncTimer	The IGP LDP synchronized timer value
Strip-Label	The state of strip label on the IP interface: • Enabled – strip label is enabled • Disabled – strip label is disabled
LSR Load Balance	Displays if LSR load balancing occurs at the router interface level or system level of the interface. Configuration at the router interface level overrides the system level configuration.
EGR Load Balance	Displays the address used in the LAG or ECMP hash on IP interfaces: • both – the source and destination addresses are both used • destination – the destination address is used • source – the source address is used
Vas If Type	The value added service (VAS) interface type: • both – the type of VAS is both to and from the access and to and from the network • access – the type of VAS is to and from the access • network – the type of VAS is to and from the network
TEID Load Balance	The state of TEID load balancing on the IP interface: • Enabled – TEID load balancing is enabled • Disabled – TEID load balancing is disabled
SPI Load Balance	The state of SPI load balancing on the IP interface: • Enabled – SPI load balancing is enabled • Disabled – SPI load balancing is disabled
uRPF Chk	Displays whether unicast RPF (uRPF) check is enabled on this interface
uRPF Ipv6 Chk	Displays whether unicast RPF check IPv6 is enabled on this interface
uRPF Select VPRN	The state of uRPF checks on incoming traffic on the interface: • True – the router performs uRPF checks of incoming traffic on the network interface for the following: – packets associated with the global routing table (Base router) context – packets associated with the VPRNs that have enabled the uRPF check

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• False – the router performs uRPF checks for all ingress traffic on the network interface (associated with the Base router and all VPRNs) based on the IPv4 and IPv6 **urpf-check** command configuration options on the network interface
PTP HW Assist	Displays if the PTP hardware assist function is enabled on this interface
RX Pkts	The received packets
Rx Bytes	The received bytes
Rx V4 Pkts	The received IPv4 packets
Rx V4 Bytes	The received IPv4 bytes
Rx V4 Help. Pkts	The received IPv4 Helper packets
Rx V4 Help. Bytes	The received IPv4 Helper bytes
Tx Pkts	The transmitted packets
Tx Bytes	The transmitted bytes
Tx V4 Pkts	The transmitted IPv4 packets
Tx V4 Bytes	The transmitted IPv4 bytes
Tx V4 Discard Pk*	The transmitted IPv4 discarded packets
Tx V4 Discard Byt*	The transmitted IPv4 discarded packets
Tx V6 Pkts	The transmitted IPv6 packets
Tx V6 Bytes	The transmitted IPv6 bytes
Tx V6 Discard Pk*	The transmitted IPv6 discarded packets
Tx V6 Discard Byt*	The transmitted IPv6 discarded bytes
Tx DBcast Dis. P*	The transmitted DBcast discarded packets
Tx DBcast Dis. By*	The transmitted DBcast discarded bytes
Mpls Rx Pkts	The MPLS received packets
Mpls Rx Bytes	The MPLS received bytes
Mpls Tx Pkts	The MPLS transmitted packets
Mpls Tx Bytes	The MPLS transmitted bytes
GRE Termination	The state of GRE termination:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• Enabled – the termination of MPLS-over-GRE and IP-over-GRE packets on destination IP addresses from a user-defined subnet is enabled • Disabled – the termination of MPLS-over-GRE and IP-over-GRE packets on the subnet of the interface is disabled
Inter-AS selective ILM untrusted	Displays if the inter-AS selective ILM untrusted function is enabled on this interface
Untrusted default forwarding	The untrusted default forwarding behavior on the interface: • forward – the router checks labeled packets in the normal way against the table of programmed ILMs to decide if packets are dropped or forwarded in a GRT, a VRF, or a Layer 2 service context • drop – all labeled packets received on the interface are automatically dropped
OperDCpuProtPlcy	The distributed CPU protection policy
IP-Helper Address	The IPv4 address of the target UDP broadcast gateway
Ingress destination class lookup	The state of the ingress destination class lookup: • Enabled – the router performs a destination class lookup • Disabled – the router does not perform a destination class lookup
Link Delay Details	
Operational Delay	The operational delay on the IP interface
Delay selection	The delay selection for the IP interface
Static Delay	The static delay for the IP interface
Dynamic Delay	The dynamic delay for the IP interface
Link Measure Tmpl	The link measurement template
Proxy ARP Details	
Rem Proxy ARP	The state of remote proxy ARP on the IP interface: • Enabled – the remote proxy ARP is enabled. Remote proxy ARP is similar to proxy ARP. It allows the router to answer an ARP request on an interface for a subnet that is not provisioned on that interface. This allows the router to forward to the other subnet on behalf of the requester. • Disabled – the remote proxy ARP is disabled
Local Proxy ARP	The state of local proxy ARP on the IP interface:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• Enabled – the local proxy ARP is enabled. When local proxy ARP is enabled on an IP interface, the system responds to all ARP requests for IP addresses belonging to the subnet with its own MAC address, and thus becomes the forwarding point for all traffic between hosts in that subnet. • Disabled – the local proxy ARP is disabled
Policies	Displays ARP policies for the IP interface
Proxy Neighbor Discovery Details	
Local Pxy ND	The state of the local proxy neighbor discovery on the IP interface: • Enabled – the local proxy neighbor discovery is enabled. When enabled, the interface replies to neighbor solicitation requests when both the hosts are on the same subnet. In this case, ICMP redirects are disabled. • Disabled – the local proxy neighbor discovery is disabled. When disabled, the interface does not reply to neighbor solicitation requests if both the hosts are on the same subnet.
Policies	The local proxy neighbor discovery policies for the IP interface
ICMP Details	
Redirects	The number of packet redirects
Unreachables	The number of packets that did not reach the destination
TTL Expired	The number of messages that exceeded the time to live (TTL) threshold
Parameter Problem	The number of packets with a parameter problem in the IP header
ICMP Mask Reply	The number of address mask replies
ICMPv6 Details	
Packet Too Big	The number of packets that were too big
Parameter Problem	The number of packets with a parameter problem in the IP header
Redirects	The number of packet redirects
Time Exceeded	The number of packets where the time was exceeded
Unreachables	The number of packets that did not reach the destination
IPCP Address Extension Details	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Peer IP Addr	The remote IP address to be assigned to the far end of the associated PPP/MLPPP link via IPCP extensions
Peer Pri DNS Addr	The unicast IPv4 address for the primary DNA server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions
Peer Sec DNS Addr	The unicast IPv4 address for the secondary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions (optional)
Network Domains Associated	The network domain for the interface
Admin Groups	The administrative groups for the interface
Srlg Groups	The SRLG groups for the interface
QoS Queue-Group Redirection Details	
Ingress FP QGrp	The ingress FP queue group
Egress Port QGrp	The egress port queue group
Ing FP QGrp Inst	The ingress FP queue group instance
Egr Port QGrp Inst	The egress port queue group instance

Statistics IP interface output — The following output is an example of router IP interface statistics when **enable-interface-statistics** is enabled, and Table 212: Output fields: statistics IP interface describes the fields.

Output example

```
A:node-2# show router interface "to_ixia” statistics
===============================================================================
Interface Statistics
===============================================================================
If Name          : to_Ixia
Admin State      : Up                    Oper (v4/v6)      : Up/Up
Rx Pkts          : 6244                  Rx Bytes          : 599424
Rx V4 Pkts       : 3122                  Rx V4 Bytes       : 299712
Rx V6 Pkts       : 3122                  Rx V6 Bytes       : 299712
Tx Pkts          : 0                     Tx Bytes          : 0
Tx V4 Pkts       : 0                     Tx V4 Bytes       : 0
Tx V4 Discard Pk*: 0                     Tx V4 Discard Byt*: 0
Tx V6 Pkts       : 0                     Tx V6 Bytes       : 0
Tx V6 Discard Pk*: 0                     Tx V6 Discard Byt*: 0
uRPF Chk Fail Pk*: 6244                  uRPF Fail Bytes   : 487032
uRPF Fail V4 Pk  : 3122                  uRPF Fail V4 Byt  : 243516
uRPF Fail V6 Pk  : 3122                  uRPF Fail V6 Byt  : 243516
Mpls Rx Pkts     : 0                     Mpls Rx Bytes     : 0
Mpls Tx Pkts     : 0                     Mpls Tx Bytes     : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 212: Output fields: statistics IP interface

Label	Description
If Name	The interface name
Admin State	The administrative status of the router interface
Oper	The operational status of the router instance

Summary IP interface output — The following output is an example of summary IP information, and Table 213: Output fields: summary IP interface describes the fields.

Output example

```
A:node-2# show router interface summary
===============================================================================
Router Summary (Interfaces)
===============================================================================
Instance  Router Name                      Interfaces    Admin-Up   Oper-Up
-------------------------------------------------------------------------------
1         Base                             7             7          5
===============================================================================
```

Table 213: Output fields: summary IP interface

Label	Description
Instance	The router instance number
Router Name	The name of the router instance
Interfaces	The number of IP interfaces in the router instance
Admin-Up	The number of administratively enabled IP interfaces in the router instance
Oper-Up	The number of operationally enabled IP interfaces in the router instance

Global-if-index output — The following output is an example of summary global-if-index information, and Table 214: Output fields: interface global interface index describes the fields.

Output example

```
A:node-2# show router interface global-if-index 1
===============================================================================
Interface Table (Router: Base)
===============================================================================
Interface-Name                   Adm       Opr(v4/v6)  Mode    Port/SapId
   IP-Address                                                   PfxState
-------------------------------------------------------------------------------
loop1                            Up        Up/Down     Network loopback
   100.0.1.2/32                                                 n/a
-------------------------------------------------------------------------------
Interfaces : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================

A:node-2# show router interface global-if-index 1 detail
===============================================================================
Interface Table (Router: Base)
===============================================================================
-------------------------------------------------------------------------------
Interface
-------------------------------------------------------------------------------
If Name          : loop1
Admin State      : Up                    Oper (v4/v6)      : Up/Down
Down Reason V6   : ifProtoOperDown
Protocols        : OSPFv2
IP Addr/mask     : 100.0.1.2/32          Address Type      : Primary
IGP Inhibit      : Disabled              Broadcast Address : Host-ones
HoldUp-Time      : 0                     Track Srrp Inst   : 0
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Description      : (Not Specified)
If Index         : 2                     Virt. If Index    : 2
Last Oper Chg    : 03/15/2018 01:00:02   Global If Index   : 1
Lag Link Map Prof: none
Lag Per Link Hash
Class            : 1                     Weight            : 1
Port Id          : loopback
TOS Marking      : Trusted               If Type           : Network
Egress Filter    : none                  Ingress Filter    : none
Egr IPv6 Flt     : none                  Ingr IPv6 Flt     : none
SNTP B.Cast      : False                 Network QoS Policy: 1
MAC Address      : d6:ce:ff:00:00:00     Mac Accounting    : Disabled
Ingress stats    : Disabled              IPv6 DAD          : Enabled
TCP MSS V4       : 0                     TCP MSS V6        : 0
ARP Timeout      : 14400s                IPv6 Nbr ReachTime: 30s
ARP Retry Timer  : 5000ms                IPv6 stale time   : 14400s
ARP Limit        : Disabled              IPv6 Nbr Limit    : Disabled
ARP Threshold    : Disabled              IPv6 Nbr Threshold: Disabled
ARP Limit Log On*: Disabled              IPv6 Nbr Log Only : Disabled
ARP Learn Unsoli*: Disabled              ND Learn Unsolici*: None
ARP Proactive Re*: Disabled              ND Proactive Refr*: None
IP MTU           : (default)
IP Oper MTU      : 1500
ARP Populate     : Disabled
Cflowd (unicast) : None                  Cflowd (multicast): None
LdpSyncTimer     : None                  Strip-Label       : Disabled
LSR Load Balance : system
EGR Load Balance : both
Vas If Type      : none
TEID Load Balance: Disabled
SPI Load Balance : Disabled
uRPF Chk         : disabled
uRPF Ipv6 Chk    : disabled
uRPF Select VPRN : False
Rx Pkts          : 0                     Rx Bytes          : 0
Rx V4 Pkts       : N/A                   Rx V4 Bytes       : N/A
Rx DBcast Drop P*: 0                     Rx DBcast Drop By*: 0
Rx V6 Pkts       : N/A                   Rx V6 Bytes       : N/A
Tx Pkts          : 0                     Tx Bytes          : 0
Tx V4 Pkts       : 0                     Tx V4 Bytes       : 0
Tx V4 Discard Pk*: 0                     Tx V4 Discard Byt*: 0
Tx V6 Pkts       : 0                     Tx V6 Bytes       : 0
Tx V6 Discard Pk*: 0                     Tx V6 Discard Byt*: 0
Mpls Rx Pkts     : 0                     Mpls Rx Bytes     : 0
Mpls Tx Pkts     : 0                     Mpls Tx Bytes     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
OperDCpuProtPlcy : N/A
Proxy ARP Details
Rem Proxy ARP    : Disabled            Local Proxy ARP   : Disabled
Policies         : none

Proxy Neighbor Discovery Details
Local Pxy ND     : Disabled
Policies         : none
ICMP Details
Redirects        : Number - 100        Time (seconds)   - 10
Unreachables     : Number - 100        Time (seconds)   - 10
TTL Expired      : Number - 100        Time (seconds)   - 10
Parameter Problem: Number - 100        Time (seconds)   - 10
ICMP Mask Reply  : True
ICMPv6 Details
Packet Too Big   : Number - 100        Time (seconds)   - 10
Parameter Problem: Number - 100        Time (seconds)   - 10
Redirects        : Number - 100        Time (seconds)   - 10
Time Exceeded    : Number - 100        Time (seconds)   - 10
Unreachables     : Number - 100        Time (seconds)   - 10
IPCP Address Extension Details
Peer IP Addr     : Not configured
Peer Pri DNS Addr: Not configured
Peer Sec DNS Addr: Not configured

Network Domains Associated
default
-------------------------------------------------------------------------------
Admin Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Srlg Groups
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
QoS Queue-Group Redirection Details
-------------------------------------------------------------------------------
Ingress FP QGrp  : (none)              Egress Port QGrp  : (none)
Ing FP QGrp Inst : (none)              Egr Port QGrp Inst: (none)
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Table 214: Output fields: interface global interface index

Label	Description
Interface-Name	The IP interface name
Type	n/a — no IP address has been assigned to the IP interface, so the IP address type is not applicable Pri — the IP address for the IP interface is the primary address on the IP interface Sec — the IP address for the IP interface is a secondary address on the IP interface
IP-Address	The IP address and subnet mask length of the IP interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	n/a — indicates no IP address has been assigned to the IP interface
Adm	Down — the IP interface is administratively disabled Up — the IP interface is administratively enabled
Opr	Down — the IP interface is operationally disabled Up — the IP interface is operationally disabled
Mode	Network — the IP interface is a network or core IP interface Service — the IP interface is a service IP interface
Port/SAP Id	The physical network port or the SAP identifier associated with the IP interface

The following output is an example of Distributed CPU Protection Policer Output information, and Table 215: Output fields: distributed CPU protection policy describes Distributed CPU Protection Policer output fields.

Output example

```
A:node-2# show router interface "test" dist-cpu-protection detail
===============================================================================
Interface "test" (Router: Base)
===============================================================================
Distributed CPU Protection Policy :  dcpuPol
-------------------------------------------------------------------------------
Statistics/Policer-State Information
===============================================================================
Static Policer
-------------------------------------------------------------------------------
Policer-Name        : staticArpPolicer
Card/FP             : 4/1               Policer-State       : Exceed
Protocols Mapped    : arp
Exceed-Count        : 10275218
Detec. Time Remain  : 29 seconds        Hold-Down Remain.   : none
Operational (adapted) Rate Parameters:
 Oper. Packets      : 100 ppi            Oper. Within       : 1 seconds
 Oper. Initial Delay: none
 Oper. Depth        : 100 packets
-------------------------------------------------------------------------------
Local-Monitoring Policer
-------------------------------------------------------------------------------
Policer-Name        : localMonitor
Card/FP             : 4/1               Policer-State       : Exceed
Protocols Mapped    : icmp, ospf
Exceed-Count        : 8019857
All Dyn-Plcr Alloc. : True
Operational (adapted) Rate Parameters:
 Oper. Packets      : 200 ppi            Oper. Within       : 1 seconds
 Oper. Initial Delay: none
 Oper. Depth        : 0 packets
-------------------------------------------------------------------------------
Dynamic-Policer (Protocol)
-------------------------------------------------------------------------------
Protocol(Dyn-Plcr)  : icmp
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Card/FP             : 4/1               Protocol-State      : Exceed
Exceed-Count        : 1948137
Detec. Time Remain  : 29 seconds        Hold-Down Remain.   : none
Dyn-Policer Alloc.  : True
Operational (adapted) Rate Parameters:
 Oper. Kbps         : 25 kbps            Oper. MBS          : 256 bytes
 Oper. Depth        : 274 bytes

Protocol(Dyn-Plcr)  : ospf
Card/FP             : 4/1               Protocol-State      : Exceed
Exceed-Count        : 1487737
Detec. Time Remain  : 29 seconds        Hold-Down Remain.   : none
Dyn-Policer Alloc.  : True
Operational (adapted) Rate Parameters:
 Oper. Kbps         : 25 kbps            Oper. MBS          : 256 bytes
 Oper. Depth        : 284 bytes
-------------------------------------------------------------------------------
===============================================================================
```

Table 215: Output fields: distributed CPU protection policy

Label	Description
Distributed CPU Protection Policy	The DCP policy assigned to the object
Policer-Name	The configured name of the static policer
Card/FP	The card and FP identifier. FP identifies the instance of the FP (FastPath) chipset. Some cards have a single FP and some cards can contain multiple FPs (for example, an XCM can house multiple FPs via its two XMAs).
Policer-State	The state of the policer with the following potential values: Exceed – the policer has been detected as nonconforming to the associated DCP policy parameters (packets exceeded the configured rate and the DCP polling process identified this occurrence) Conform – the policer has been detected as conforming to the associated DCP policy parameters (rate) not-applicable – newly-created policers or policers that are not currently instantiated. This includes policers configured on line cards that are not in service.
Protocols Mapped	A list of protocols that are configured to map to the particular policer
Oper. xyz fields	The actual hardware may not be able to perfectly rate limit to the exact configured rate parameters in a DCP policy. In this case, the configured rate parameters will be adapted to the closest supported rate. These adapted operational values are displayed in CLI when the **detail** keyword is included in the show command. The adapted Oper. parameters are only applicable if the policer is instantiated (for example, if the

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	associated forwarding plane is operational, or for an interface if there is a physical port configured for the interface, or if the dynamic policers are allocated), otherwise, values of 0 kb/s, and so on, are displayed. *Oper. Kbps* - Displays the adapted "kilobits-per-second" value for DCP "kbps" rates *Oper. MBS* - Displays the adapted "mbs size" value for DCP "kbps" rates *Oper. Depth* - Displays the calculated policer bucket depth in packets (for DCP "packets" rates) or in bytes (for DCP "kbps" rates) *Oper. Packets* - Displays the adapted "ppi" value for DCP "packets" rates *Oper. Within* - Displays the adapted "within seconds" value for DCP "packets" rates *Oper. Init. Delay* - Displays the adapted "initial-delay packets" value for DCP "packets" rates
Exceed-Count	The count of packets exceeding the policing parameters since the specific policer was previously declared as conforming or newly-instantiated. This counter has the same behavior as the exceed counter in the DCP the log events; the counter is baselined (reset) when the policer transitions to conforming.
Detec. Time Remain	The remaining time in the detection-time countdown during which a policer in the exceed state is being monitored to see if it conforms again
Hold-Down Remain	The remaining time in the hold-down countdown during which a policer is treating all packets as exceeding
All Dyn-Plcr Alloc.	Indicates that all the dynamic enforcement policers have been allocated and instantiated for a specific local-monitor
Dyn-Policer Alloc.	Indicates that a dynamic policer has been instantiated

interface

Syntax

interface [*ip-int-name*] [**detail**] [*family*]

interface resource-failures [*family*]

Context

[Tree] (show>router>ldp interface)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router ldp interface

Description

This command displays configuration information about LDP interfaces.

Parameters

ip-int-name

The name of an existing interface. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

detail

Displays detailed information.

family

Displays either IPv4 or IPv6 active LDP information.

resource-failures

Displays which interfaces are in overload.

Platforms

All

Output

LDP Interface Output

Table 216: Output fields: LDP interface describes the LDP interface output fields.

Table 216: Output fields: LDP interface

Label	Description
Interface	Specifies the interface associated with the LDP instance.
Adm	Up — The LDP is administratively enabled. Down — The LDP is administratively disabled.
Opr	Up — The LDP is operationally enabled. Down — The LDP is operationally disabled.
Hello Factor	The value by which the hello timeout should be divided to give the hello time, for example, the time interval (in s), between LDP hello messages. LDP uses hello messages to discover neighbors and to detect loss of connectivity with its neighbors.
Hold Time	The hello time, also known as hold time. It is the time interval (in s), that LDP waits before declaring a neighbor to be down. Hello timeout is local to the system and is sent in the hello messages to a neighbor.
KA Factor	The value by which the keepalive timeout should be divided to give the keepalive time, for example, the time interval (in s), between LDP keepalive messages. LDP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	keepalive messages are sent to keep the LDP session from timing out when no other LDP traffic is being sent between the neighbors.
KA Timeout	The time interval (in s), that LDP waits before tearing down a session. If no LDP messages are exchanged during this time interval, the LDP session is torn down. Generally the value is configured to be 3 times the keepalive time (the time interval between successive LDP keepalive messages).

Output Example

```
*A:Dut-A# show router ldp interface
===============================================================================
LDP Interfaces
===============================================================================
Interface                         Adm/Opr
 Sub-Interface(s)                  Adm/Opr  Hello Hold  KA    KA    Transport
                                            Fctr  Time  Fctr  Time  Address
-------------------------------------------------------------------------------
ip-10.10.1.1                       Up/Up
  ipv4                             Up/Up   3     15    3     30    System
  ipv6                             Up/Up   3     15    3     30    System
ip-10.10.2.1                       Up/Up
  ipv4                             Up/Up   3     15    3     30    System
  ipv6                             Up/Up   3     15    3     30    System
-------------------------------------------------------------------------------
No. of Interfaces: 2
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp interface "ip-10.10.1.1"
===============================================================================
LDP Interfaces
===============================================================================
Interface                         Adm/Opr
 Sub-Interface(s)                 Adm/Opr  Hello Hold  KA    KA    Transport
                                           Fctr  Time  Fctr  Time  Address
-------------------------------------------------------------------------------
ip-10.10.1.1                       Up/Up
  ipv4                             Up/Up   3     15    3     30    System
  ipv6                             Up/Up   3     15    3     30    System
-------------------------------------------------------------------------------
No. of Interfaces: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp interface "ip-10.10.1.1" detail
===============================================================================
LDP Interfaces
===============================================================================
===============================================================================
Interface "ip-10.10.1.1"
===============================================================================
-------------------------------------------------------------------------------
BASE
-------------------------------------------------------------------------------
Admin State        : Up                 Oper State       : Up
BFD Status         : Disabled
-------------------------------------------------------------------------------
IPv4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
IPv4 Admin State   : Up                  IPv4 Oper State  : Up
Last Oper Chg      : 0d 00:37:59
Hold Time          : 15                  Hello Factor     : 3
Oper Hold Time     : 15
Keepalive Timeout  : 30                  Keepalive Factor : 3
Transport Addr     : System              Last Modified    : 02/27/15 23:23:19
Active Adjacencies : 1
Local LSR Type     : System
Local LSR          : None
IPv4 Pfx Fec Cap   : Enabled             IPv6 Pfx Fec Cap : Enabled
IPv4 P2MP Fec Cap  : Enabled             IPv6 P2MP Fec Cap: Enabled
-------------------------------------------------------------------------------
IPv6
-------------------------------------------------------------------------------
IPv6 Admin State   : Up                  IPv6 Oper State  : Up
Last Oper Chg      : 0d 00:37:36
Hold Time          : 15                  Hello Factor     : 3
Oper Hold Time     : 15
Keepalive Timeout  : 30                  Keepalive Factor : 3
Transport Addr     : System              Last Modified    : 02/27/15 23:23:19
Active Adjacencies : 1
Local LSR Type     : System
Local LSR          : None
IPv4 Pfx Fec Cap   : Enabled             IPv6 Pfx Fec Cap : Enabled
IPv4 P2MP Fec Cap  : Enabled             IPv6 P2MP Fec Cap: Enabled
===============================================================================
No. of Interfaces: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp interface "ip-10.10.1.1" detail ipv6
===============================================================================
LDP IPv6 Interfaces
===============================================================================
===============================================================================
Interface "ip-10.10.1.1"
===============================================================================
-------------------------------------------------------------------------------
BASE
-------------------------------------------------------------------------------
Admin State        : Up                  Oper State       : Up
BFD Status         : Disabled
-------------------------------------------------------------------------------
IPv6
-------------------------------------------------------------------------------
IPv6 Admin State   : Up                  IPv6 Oper State  : Up
Last Oper Chg      : 0d 00:37:47
Hold Time          : 15                  Hello Factor     : 3
Oper Hold Time     : 15
Keepalive Timeout  : 30                  Keepalive Factor : 3
Transport Addr     : System              Last Modified    : 02/27/15 23:23:19
Active Adjacencies : 1
Local LSR Type     : System
Local LSR          : None
IPv4 Pfx Fec Cap   : Enabled             IPv6 Pfx Fec Cap : Enabled
IPv4 P2MP Fec Cap  : Enabled             IPv6 P2MP Fec Cap: Enabled
===============================================================================
No. of Interfaces: 1
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp interface resource-failures
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LDP IPv4 Interface Resource Failures
===============================================================================
No Matching Entries Found
===============================================================================
===============================================================================
LDP IPv6 Interface Resource Failures
===============================================================================
No Matching Entries Found
===============================================================================
*A:Dut-A# show router ldp interface resource-failures ipv6
===============================================================================
LDP IPv6 Interface Resource Failures
===============================================================================
No Matching Entries Found
===============================================================================
*A:Dut-A#
```

interface

Syntax

interface [*ip-int-name*] [*family*]

interface [*ip-int-name*] [**statistics**] [*family*]

Context

[Tree] (clear>router>ldp interface)

Full Context

clear router ldp interface

Description

This command restarts or clears statistics for LDP interfaces.

Parameters

ip-int-name

Specifies the name of an existing interface. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

family

Specifies the IP family information to restart or clear.

Values **ipv4** – Keyword used to clear IPv4 information

ipv6 – Keyword used to clear IPv6 information

statistics

Keyword used to clear traffic statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following example displays the **clear router ldp interface** command.

Output example

```
A:nodd-2# clear router ldp interface "ip-10.10.1.1" ipv4

A:node-2# clear router ldp interface "ip-10.10.1.1" ipv6
```

interface

Syntax

interface *ip-int-name*

Context

[Tree] (tools>dump>router>ldp interface)

Full Context

tools dump router ldp interface

Description

This command dumps information for an LDP interface.

Parameters

ip-int-name

Specifies the name of an existing router.

Platforms

All

interface

Syntax

interface [*ip-int-name* | *ip-address*] [**label-map** *label*]

interface [*ip-int-name* | *ip-address*] **statistics** [**aux-stats**]

Context

[Tree] (show>router>mpls interface)

Full Context

show router mpls interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays MPLS interface information.

Parameters

ip-int-name

Specifies the name of the network IP interface. An interface name cannot be in the form of an IP address. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

ip-address

Specifies the system or network interface IP address.

label-map label

Specifies the MPLS label on which to match.

Values 32 to 1048575

statistics

Displays the MPLS interface name and the number of packets and octets sent and received on an MPLS interface.

aux-stats

Displays auxiliary MPLS statistics next to the default MPLS statistics.

Platforms

All

Output

The following output is an example of MPLS interface information.

Table 217: Output fields: MPLS interface describes MPLS interface output fields.

Table 217: Output fields: MPLS interface

Label	Description
Interface	The interface name.
Port-id	The port ID.
Adm	Specifies the administrative state of the interface.
Opr	Specifies the operational state of the interface.
Te-metric	Specifies the traffic engineering metric used on the interface.
Srlg Groups	Specifies the shared risk loss group (SRLG) name(s).
Interfaces	The total number of interfaces.
Transmitted	Displays the number of packets and octets transmitted from the interface.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Received	Displays the number of packets and octets received.
In Label	Specifies the ingress label.
In I/F	Specifies the ingress interface.
Out Label	Specifies the egress label.
Out I/F	Specifies the egress interface.
Next Hop	Specifies the next hop IP address for the static LSP.
Type	Specifies whether the label value is statically or dynamically assigned.

Output Example

```
*A:SRU4>config>router>mpls# show router mpls interface
===============================================================================
MPLS Interfaces
===============================================================================
Interface                           Port-id           Adm    Opr    TE-metric
-------------------------------------------------------------------------------
system                              system            Up     Up     None
  Admin Groups                      None
  Srlg Groups                       None
sr4-1                               1/1/4             Up     Up     None
  Admin Groups                      None
  Srlg Groups                       3440
ess-7-1                             3/2/4             Up     Up     None
  Admin Groups                      None
  Srlg Groups                       45100
ess-7-2                             3/2/5             Up     Up     None
  Admin Groups                      None
  Srlg Groups                       45110
...
g7600                               3/1/2             Up     Up     None
  Admin Groups                      None
  Srlg Groups                       41.80
m160                                3/2/1             Up     Up     None
  Admin Groups                      None
  Srlg Groups                       420.40
-------------------------------------------------------------------------------
Interfaces : 35
===============================================================================
*A:SRU4>config>router>mpls#


*A:SRU4>config>router>mpls#  show router mpls interface "hubA"
===============================================================================
MPLS Interface : hubA
===============================================================================
Interface                           Port-id           Adm    Opr    TE-metric
-------------------------------------------------------------------------------
hubA                                3/2/8             Up     Up     None
  Admin Groups                      None
  Srlg Groups                       44.200
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:SRU4>config>router>mpls#


*A:SRU4>config>router>mpls#  show router mpls interface "hubA" label-map 203
===============================================================================
MPLS Interface : hubA (Label-Map 203)
===============================================================================
In Label  In I/F     Out Label Out I/F    Next Hop          Type      Adm  Opr
-------------------------------------------------------------------------------
203       3/2/8      403       1/1/9      10.22.10.3        Static    Up   Up
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:SRU4>config>router>mpls#


*A:SRU4>config>router>mpls# show router mpls interface statistics
===============================================================================
MPLS Interface (statistics)
===============================================================================
Interface      : aps-1
  Transmitted  : Pkts - 76554                Octets - 7930285
  Received     : Pkts - 17068                Octets - 3626842

Interface      : aps-2
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 1311                 Octets - 219888

Interface      : aps-3
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 3                    Octets - 234

Interface      : sr4-1
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0

Interface      : ess-7-1
  Transmitted  : Pkts - 113537               Octets - 15058332
  Received     : Pkts - 13193                Octets - 1091492

Interface      : ess-7-2
  Transmitted  : Pkts - 166133               Octets - 22762482
  Received     : Pkts - 16672                Octets - 1368464

Interface      : ess-7-3
  Transmitted  : Pkts - 122934               Octets - 11033246
  Received     : Pkts - 12256                Octets - 1026826
...

Interface      : m160
  Transmitted  : Pkts - 17188024             Octets - 2183076528
  Received     : Pkts - 677745               Octets - 59367236
===============================================================================
*A:SRU4>config>router>mpls#
```

```
show router mpls interface statistics aux-stats
===============================================================================
MPLS Interface (statistics)
===============================================================================
Interface     : intf1
  Transmitted : Pkts - 0        Octets - 0
  Received    : Pkts - 0        Octets - 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Transmitted : SR-Pkts - 0     SR-Octets - 0
  Received    : SR-Pkts - 0     SR-Octets - 0

Interface     : intf2
  Transmitted : Pkts - 0        Octets - 0
  Received    : Pkts - 0        Octets - 0
  Transmitted : SR-Pkts - 0     SR-Octets - 0
  Received    : SR-Pkts - 0     SR-Octets - 0
```

interface

Syntax

interface [*ip-int-name* | *ip-address*] **statistics** [**detail**]

Context

[Tree] (show>router>rsvp interface)

Full Context

show router rsvp interface

Description

This command shows RSVP interfaces.

Parameters

ip-int-name

Specifies the network IP interface. An interface name cannot be in the form of an IP address. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

ip-address

Specifies the system or network interface IP address.

statistics

Displays the RSVP interface name and counts of various RSVP packets sent and received on the interface.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of RSVP interface information.

Table 218: Output fields: RSVP interface describes RSVP interface output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 218: Output fields: RSVP interface

Label	Description
Interface	The name of the IP interface.
Total Sessions	The total number of RSVP sessions on this interface. This count includes sessions that are active as well as sessions that have been signaled but a response has not yet been received.
Active Sessions	The total number of active RSVP sessions on this interface.
Total BW (Mbps)	The amount of bandwidth in Mb/s available to be reserved for the RSVP protocol on the interface.
Resv BW (Mbps)	The amount of bandwidth in Mb/s reserved on this interface. A value of zero (0) indicates that no bandwidth is reserved.
Adm	Down — The RSVP interface is administratively disabled. Up — The RSVP interface is administratively enabled.
Bfd	Yes — BFD is enabled on the RSVP interface. No — BFD is disabled on the RSVP interface.
Opr	Down — The RSVP interface is operationally down. Up — The RSVP interface is operationally up.
Port ID	Specifies the physical port bound to the interface.
Active Resvs	The total number of active RSVP sessions that have reserved bandwidth.
Subscription	Specifies the percentage of the link bandwidth that RSVP can use for reservation. When the value is zero (0), no new sessions are permitted on this interface.
Port Speed	Specifies the speed for the interface.
Unreserved BW	Specifies the amount of unreserved bandwidth.
Reserved BW	Specifies the amount of bandwidth in Mb/s reserved by the RSVP session on this interface. A value of zero (0) indicates that no bandwidth is reserved.
Total BW	Specifies the amount of bandwidth in Mb/s available to be reserved for the RSVP protocol on this interface.
Aggregate	Aggregate messages are used to pack multiple RSVP messages into a single packet to reduce the network overhead. When the value is true, RSVP negotiates with each neighbor and gets consensus before sending aggregate messages.
Hello Interval	Specifies the length of time (in s) between the hello packets that the router sends on the interface. This value must be the same for all routers attached to a common network. When the value is zero (0), the sending of hello messages is disabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Refresh Time	Specifies the interval between the successive Path and Resv refresh messages. RSVP declares the session down after it misses ((keep-multiplier + 0.5) * 1.5 * refresh-time)) consecutive refresh messages.
Hello Timeouts	The total number of hello messages that timed out on this RSVP interface.
Neighbors	The IP address of the RSVP neighbor.
Sent	The total number of error free RSVP packets that have been transmitted on the RSVP interface.
Recd	The total number of error free RSVP packets received on the RSVP interface.
Total Packets	The total number of RSVP packets, including errors, received on the RSVP interface.
Bad Packets	The total number of RSVP packets with errors transmitted on the RSVP interface.
Paths	The total number of RSVP PATH messages received on the RSVP interface.
Path Errors	The total number of RSVP PATH ERROR messages transmitted on the RSVP interface.
Path Tears	The total number of RSVP PATH TEAR messages received on the RSVP interface.
Resvs	The total number of RSVP RESV messages received on the RSVP interface.
Resv Confirms	The total number of RSVP RESV CONFIRM messages received on the RSVP interface.
Resv Errors	Total RSVP RESV ERROR messages received on RSVP interface.
Resv Tears	Total RSVP RESV TEAR messages received on RSVP interface.
Refresh Summaries	Total RSVP RESV summary refresh messages received on interface.
Refresh Acks	Total RSVP RESV acknowledgment messages received when refresh reduction is enabled on the RSVP interface.
Bundle Packets	Total RSVP RESV bundled packets received on the RSVP interface.
Hellos	Total RSVP RESV HELLO REQ messages received on the interface.
DBw Multiplier	Displays the configured dark bandwidth multiplier.
DBw Up Threshold	Displays the configured dark bandwidth up threshold (per interface or inherited).
DBw Down Threshold	Displays the configured dark bandwidth down threshold (per interface or inherited).
DBw Sample Index	Displays the index of the dark bandwidth current sample.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
DBw Last Sample	Displays the latest sampled value of the dark bandwidth.
Latest Cal DBw	Displays the latest value of the calculated dark bandwidth (calculated over average interval = sample-interval X sample-multiplier). The value indicated here has already been multiplied by the dbw-multiplier.
Advertised MRLB	Displays the value of the latest advertised Maximum Reservable Link Bandwidth.

Output Example

```
*A:Dut-A>config>router>mpls>lsp$ /show router rsvp interface "ip-10.10.1.1" detail

===============================================================================
RSVP Interface (Detailed) : ip-10.10.1.1
===============================================================================
-------------------------------------------------------------------------------
Interface : ip-10.10.1.1
-------------------------------------------------------------------------------
Interface         : ip-10.10.1.1
Port ID           : 1/1/1
Admin State       : Up                  Oper State        : Up
Active Sessions   : 1                   Active Resvs      : 0
Total Sessions    : 1
Subscription      : 100 %               Port Speed        : 100 Mbps
Total BW          : 100 Mbps            Aggregate         : Dsabl
Hello Interval    : n/a                 Hello Timeouts    : n/a
Authentication    : Disabled
Auth Rx Seq Num   : n/a                 Auth Key Id       : n/a
Auth Tx Seq Num   : n/a                 Auth Win Size     : n/a
Refresh Reduc.    : Disabled            Reliable Deli.    : Disabled
Bfd Enabled       : n/a                 Graceful Shut.    : Disabled
ImplicitNullLabel : Disabled*           GR helper         : n/a

Percent Link Bandwidth for Class Types*
Link Bw CT0       : 100                 Link Bw CT4       : 0
Link Bw CT1       : 0                   Link Bw CT5       : 0
Link Bw CT2       : 0                   Link Bw CT6       : 0
Link Bw CT3       : 0                   Link Bw CT7       : 0


Bandwidth Constraints for Class Types (Kbps)
BC0               : 100000              BC4               : 0
BC1               : 0                   BC5               : 0
BC2               : 0                   BC6               : 0
BC3               : 0                   BC7               : 0

Bandwidth for TE Class Types (Kbps)
TE0->  Resv. Bw   : 0                   Unresv. Bw        : 100000
TE1->  Resv. Bw   : 0                   Unresv. Bw        : 100000
TE2->  Resv. Bw   : 0                   Unresv. Bw        : 100000
TE3->  Resv. Bw   : 0                   Unresv. Bw        : 100000
TE4->  Resv. Bw   : 0                   Unresv. Bw        : 100000
TE5->  Resv. Bw   : 0                   Unresv. Bw        : 100000
TE6->  Resv. Bw   : 0                   Unresv. Bw        : 100000
TE7->  Resv. Bw   : 0                   Unresv. Bw        : 100000

IGP Update
Up Thresholds(%)   : 0 15 30 45 60 75 80 85 90 95 96 97 98 99 100  *
Down Thresholds(%) : 100 99 98 97 96 95 90 85 80 75 60 45 30 15 0  *
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IGP Update Pending : No
Next Update        : N/A
Neighbors      : 10.20.1.2

Dark Bandwidth
DBw Multiplier     : 100 *
DBw Up Threshold   : 0 % *
DBw Down Threshold : 0 % *
DBw Sample Index  : 0                  DBw Last Sample   : 0 Mbps
Latest Cal DBw    : 0 Mbps             Advertised MRLB   : 1000 Mbps
Neighbors      : 12.1.1.2
* indicates inherited values
===============================================================================
*A:Dut-A>config>router>mpls>lsp$



*A:SRU4>show>router>rsvp# interface
===============================================================================
RSVP Interfaces
===============================================================================
Interface                        Total    Active    Total BW  Resv BW   Adm Opr
                                 Sessions Sessions  (Mbps)    (Mbps)
-------------------------------------------------------------------------------
system                           -        -         -         -         Up  Up
aps-1                            0        0         6012      0         Up  Up
aps-2                            0        0         6010      0         Up  Up
aps-3                            0        0         6010      0         Up  Up
sr4-1                            0        0         6010      0         Up  Up
ess-7-1                          9        9         100       0         Up  Up
ess-7-2                          7        7         100       0         Up  Up
ess-7-3                          4        4         100       0         Up  Up
ess-7-4                          0        0         800       0         Up  Up
ess-7-5                          0        0         800       0         Up  Up
ess-7-6                          0        0         800       0         Up  Up
hubA                             0        0         100       0         Up  Up
germ-1                           0        0         1000      0         Up  Up
src-1.1                          3        3         100       0         Up  Up
src-1.2                          2        2         100       0         Up  Up
src-1.3                          3        3         100       0         Up  Up
src-1.4                          5        5         100       0         Up  Up
...
g7600                            0        0         1000      0         Up  Up
m160                             481      481       1000      82        Up  Up
-------------------------------------------------------------------------------
Interfaces : 35
===============================================================================
*A:SRU4>show>router>rsvp#

*A:SRU4>show>router>rsvp# interface statistics
===============================================================================
RSVP Interface (statistics)
===============================================================================
-------------------------------------------------------------------------------
Interface system
-------------------------------------------------------------------------------
Interface                   : Up
Total Packets        (Sent) : 0                    (Recd.): 0
Bad Packets          (Sent) : 0                    (Recd.): 0
Paths                (Sent) : 0                    (Recd.): 0
Path Errors          (Sent) : 0                    (Recd.): 0
Path Tears           (Sent) : 0                    (Recd.): 0
Resvs                (Sent) : 0                    (Recd.): 0
Resv Confirms        (Sent) : 0                    (Recd.): 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Resv Errors          (Sent) : 0                    (Recd.): 0
Resv Tears           (Sent) : 0                    (Recd.): 0
Refresh Summaries    (Sent) : 0                    (Recd.): 0
Refresh Acks         (Sent) : 0                    (Recd.): 0
Bundle Packets       (Sent) : 0                    (Recd.): 0
Hellos               (Sent) : 0                    (Recd.): 0
Auth Errors          (Sent) : 0                    (Recd.): 0
-------------------------------------------------------------------------------
...
-------------------------------------------------------------------------------
Interface m160
-------------------------------------------------------------------------------
Interface                   : Up
Total Packets        (Sent) : 883643               (Recd.): 3052503
Bad Packets          (Sent) : 0                    (Recd.): 0
Paths                (Sent) : 592153               (Recd.): 373610
Path Errors          (Sent) : 464                  (Recd.): 30716
Path Tears           (Sent) : 29563                (Recd.): 3480
Resvs                (Sent) : 93970                (Recd.): 2518660
Resv Confirms        (Sent) : 0                    (Recd.): 0
Resv Errors          (Sent) : 136815               (Recd.): 54115
Resv Tears           (Sent) : 13338                (Recd.): 71922
Refresh Summaries    (Sent) : 0                    (Recd.): 0
Refresh Acks         (Sent) : 0                    (Recd.): 0
Bundle Packets       (Sent) : 0                    (Recd.): 0
Hellos               (Sent) : 17340                (Recd.): 0
Auth Errors          (Sent) : 0                    (Recd.): 0
===============================================================================
*A:SRU4>show>router>rsvp#


*A:SRU4>show>router>rsvp# interface "sr4-1" statistics
===============================================================================
RSVP Interface : sr4-1 (statistics)
===============================================================================
-------------------------------------------------------------------------------
Interface sr4-1
-------------------------------------------------------------------------------
Interface                   : Up
Total Packets        (Sent) : 33100                (Recd.): 20405
Bad Packets          (Sent) : 0                    (Recd.): 0
Paths                (Sent) : 0                    (Recd.): 1833
Path Errors          (Sent) : 1783                 (Recd.): 9
Path Tears           (Sent) : 0                    (Recd.): 1157
Resvs                (Sent) : 76                   (Recd.): 0
Resv Confirms        (Sent) : 0                    (Recd.): 0
Resv Errors          (Sent) : 0                    (Recd.): 0
Resv Tears           (Sent) : 1                    (Recd.): 0
Refresh Summaries    (Sent) : 4                    (Recd.): 33
Refresh Acks         (Sent) : 1520                 (Recd.): 4
Bundle Packets       (Sent) : 0                    (Recd.): 0
Hellos               (Sent) : 29716                (Recd.): 17369
Auth Errors          (Sent) : 0                    (Recd.): 0
===============================================================================
*A:SRU4>show>router>rsvp#

*A:SRU4>show>router>rsvp#  interface detail
===============================================================================
RSVP Interfaces (Detailed)
===============================================================================
-------------------------------------------------------------------------------
Interface : system
-------------------------------------------------------------------------------
Interface         : system
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Port ID           : system
Admin State       : Up                  Oper State        : Up
Active Sessions   : 0                   Active Resvs      : 0
Total Sessions    : 0
Subscription      : 100 %               Port Speed        : 0 Mbps
Total BW          : 0 Mbps              Aggregate         : Dsabl
Hello Interval    : 3000 ms             Hello Timeouts    : 0
Authentication    : Disabled
Auth Rx Seq Num   : n/a                 Auth Key Id       : n/a
Auth Tx Seq Num   : n/a                 Auth Win Size     : n/a
Refresh Reduc.    : Enabled             Reliable Deli.    : Disabled
Bfd Enabled       : No                  Graceful Shut.    : Disabled
ImplicitNullLabel : Disabled*

Percent Link Bandwidth for Class Types*
Link Bw CT0       : 100                 Link Bw CT4       : 0
Link Bw CT1       : 0                   Link Bw CT5       : 0
Link Bw CT2       : 0                   Link Bw CT6       : 0
Link Bw CT3       : 0                   Link Bw CT7       : 0

Bandwidth Constraints for Class Types (Kbps)
BC0               : 0                   BC4               : 0
BC1               : 0                   BC5               : 0
BC2               : 0                   BC6               : 0
BC3               : 0                   BC7               : 0

Bandwidth for TE Class Types (Kbps)
TE0->  Resv. Bw   : 0                   Unresv. Bw        : 0
TE1->  Resv. Bw   : 0                   Unresv. Bw        : 0
TE2->  Resv. Bw   : 0                   Unresv. Bw        : 0
TE3->  Resv. Bw   : 0                   Unresv. Bw        : 0
TE4->  Resv. Bw   : 0                   Unresv. Bw        : 0
TE5->  Resv. Bw   : 0                   Unresv. Bw        : 0
TE6->  Resv. Bw   : 0                   Unresv. Bw        : 0
TE7->  Resv. Bw   : 0                   Unresv. Bw        : 0

IGP Update
Up Thresholds(%)   : 0 15 30 45 60 75 80 85 90 95 96 97 98 99 100  *
Down Thresholds(%) : 100 99 98 97 96 95 90 85 80 75 60 45 30 15 0  *
IGP Update Pending : No
Next Update        : N/A
No Neighbors.
-------------------------------------------------------------------------------
Interface : m160
-------------------------------------------------------------------------------
Interface         : m160
Port ID           : 3/2/1
Admin State       : Up                  Oper State        : Up
Active Sessions   : 218                 Active Resvs      : 0
Total Sessions    : 517
Subscription      : 1000 %              Port Speed        : 100 Mbps
Total BW          : 1000 Mbps           Aggregate         : Dsabl
Hello Interval    : 3000 ms             Hello Timeouts    : 0
Authentication    : Disabled
Auth Rx Seq Num   : n/a                 Auth Key Id       : n/a
Auth Tx Seq Num   : n/a                 Auth Win Size     : n/a
Refresh Reduc.    : Enabled             Reliable Deli.    : Disabled
Bfd Enabled       : No                  Graceful Shut.    : Disabled
ImplicitNullLabel : Disabled*

Percent Link Bandwidth for Class Types*
Link Bw CT0       : 100                 Link Bw CT4       : 0
Link Bw CT1       : 0                   Link Bw CT5       : 0
Link Bw CT2       : 0                   Link Bw CT6       : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Link Bw CT3       : 0                   Link Bw CT7       : 0

Bandwidth Constraints for Class Types (Kbps)
BC0               : 1000000             BC4               : 0
BC1               : 0                   BC5               : 0
BC2               : 0                   BC6               : 0
BC3               : 0                   BC7               : 0

Bandwidth for TE Class Types (Kbps)
TE0->  Resv. Bw   : 0                   Unresv. Bw        : 1000000
TE1->  Resv. Bw   : 0                   Unresv. Bw        : 1000000
TE2->  Resv. Bw   : 0                   Unresv. Bw        : 1000000
TE3->  Resv. Bw   : 0                   Unresv. Bw        : 1000000
TE4->  Resv. Bw   : 0                   Unresv. Bw        : 1000000
TE5->  Resv. Bw   : 0                   Unresv. Bw        : 1000000
TE6->  Resv. Bw   : 0                   Unresv. Bw        : 1000000
TE7->  Resv. Bw   : 0                   Unresv. Bw        : 1000000

IGP Update
Up Thresholds(%)   : 0 15 30 45 60 75 80 85 90 95 96 97 98 99 100  *
Down Thresholds(%) : 100 99 98 97 96 95 90 85 80 75 60 45 30 15 0  *
IGP Update Pending : No
Next Update        : N/A
Neighbors      : 10.100.30.20
* indicates inherited values
===============================================================================
*A:SRU4>show>router>rsvp#
```

interface

Syntax

interface *ip-int-name* [**statistics** | **aux-stats**]

Context

[Tree] (clear>router>mpls interface)

Full Context

clear router mpls interface

Description

This command resets or clears statistics for MPLS interfaces.

Parameters

ip-int-name

Specifies an existing IP interface. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

statistics

Clears only packet and octet counters, and only these of the default MPLS statistics.

aux-stats

Clears only packet and octet counters, and only these of the default auxiliary MPLS statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

interface

Syntax

interface [*ip-int-name*] [**statistics**]

Context

[Tree] (clear>router>rsvp interface)

Full Context

clear router rsvp interface

Description

This command resets or clears statistics for an RSVP interface.

Parameters

ip-int-name

Specifies the IP interface to clear. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

statistics

Clears only statistics.

Platforms

All

interface

Syntax

interface [**service** *service-id*] [**interface** *ip-int-name*] [**stats** { **rt-server** | **fcc-server**}]

interface [**service** *service-id*] [**interface** *ip-int-name*] **summary**

Context

[Tree] (show>video interface)

Full Context

show video interface

Description

This command displays video interface information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

service *service-id*

Displays video interface information pertaining to the specified service ID.

Values 1 to 2148278317

svc-name — a string up to 64 characters.

interface *ip-int-name*

Displays video interface information pertaining to the specified interface.

stats

Displays video interface statistics.

Values **rt-server** — Displays video interface statistics for the RET server.

fcc-server — Displays video interface statistics for the FCC server.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

Output

The following output is an example of this command.

Output Example

```
*A:Dut-C# show video  interface
===============================================================================
Video interface
===============================================================================
Service Id       : 1
Name             : vi
Admin/Oper State : Up/Up               If Index         : 0
Video Group Id   : 1                   Sap Id           : lag-201:5
Sessions         : 2000                Mcast Protocol   : PIM

Address          : 10.3.3.3/32
Tx Failed Pkts   : 0
SCTE30 TCP sess  : 0                   SCTE30 INIT sess : 0
SD RT Srvr State : Enabled
SD RT Requests   : 0                   SD Failed Req    : 0
SD RTP Pkts Req  : 0                   SD RT Replies    : 0
Tx SD Bytes      : 0                   Tx SD Packets    : 0
HD RT Srvr State : Enabled
HD RT Requests   : 0                   HD Failed Req    : 0
HD RTP Pkts Req  : 0                   HD RT Replies    : 0
Tx HD Bytes      : 0                   Tx HD Packets    : 0
PIP RT Svr State : Enabled
PIP RT Requests  : 0                   PIP Failed Req   : 0
PIP RTP Pkts Req : 0                   PIP RT Replies   : 0
Tx PIP Bytes     : 0                   Tx PIP Packets   : 0
SD FCC Svr State : Enabled             SD FCC Svr Mode  : Burst
SD FCC Requests  : 0                   SD Failed Req    : 0
Tx SD Bytes      : 0                   Tx SD Packets    : 0
SD FCC Replies   : 0
HD FCC Svr State : Enabled             HD FCC Svr Mode  : Burst
HD FCC Requests  : 448820              HD Failed Req    : 0
Tx HD Bytes      : 17150845788         Tx HD Packets    : 293148098
HD FCC Replies   : 448820
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PIP FCCSvr State : Enabled              PIP FCC Svr Mode : Burst
PIP FCC Requests : 0                    PIP Failed Req   : 0
Tx PIP Bytes     : 0                    Tx PIP Pkts      : 0
PIP FCC Replies  : 0
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:Dut-C#
```

interface

Syntax

interface *ip-int-name* [**address** *ip-address*] [**rt-client**] [**rt-server**] [**fcc-server**] [**ad-insert**]

Context

[Tree] (clear>video>statistics>id interface)

Full Context

clear video statistics id interface

Description

This command clears video statistics for a particular channel.

Parameters

ip-int-name

Clears statistics for the specified interface.

address *ip-address*

Clears statistics for the specified IP address.

rt-client

Clears all RET client related statistics.

rt-server

Clears all RET server related statistics.

fcc-server

Clears all FCC server related statistics.

ad-insert

Clears all ad insert related statistics.

grp-address

Clears statistics for the specified channel group address.

source *srcAddr*

Clears statistics for the specified source address.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

interface

Syntax

interface [*ip-int-name* | *ipv6-address*] [**group**] [*grp-ipv6-address*] [**detail**]

Context

[Tree] (show>router>mld interface)

Full Context

show router mld interface

Description

This command displays MLD interface information.

Parameters

ip-int-name

Displays the information associated with the specified IPv6 interface name.

ipv6-address

Displays the information associated with the specified IPv6 address.

group ***grp-ipv6-address***

Displays IPv6 multicast group address for which this entry contains information.

detail

Displays detailed IPv6 interface information along with the source group information learned on that interface.

Platforms

All

Output

The following output is an example of MLD interface information. Table 219: Output fields: MLD interface displays MLD field descriptions.

Output Example

```
*A:Dut-A# show router mld interface
===============================================================================
MLD Interfaces
===============================================================================
Interface               Adm  Oper Cfg/Opr         Num Policy
    Querier                          Version         Groups
-------------------------------------------------------------------------------
intf_to_ixia            Up   Up   2/2             5 none
    fe0:db8:4403:1ff:fe01:3
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-A#
```

Table 219: Output fields: MLD interface

Label	Description
Interface	The interfaces that participate in the MLD protocol.
Adm Admin Status	The administrative state for the MLD protocol on this interface.
Oper Oper Status	The current operational state of MLD protocol on the interface.
Querier	The address of the MLD querier on the IP subnet to which the interface is attached.
Querier Up Time	The time since the querier was last elected as querier.
Querier Expiry Timer	The time remaining before the querier ages out. If the querier is the local interface address, the value will be zero.
Cfg/Opr Version Admin/Oper version	Cfg — The configured version of MLD running on this interface. For MLD to function correctly, all routers on a LAN must be configured to run the same version of MLD on that LAN. Opr — The operational version of MLD running on this interface.
Num Groups	The number of multicast groups which have been learned by the router on the interface.
Policy	The policy that is to be applied on the interface.
Group Address	The IP multicast group address for which this entry contains information.

interface

Syntax

interface [*ip-int-name* | *mt-int-name* | *ip-address*] [**group** *grp-ip-address* | **source** *ip-address* [**type** {**starstarrp** | **starg** | **sg**}] [**detail**] [*family*]

Context

[Tree] (show>router>pim interface)

Full Context

show router pim interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays PIM interface information and the (S,G)/(*,G)/(*, *, rp) state of the interface.

Parameters

ip-int-name

Displays interface information associated with the specified IP interface name.

mt-int-name

Displays Multicast Tunnel (MT) interface information for a VPRN.

Values <*vprn-id*>-mt-<*grp-ip-address*>

ip-address

Displays interface information associated with the specified IP address.

group *grp-ip-address*

Displays the IP multicast group address information for which this entry contains information.

source *ip-address*

Displays information about the source address for which this entry contains information.

If the type is **starg**, the value of this object is zero.

If the type is **starstarrp**, the value of this object is the address of the RP.

type

Displays information for the specified entry type.

Values **starstarrp**, **starg**, **sg**

detail

Displays detailed interface information.

family

Displays family information for the interface.

Values ipv4, ipv6

Platforms

All

Output

The following output is an example of a PIM interface configuration. Table 220: Output fields: PIM interface provides PIM interface field descriptions.

Output Example

```
ALA-1# show router pim interface
===============================================================================
PIM Interfaces
===============================================================================
Interface                     Admin  Oper   DR             DR        Hello
                              State  State                 Priority  Intvl
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
system                          Up     Up     N/A             1         30
ip-10.1.7.1                     Up     Up     10.1.7.7        5         30
ip-10.1.2.1                     Up     Up     10.1.2.2        5         30
ip-10.111.1.1                   Up     Up     10.111.1.1     5         30
-------------------------------------------------------------------------------
Interfaces : 4
===============================================================================
ALA-1#

ALA-1# show router pim interface ip-10.1.2.1 detail
===============================================================================
PIM Interface ip-10.1.2.1
===============================================================================
Interface                       Admin  Oper   DR              DR        Hello
                                State  State                  Priority  Intvl
-------------------------------------------------------------------------------
ip-10.1.2.1                     Up     Up     10.1.2.2        5         30
-------------------------------------------------------------------------------
PIM Group Source
-------------------------------------------------------------------------------
Group Address      : 239.101.0.5        Src Address        : 10.111.1.2
Interface          : ip-10.1.2.1        Type               : <S,G>
RP Address         : 239.200.200.4

Join Prune State   : Join               Expires            : 0d 00:03:00
Prune Pend Expires : N/A

Assert State       : No Info
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
ALA-1#

ALA-1# show router pim interface group
===============================================================================
PIM Interface ip-10.1.7.1
===============================================================================
Interface                       Admin  Oper   DR              DR        Hello
                                State  State                  Priority  Intvl
-------------------------------------------------------------------------------
ip-10.1.7.1                     Up     Up     10.1.7.7        5         30
-------------------------------------------------------------------------------
Group Address    Source Address   RP Address       Type     JP        Assert
-------------------------------------------------------------------------------
239.101.0.0      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
239.101.0.1      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
239.101.0.2      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
239.101.0.3      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
239.101.0.4      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
239.101.0.6      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
239.101.0.7      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
239.101.0.8      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
239.101.0.9      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
===============================================================================
PIM Interface ip-10.1.2.1
===============================================================================
Interface                       Admin  Oper   DR              DR        Hello
                                State  State                  Priority  Intvl
-------------------------------------------------------------------------------
ip-10.1.2.1                     Up     Up     10.1.2.2        5         30
-------------------------------------------------------------------------------
Group Address    Source Address   RP Address       Type     JP        Assert
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
239.101.0.5      10.111.1.2      239.200.200.4    <S,G>    Join      No Info
===============================================================================
PIM Interface ip-10.111.1.1
===============================================================================
Interface                       Admin  Oper   DR             DR        Hello
                                State  State                 Priority  Intvl
-------------------------------------------------------------------------------
ip-10.111.1.1                  Up     Up     10.111.1.1     5         30
-------------------------------------------------------------------------------
Group Address    Source Address   RP Address       Type     JP        Assert
-------------------------------------------------------------------------------
239.102.0.0      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.1      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.2      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.3      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.4      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.5      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.6      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.7      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.8      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.9      *                239.200.200.4    <*,G>    Join      No Info
-------------------------------------------------------------------------------
Interfaces : 3
===============================================================================
ALA-1#

ALA-1# show router pim interface group 239.102.0.0 detail
===============================================================================
PIM Interface ip-10.111.1.1
===============================================================================
Interface                       Admin  Oper   DR             DR        Hello
                                State  State                 Priority  Intvl
-------------------------------------------------------------------------------
ip-10.111.1.1                  Up     Up     10.111.1.1     5         30
-------------------------------------------------------------------------------
PIM Group Source
-------------------------------------------------------------------------------
Group Address      : 239.102.0.0        Src Address        : *
Interface          : ip-10.111.1.1     Type               : <*,G>
RP Address         : 239.200.200.4

Join Prune State   : Join               Expires            : 0d 00:02:05
Prune Pend Expires : N/A

Assert State       : No Info
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
ALA-1#

ALA-1# show router pim interface type starg
===============================================================================
PIM Interface ip-10.111.1.1
===============================================================================
Interface                       Admin  Oper   DR             DR        Hello
                                State  State                 Priority  Intvl
-------------------------------------------------------------------------------
ip-10.111.1.1                  Up     Up     10.111.1.1     5         30
-------------------------------------------------------------------------------
Group Address    Source Address   RP Address       Type     JP        Assert
-------------------------------------------------------------------------------
239.102.0.0      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.1      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.2      *                239.200.200.4    <*,G>    Join      No Info
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
239.102.0.3      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.4      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.5      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.6      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.7      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.8      *                239.200.200.4    <*,G>    Join      No Info
239.102.0.9      *                239.200.200.4    <*,G>    Join      No Info
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
ALA-1#

A:SetupCLI# show router pim interface detail
===============================================================================
PIM Interface ipv4 toRemoteSite_1001
===============================================================================
Admin Status       : Up                 Oper Status        : Up
IPv4 Admin Status  : Up                 IPv4 Oper Status   : Up
DR                 : 10.1.1.5
Oper DR Priority   : 5
OperGroup          : vrrp1_1            OprGrp Active oper : set
Cfg OprGrp Priority: 255
BSM RA Check       : Disabled           Cfg DR Priority    : 1
Hello Interval     : 30                 Time for next hello: 0d 00:00:03
Multicast Senders  : auto               Hello Multiplier   : 35
J/P Tracking Admin : Disabled           J/P Tracking Oper  : Disabled
Auto-created       : No                 Improved Assert    : Enabled
Sticky-DR          : Disabled           Sticky-DR Priority : N/A
Max Groups Allowed : 0                  Max Groups Till Now: 0
Num Groups         : 0                  Bfd enabled        : No
Three-way Hello    : 0                  Assert-Period      : No
Instant Prune Echo : Disabled           P2MP LDP Tree Join : Disabled
MCAC Policy Name   : 0                  MCAC Const Adm St  : Enable
MCAC Max Unconst BW:no limit            MCAC Max Mand BW   : no limit
MCAC In use Mand BW: 0                  MCAC Avail Mand BW : unlimited
MCAC In use Opnl BW: 0                  MCAC Avail Opnl BW : unlimited
Use LAG port weight: no
MCAC If-Policy Name:
-------------------------------------------------------------------------------
Interfaces : 1 Tunnel-Interfaces : 0
===============================================================================
```

Table 220: Output fields: PIM interface

Label	Description
Admin State	The administrative state for PIM protocol on this interface
Oper State	The current operational state of PIM protocol on this interface
DR	The designated router on this PIM interface
DR Priority	The priority value sent in PIM Hello messages and that is used by routers to elect the designated router (DR).
Hello Intvl	The frequency at which PIM Hello messages are transmitted on this interface
OperGroup	The OperGroup name associated with the PIM interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
OprGrp Active oper	The OperGroup operation (add, set, subtract) to the DR priority
Cfg OprGrp Priority	The configured OperGroup DR priority

interface

Syntax

interface [*ip-int-name*]

Context

[Tree] (show>cflowd interface)

Full Context

show cflowd interface

Description

This command displays the administrative and operational status of interfaces that have cflowd enabled.

Parameters

ip-int-name

Displays information only for the IP interface with the specified name.

Default All interfaces with cflowd enabled.

Platforms

All

Output

The following output is an example of cflowd interface information, and Table 221: Output fields: cflowd interface describes the output fields.

Output Example

```
A:Dut-B# show cflowd interface

===============================================================================
Cflowd Interfaces
===============================================================================
Interface                       Router       IF Index    Type/Dir  Admin
  IPv4Address                                              Samp      Oper IPv4
  IPv6Address                                                        Oper IPv6
-------------------------------------------------------------------------------
ixia                            Base         20          intf/ingr Up
  150.1.1.1/24                                             uni       Up
  ::9601:101/104                                           uni       Up
to-Dut-C                        1            259         intf/ingr Up
  1.20.1.2/24                                              uni       Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  ::114:102/104                                                 uni       Up
to-Dut-C                        2           260         intf/ingr Up
  1.30.1.2/24                                                   uni       Up
  ::11e:102/104                                                 uni       Up
to-Dut-A                        3           261         intf/ingr Up
  1.10.1.2/24                                                   uni       Up
  ::10a:102/104                                                 uni       Up
-------------------------------------------------------------------------------
Interfaces : 4
===============================================================================
```

Table 221: Output fields: cflowd interface

Label	Description
Interface	Displays the interface name
IPv4 Address	Displays the primary IPv4 address for the associated IP interface
IPv6 Address	Displays the primary IPv6 address for the associated IP interface
Router	Displays the virtual router index (Base = 0) associated with the interface
IF Index	Displays the Global IP interface index
Type/Dir Samp	Displays the cflowd sampling type and direction intf — Interface based sampling acl — ACL based sampling ingr — Ingress sampling egr — Egress sampling both — Both ingress and egress sampling
Admin	Displays the administrative state of the interface
Oper IPv4	Displays the operational state for IPv4 sampling
Oper IPv6	Displays the operational state for IPv6 sampling

interface

Syntax

interface [*interface-name*] [**family**]

interface [*interface-name*] **detail**

interface summary

Context

[Tree] (show>router>bfd interface)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bfd interface

Description

This command displays interface information.

Parameters

interface-name

Specifies the interface name.

family

Specifies whether IPv4 or IPv6 routes are displayed.

detail

Displays detailed interface information.

summary

Displays summary interface information for the router.

Platforms

All

Output

The following output is an example of BFD interface information, and Table 222: Output fields: BFD interface describes the fields.

Output Example

```
*A:Dut-B# show router bfd interface
===============================================================================
BFD Interface
===============================================================================
Interface name                    Tx Interval    Rx Interval    Multiplier
-------------------------------------------------------------------------------
port-1-1                          500            500            3
port-1-1                          10             10             3
port-1-2                          500            500            3
port-1-2                          10             10             3
port-1-3                          500            500            3
port-1-3                          10             10             3
port-1-4                          500            500            3
port-1-4                          10             10             3
port-1-5                          500            500            3
...
===============================================================================
```

Table 222: Output fields: BFD interface

Label	Description
TX Interval	Displays the interval, in milliseconds, between the transmitted BFD messages to maintain the session

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
RX Interval	Displays the expected interval, in milliseconds, between the received BFD messages to maintain the session
Multiplier	Displays the integer used by BFD to declare when the neighbor is down

interface

Syntax

interface [*interface-name*]

Context

[Tree] (show>router>icmp6 interface)

[Tree] (show>router>icmp interface)

Full Context

show router icmp6 interface

show router icmp interface

Description

This command displays interface ICMP and ICMP6 statistics.

Parameters

interface-name

Only displays entries associated with the specified IP interface name.

Platforms

All

Output

The following output is an example of ICMPv6 interface statistics, and Table 223: Output fields: ICMP6 interface describes the fields.

Output Example

```
B:CORE2# show router icmp6 interface net1_1_2
===============================================================================
Interface ICMPv6 Stats
===============================================================================
Interface "net1_1_2"
-------------------------------------------------------------------------------
Received
Total                  : 41           Errors                 : 0
Destination Unreachable : 0           Redirects              : 0
Time Exceeded          : 0            Pkt Too Big            : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Echo Request            : 0            Echo Reply              : 0
Router Solicits         : 0            Router Advertisements   : 0
Neighbor Solicits       : 20           Neighbor Advertisements : 21
-------------------------------------------------------------------------------
Sent
Total                   : 47           Errors                  : 0
Destination Unreachable : 0            Redirects               : 0
Time Exceeded           : 0            Pkt Too Big             : 0
Echo Request            : 0            Echo Reply              : 0
Router Solicits         : 0            Router Advertisements   : 0
Neighbor Solicits       : 27           Neighbor Advertisements : 20
===============================================================================
B:CORE2#
```

Table 223: Output fields: ICMP6 interface

Label	Description
Total	The total number of all messages
Destination Unreachable	The number of message that did not reach the destination
Time Exceeded	The number of messages that exceeded the time threshold
Echo Request	The number of echo requests
Router Solicits	The number of times the local router was solicited
Neighbor Solicits	The number of times the neighbor router was solicited
Errors	The number of error messages
Redirects	The number of packet redirects
Pkt Too big	The number of packets that exceed appropriate size
Echo Reply	The number of echo replies
Router Advertisements	The number of times the router advertised its location
Neighbor Advertisements	The number of times the neighbor router advertised its location

interface

Syntax

interface [*ip-int-name* | *ip-address*] [**detail**]

Context

[Tree] (show>router>isis interface)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router isis interface

Description

This command displays IS-IS interface information. When no *ip-addr* or the *ip-int-name* is specified, all interfaces are listed.

Parameters

ip-address

Displays only the interface information associated with the specified IP address.

Values ipv4-address

- a.b.c.d (host bits must be 0)

ipv6-address

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ip-int-name

Displays only the interface information associated with the specified IP interface name.

detail

Keyword to display detailed information.

Platforms

All

Output

The following outputs are examples of IS-IS interface information, and Table 225: Output fields: detailed IS-IS interface describes the output fields.

Output example

```
A:node-2# show router isis interface
===============================================================================
Rtr Base ISIS Instance 0 Interfaces
===============================================================================
Interface                       Level CircID  Oper      L1/L2 Metric     Type
                                            State
-------------------------------------------------------------------------------
To_PE1                          L1L2  2       Down      0/0              bcst
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 224: Output fields: IS-IS interface

Label	Description
Interface	The interface name
Level	The interface level (1, 2, or 1 and 2)
Circuit Id	The circuit identifier
Oper State	Up — the interface is operationally up Down — the interface is operationally down
Metric	The interface metric for Level 1 and Level 2, if none are set to 0
Type	p2p — the operational interface type is point-to-point bcst — the operational interface type is broadcast

The following outputs are examples of IS-IS interface information, and Table 225: Output fields: detailed IS-IS interface describes the output fields.

Output example

```
A:node-2# show router isis 0 interface detail
===============================================================================
Rtr Base ISIS Instance 0 Interfaces (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface       : Loopback0                       Level Capability: L1L2
Oper State      : Up                              Admin State     : Up
Auth Keychain   : Disabled
Auth Type       : None                            Auth State      : Enabled
Circuit Id      : 2                               Retransmit Int. : 5
Type            : Pt-to-Pt                        LSP Pacing Int. : 100
Oper Type       : Pt-to-Pt                        CSNP Int.       : 10
Mesh Group      : Inactive                        BER             : none
LFA NH Template : None                            Bfd Enabled     : No
Topology        : IPv4-Unicast, IPv6-Unicast, IPv4-Multicast, IPv6-Multicast
Te Metric       : 0                               Te State        : Down
Admin Groups    : None
Ldp Sync        : outOfService                    Ldp Sync Wait   : Disabled
Ldp Timer State : Disabled                        Ldp Tm Left     : 0
Route Tag       : None                            LFA             : Included
Default Instance: N/A                             Load Bal Weight : None
Hello Padding   : Disabled
IPv4 Node SID   : Index 1                         IPv6 Node SID   : none
Flex Algo       : 128
  IPv4 Node SID : Index 11                        IPv6 Node SID   : None
  Level         : 1                               Adjacencies     : 0
  Auth Keychain : Disabled
  Auth Type     : None                            Metric          : 0
  Hello Timer   : 9                               IPv6-Ucast-Met  : 0
  Priority      : 64                              IPv6-Mcast-Met  : 0
  Passive       : Yes                             IPv4-Mcast-Met  : 0
  SD-Offset     : 0                               SF-Offset       : 0
  Hello Mult.   : 3                               LSP Tx Q Count  : 0
  Hello Padding : Disabled
  Level         : 2                               Adjacencies     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Auth Keychain : Disabled
  Auth Type     : None                            Metric          : 0
  Hello Timer   : 9                               IPv6-Ucast-Met  : 0
  Priority      : 64                              IPv6-Mcast-Met  : 0
  Passive       : Yes                             IPv4-Mcast-Met  : 0
  SD-Offset     : 0                               SF-Offset       : 0
  Hello Mult.   : 3                               LSP Tx Q Count  : 0
  Hello Padding : Disabled
-------------------------------------------------------------------------------
Interface       : To_B                            Level Capability: L2
Oper State      : Up                              Admin State     : Up
Auth Keychain   : Disabled
Auth Type       : None                            Auth State      : Enabled
Circuit Id      : 3                               Retransmit Int. : 5
Type            : Pt-to-Pt                        LSP Pacing Int. : 100
Oper Type       : Pt-to-Pt                        CSNP Int.       : 10
Mesh Group      : Inactive                        BER             : none
LFA NH Template : None                            Bfd Enabled     : No
Topology        : IPv4-Unicast, IPv6-Unicast, IPv4-Multicast, IPv6-Multicast
Te Metric       : 0                               Te State        : Down
Admin Groups    : None
Ldp Sync        : outOfService                    Ldp Sync Wait   : Disabled
Ldp Timer State : Disabled                        Ldp Tm Left     : 0
Route Tag       : None                            LFA             : Included
Default Instance: N/A                             Load Bal Weight : None
Hello Padding   : Disabled
  Level         : 2                               Adjacencies     : 1
  Auth Keychain : Disabled
  Auth Type     : None                            Metric          : 10
  Hello Timer   : 9                               IPv6-Ucast-Met  : 10
  Priority      : 64                              IPv6-Mcast-Met  : 10
  Passive       : No                              IPv4-Mcast-Met  : 10
  SD-Offset     : 0                               SF-Offset       : 0
  Hello Mult.   : 3                               LSP Tx Q Count  : 0
  Hello Padding : Disabled
-------------------------------------------------------------------------------
Interface       : To_C                            Level Capability: L2
Oper State      : Up                              Admin State     : Up
Auth Keychain   : Disabled
Auth Type       : None                            Auth State      : Enabled
Circuit Id      : 4                               Retransmit Int. : 5
Type            : Pt-to-Pt                        LSP Pacing Int. : 100
Oper Type       : Pt-to-Pt                        CSNP Int.       : 10
Mesh Group      : Inactive                        BER             : none
LFA NH Template : None                            Bfd Enabled     : No
Topology        : IPv4-Unicast, IPv6-Unicast, IPv4-Multicast, IPv6-Multicast
Te Metric       : 0                               Te State        : Down
Admin Groups    : None
Ldp Sync        : outOfService                    Ldp Sync Wait   : Disabled
Ldp Timer State : Disabled                        Ldp Tm Left     : 0
Route Tag       : None                            LFA             : Included
Default Instance: N/A                             Load Bal Weight : None
Hello Padding   : Disabled
Level         : 2                                Adjacencies     : 1
  Auth Keychain : Disabled
  Auth Type     : None                            Metric          : 10
  Hello Timer   : 9                               IPv6-Ucast-Met  : 10
  Priority      : 64                              IPv6-Mcast-Met  : 10
  Passive       : No                              IPv4-Mcast-Met  : 10
  SD-Offset     : 0                               SF-Offset       : 0
  Hello Mult.   : 3                               LSP Tx Q Count  : 0
  Hello Padding : Disabled
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:node-2# show router isis interface "Loopback0" detail
===============================================================================
Rtr Base ISIS Instance 0 Interfaces (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface       : Loopback0                       Level Capability: L1L2
Oper State      : Up                              Admin State     : Up
Auth Keychain   : Disabled
Auth Type       : None                            Auth State      : Enabled
Circuit Id      : 2                               Retransmit Int. : 5
Type            : Pt-to-Pt                        LSP Pacing Int. : 100
Oper Type       : Pt-to-Pt                        CSNP Int.       : 10
Mesh Group      : Inactive                        BER             : none
LFA NH Template : None                            Bfd Enabled     : No
Topology        : IPv4-Unicast, IPv6-Unicast, IPv4-Multicast, IPv6-Multicast
Te Metric       : 0                               Te State        : Down
Admin Groups    : None
Ldp Sync        : outOfService                    Ldp Sync Wait   : Disabled
Ldp Timer State : Disabled                        Ldp Tm Left     : 0
Route Tag       : None                            LFA             : Included
Default Instance: N/A                             Load Bal Weight : None
Hello Padding   : Disabled
IPv4 Node SID   : Index 3                         IPv6 Node SID   : none
IPv4 shared SID : <Yes/No>                        IPv6 shared SID : <Yes/No>
  Level         : 1                               Adjacencies     : 0
  Auth Keychain : Disabled
  Auth Type     : None                            Metric          : 0
  Hello Timer   : 9                               IPv6-Ucast-Met  : 0
  Priority      : 64                              IPv6-Mcast-Met  : 0
  Passive       : Yes                             IPv4-Mcast-Met  : 0
  SD-Offset     : 0                               SF-Offset       : 0
  Hello Mult.   : 3                               LSP Tx Q Count  : 0
  Hello Padding : Disabled
  Level         : 2                               Adjacencies     : 0
  Auth Keychain : Disabled
  Auth Type     : None                            Metric          : 0
  Hello Timer   : 9                               IPv6-Ucast-Met  : 0
  Priority      : 64                              IPv6-Mcast-Met  : 0
  Passive       : Yes                             IPv4-Mcast-Met  : 0
  SD-Offset     : 0                               SF-Offset       : 0
  Hello Mult.   : 3                               LSP Tx Q Count  : 0
  Hello Padding : Disabled
===============================================================================
```

Output example

```
A:node-2# show router isis interface "if1" detail

===============================================================================
Rtr Base ISIS Instance 0 Interfaces (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface       : if1                             Level Capability: L1L2
Oper State      : Down                            Admin State     : Up
Auth Keychain   : Disabled
Auth Type       : None                            Auth State      : Enabled
Circuit Id      : 3                               Retransmit Int. : 5
Type            : Broadcast                       LSP Pacing Int. : 100
Oper Type       : Broadcast                       CSNP Int.       : 10
Mesh Group      : Inactive                        BER             : none
LFA NH Template : None                            Bfd Enabled     : No
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Topology        : IPv4-Unicast, IPv6-Unicast, IPv4-Multicast, IPv6-Multicast
Te Metric       : 0                                 Te State        : Down
Admin Groups    : None
Delay Normaliz. : Disabled
Minimum Delay   : N.A.                              Delay Tolerance : N.A.
Measured Delay  : 0 usec                            Normalized Delay: N.A.
Ldp Sync        : outOfService                      Ldp Sync Wait   : Disabled
Ldp Timer State : Disabled                          Ldp Tm Left     : 0
Route Tag       : None                              LFA             : Included
Default Instance: N/A                               Load Bal Weight : None
Hello Padding   : Disabled

  Level         : 1                                 Adjacencies     : 0
  Desg. IS      : 0000.0000.0000
  Auth Keychain : Disabled
  Auth Type     : None                              Metric          : 10
  Hello Timer   : 9                                 IPv6-Ucast-Met  : 10
  Priority      : 64                                IPv6-Mcast-Met  : 10
  Passive       : No                                IPv4-Mcast-Met  : 10
  SD-Offset     : 0                                 SF-Offset       : 0
  Hello Mult.   : 3                                 LSP Tx Q Count  : 0
  Hello Padding : Disabled

  Level         : 2                                 Adjacencies     : 0
  Desg. IS      : 0000.0000.0000
  Auth Keychain : Disabled
  Auth Type     : None                              Metric          : 10
  Hello Timer   : 9                                 IPv6-Ucast-Met  : 10
  Priority      : 64                                IPv6-Mcast-Met  : 10
  Passive       : No                                IPv4-Mcast-Met  : 10
  SD-Offset     : 0                                 SF-Offset       : 0
  Hello Mult.   : 3                                 LSP Tx Q Count  : 0
  Hello Padding : Disabled

===============================================================================
```

The following output is an example of the detailed LFA policies configured in the **configure router isis** context.

Output example

```
A:node-2# show router isis interface "DUTC_TO_DUTE.1.0" detail
===============================================================================
Rtr Base ISIS Instance 0 Interfaces (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface       : DUTC_TO_DUTE.1.0                  Level Capability: L1L2
Oper State      : Up                                Admin State     : Up
Auth Keychain   : Disabled
Auth Type       : None                              Auth State      : Enabled
Circuit Id      : 3                                 Retransmit Int. : 5
Type            : Broadcast                         LSP Pacing Int. : 100
Oper Type       : Broadcast                         CSNP Int.       : 10
Mesh Group      : Inactive                          BER             : none
LFA NH Template : "template1"                       Bfd Enabled     : No
Topology        : IPv4-Unicast, IPv6-Unicast, IPv4-Multicast, IPv6-Multicast
Te Metric       : 0                                 Te State        : Down
Admin Groups    : None
Ldp Sync        : outOfService                      Ldp Sync Wait   : Disabled
Ldp Timer State : Disabled                          Ldp Tm Left     : 0
Route Tag       : None                              LFA             : Included

  Level         : 1                                 Adjacencies     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Desg. IS      : Dut-C
  Auth Keychain : Disabled
  Auth Type     : None                              Metric          : 10
  Hello Timer   : 9                                 IPv6-Ucast-Met  : 10
  Priority      : 64                                IPv6-Mcast-Met  : 10
  Passive       : No                                IPv4-Mcast-Met  : 10
  SD-Offset     : 0                                 SF-Offset       : 0
  Hello Mult.   : 3

  Level         : 2                                 Adjacencies     : 0
  Desg. IS      : Dut-C
  Auth Keychain : Disabled
  Auth Type     : None                              Metric          : 10
  Hello Timer   : 9                                 IPv6-Ucast-Met  : 10
  Priority      : 64                                IPv6-Mcast-Met  : 10
  Passive       : No                                IPv4-Mcast-Met  : 10
  SD-Offset     : 0                                 SF-Offset       : 0
  Hello Mult.   : 3

===============================================================================
```

Output example (detail showing Fast Flooding)

```
*A:Dut-B>config>router>isis>if>ff# /show router isis interface "system" detail

===============================================================================
Rtr Base ISIS Instance 0 Interfaces (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface       : system                          Level Capability: L1L2
Oper State      : Up                              Admin State     : Up
Auth Keychain   : Disabled
Auth Type       : None                            Auth State      : Enabled
Circuit Id      : 1                               Retransmit Int. : 5
Type            : Pt-to-Pt                        LSP Pacing Int. : 100
Oper Type       : Pt-to-Pt                        CSNP Int.       : 10
Mesh Group      : Inactive                        BER             : none
LFA NH Template : None
IPv4 Bfd Enabled: No                              IPv6 Bfd Enabled: No
Topology        : IPv4-Unicast, IPv6-Unicast, IPv4-Multicast, IPv6-Multicast
Te Metric       : 0                               Te State        : Down
Admin Groups    : None
Delay Normaliz. : Disabled
Minimum Delay   : N.A.                            Delay Tolerance : N.A.
Measured Delay  : 0 usec                          Normalized Delay: N.A.
Ldp Sync        : outOfService                    Ldp Sync Wait   : Disabled
Ldp Timer State : Disabled                        Ldp Tm Left     : 0
Route Tag       : None                            LFA             : Included
Default Instance: N/A                             Load Bal Weight : None
Hello Padding   : Disabled
IPv4 Node SID   : Index 1                         IPv6 Node SID   : none
IPv4 Shared SID : No                              IPv6 Shared SID : N.A.
Fast Flooding (oper)
LSP Receiver    : Enabled
  Burst Size    : 90                              Adv Flooding TLV: No
  LSP per PSNP  : 15                              LSP Tx Interval : 100 ms
  PSNP Interval : 200 ms                          Receive Window  : 30
LSP Sender      : Enabled
  Enforce RWIN  : No                              Enfrc Burst Size: Yes
  Def Burst Size: 30                              Def LSP per PSNP: 15
  Def RWIN      : 30

Flex Algo       : 128
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  IPv4 Node SID : Index 20                        IPv6 Node SID   : None
Flex Algo       : 129
  IPv4 Node SID : None                            IPv6 Node SID   : Index 22
  Level         : 1                               Adjacencies     : 0
  Auth Keychain : Disabled
  Auth Type     : None                            Metric          : 0
  Hello Timer   : 9                               IPv6-Ucast-Met  : 0
  Priority      : 64                              IPv6-Mcast-Met  : 0
  Passive       : No                              IPv4-Mcast-Met  : 0
  SD-Offset     : 0                               SF-Offset       : 0
  Hello Mult.   : 3                               LSP Tx Q Count  : 0
  Hello Padding : Disabled

  Level         : 2                               Adjacencies     : 0
  Auth Keychain : Disabled
  Auth Type     : None                            Metric          : 0
  Hello Timer   : 9                               IPv6-Ucast-Met  : 0
  Priority      : 64                              IPv6-Mcast-Met  : 0
  Passive       : No                              IPv4-Mcast-Met  : 0
  SD-Offset     : 0                               SF-Offset       : 0
  Hello Mult.   : 3                               LSP Tx Q Count  : 0
  Hello Padding : Disabled

===============================================================================
```

Table 225: Output fields: detailed IS-IS interface

Label	Description
Interface	The interface name
Level Capability	The interface level (1, 2, or 1 and 2)
Oper State	Up — the interface is operationally up Down — the interface is operationally down
Admin State	Up — the interface is administratively up Down — the interface is administratively down
Auth Keychain	The authentication keychain name
Auth Type	The authentication type
Auth State	The authentication state
Circuit Id	The circuit identifier
Retransmit Int.	The retransmit interval, which is the minimum time between LSP PDU retransmissions
Type	Pt-to-Pt — the interface type is point-to-point Broadcast — the interface type is broadcast Non-Broadcast — X.25, Frame Relay, and similar technologies
LSP Pacing Int.	The LSP pacing interval defining the flooding pace to neighboring devices

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper Type	The operational interface type: • Broadcast – the operational interface type is broadcast • Pt-to-Pt – the operational interface type is point-to-point
CSNP Int.	The interval between successive CSN PDUs being sent
Mesh Group	Displays if the mesh group is active or inactive
BER	The bit error rate
LFA NH Template	The LFA next-hop (NH) template configuration
Bfd Enabled	Displays if Bidirectional Forwarding (BFD) is enabled: • Yes – BFD is enabled • No – BFD is disabled
Topology	The IS-IS topology information
Te Metric	The TE metric configured for the interface
Te State	Displays if TE is enabled on the interface
Admin Groups	Displays the bitmap inherited from the MPLS interface that identifies the administrative groups to which this interface belongs
Delay Normaliz.	The state of delay normalization: • Enabled – Delay normalization is enabled. When delay normalization is enabled, the normalized delay is used by the respective TLVs within the IGP link-state packets. • Disabled – Delay normalization is disabled. When delay normalization is disabled, the measured delay is used by the respective TLVs within the IGP link-state packets
Minimum Delay	The minimum delay configured on the interface
Delay Tolerance	The interval granularity within the range
Measured Delay	The measured delay on the interface
Normalized Delay	The normalized delay on the interface
Ldp Sync	Displays if the IGP-LDP synchronization feature is enabled or disabled on all interfaces participating in the IS-IS routing protocol
Ldp Sync Wait	The time to wait for the LDP adjacency to come up
Ldp Timer State	The state of the LDP synchronized time left on the IS-IS interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ldp Tm Left	The time left before IS-IS reverts back to advertising the normal metric for this interface
Route Tag	The route tag of the entry
LFA	Displays if the Loop-Free Alternate (LFA) next-hop is included
Default Instance	The default instance for the entry
Load Bal Weight	The load balancing weight, if this weight is configured
Hello Padding	Displays if Hello padding is enabled
Fast Flooding (oper)	The operational Fast Flooding information for the interface
LSP Receiver	Displays if Fast Flooding LSP receiver behavior is enabled
Burst Size	The maximum number of LSPs that can be received back-to-back
Adv Flooding TLV	Displays if the RFC 9681 Flooding Parameters TLV is advertised
LSP per PSNP	The number of received, unacknowledged LSPs that triggers immediate PSNP transmission
LSP Tx Interval	The minimum interval between consecutive LSP arrivals after a complete burst, in milliseconds
PSNP Interval	The maximum timer-based delay for acknowledging received LSPs with a PSNP, in milliseconds
Receive Window	The maximum number of unacknowledged LSPs that can be received from a neighbor
LSP Sender	Displays if Fast Flooding LSP sender behavior is enabled
Enforce RWIN	Displays if the sender enforces the receive window advertised by the neighbor
Enfrc Burst Size	Displays if the sender enforces the LSP burst size advertised by the neighbor
Def Burst Size	The locally configured default LSP burst size used when the neighbor has not advertised a burst size
Def LSP per PSNP	The locally configured default number of LSPs per PSNP used when the neighbor has not advertised an LSPs-per-PSNP value
Def RWIN	The locally configured default receive window used when the neighbor has not advertised a receive window
Level	The routing level for the IS-IS routing instance

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Adjacencies	Displays the number of adjacencies with IS-IS neighbors
Desg. IS	The designated intermediate system
Auth Keychain	Displays if the authentication keychain is enabled
Auth Type	Displays the authentication type. If no type exists, the field displays as None.
Metric	The interface metric for Level 1 and Level 2, if none are set to 0
Hello Timer	The Hello timer for the entry
Ipv6-Ucast-Met	The IPv6 unicast metric for the entry
Priority	The priority for the entry
Ipv6-Mcast-Met	The IPv6 multicast metric for the entry
Passive	Displays if the interface operates as a normal IS-IS interface with regard to adjacency forming and network and link behavior
Ipv4-Mcast-Met	The IPv4 multicast metric for the entry
SD-Offset	The SD offset for the entry
SF-Offset	The SF offset for the entry
Hello Mult.	The Hello multiplier for the entry
LSP Tx Q Count	The LSP transmission Q count for the entry
Hello Padding	The Hello padding for the entry

interface

Syntax

interface [*ip-int-name* | *ip-address*] [**detail**]

interface [**area** *area-id*] [**detail**]

interface [*ip-int-name* | *ip-address*] **database** [**detail**]

Context

[Tree] (show>router>ospf interface)

Full Context

show router ospf interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the details of the OSPF interface identifiable by the IP address or IP interface name. When neither is specified, all in-service interfaces are displayed.

Note:
The **detail** keyword generates large volumes of data. Nokia recommends using the **detail** keyword only when requesting a specific interface.

Parameters

ip-int-name

Displays only the interface identified by this interface name, up to a maximum of 32 characters.

ip-address

Displays only the interface identified by this IPv4 address.

Values ipv4-address:

- a.b.c.d

area *area-id*

Displays all interfaces configured in this area.

Values ip-address — a.b.c.d

area — 0 to 4294967295

detail

Keyword to display detailed information for the interface.

database

Keyword to display database information for the interface.

Platforms

All

Output

The following output is an example of the OSPF interface information, and Table 226: Output fields: OSPF Interface describes the output fields.

Output example – OSPFv2 system interface

```
A:node-2# show router ospf interface "system"
===============================================================================
Rtr Base OSPFv2 Instance 0 Interface "system"
===============================================================================
If Name               Area Id         Designated Rtr  Bkup Desig Rtr  Adm  Oper
-------------------------------------------------------------------------------
system                0.0.0.0         10.20.1.3       0.0.0.0         Up   DR
-------------------------------------------------------------------------------
No. of OSPF Interfaces: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example – OSPFv2 interface output

```
A:node-2# show router ospf 1 interface "DUTC_TO_DUTB.1.0"
===============================================================================
Rtr Base OSPFv2 Instance 1 Interface "DUTC_TO_DUTB.1.0"
===============================================================================
If Name               Area Id         Designated Rtr  Bkup Desig Rtr  Adm  Oper
-------------------------------------------------------------------------------
DUTC_TO_DUTB.1.0      0.0.0.0         0.0.0.0         0.0.0.0         Up   PToP
-------------------------------------------------------------------------------
No. of OSPF Interfaces: 1
===============================================================================
```

Table 226: Output fields: OSPF Interface

Label	Description
If Name	The interface name
Area Id	A 32-bit integer uniquely identifying the area to which this interface is connected. Area ID 0.0.0.0 is used for the OSPF backbone.
D Rtr Id	The IP interface address of the router identified as the Designated Router for the network in which this interface is configured. Set to 0.0.0.0 if there is no Designated Router.
BD Rtr Id	The IP interface address of the router identified as the Backup Designated Router for the network in which this interface is configured. Set to 0.0.0.0 if there is no Backup Designated router.
Adm	Dn — OSPF on this interface is administratively disabled Up — OSPF on this interface is administratively enabled
Opr	Down — this is the initial interface state. In this state, the lower-level protocols have indicated that the interface is unusable. Wait — the router is trying to determine the identity of the (Backup) Designated router for the network PToP — the interface is operational, and connects either to a physical point-to-point network or to a virtual link DR — this router is the Designated Router for this network BDR — this router is the Backup Designated Router for this network ODR — the interface is operational and part of a broadcast or NBMA network on which another router has been selected to be the Designated Router
No. of OSPF Interfaces	The number of interfaces listed

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following output is an example of detailed OSPF interface information, and Table 227: Output fields: detailed OSPF Interface describes the output fields.

Output example – OSPFv2 detailed system interface

```
A:node-2# show router ospf interface "system" detail

===============================================================================
Rtr Base OSPFv2 Instance 0 Interface "system" (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address       : 10.20.1.3
Area Id          : 6.6.6.6              Priority         : 1
Hello Intrvl     : 10 sec               Rtr Dead Intrvl  : 40 sec
Retrans Intrvl   : 5 sec                Poll Intrvl      : 120 sec
Cfg Metric       : 0                    Advert Subnet    : True
Transit Delay    : 1                    Cfg IF Type      : None
Passive          : True                 Cfg MTU          : 0
LSA-filter-out   : None                 Adv Rtr Capab    : Yes
LFA              : Include              LFA NH Template  :
Load Bal Weight  : None                 Bfd Enabled      : No
Bfd Strict Mode  : No                   Bfd Str Holddown : 0 sec
RIB-priority     : None
Delay Normaliz.  : Disabled
Minimum Delay    : N.A.                 Delay Tolerance  : N.A.
Auth Type        : None
-------------------------------------------------------------------------------
State
-------------------------------------------------------------------------------
Admin Status     : Enabled              Oper State       : Designated Rtr
Designated Rtr   : 10.20.1.2            Backup Desig Rtr : 0.0.0.0
IF Type          : Broadcast            Network Type     : Stub
Oper MTU         : 1500                 Last Enabled     : 09/17/2024 11:43:25
Oper Metric      : 0
Te Metric        : 0                    Te State         : Down
Admin Groups     : None
Measured Delay   : 0 usec               Normalized Delay : N.A.
Ldp Sync         : outOfService         Ldp Sync Wait    : Disabled
Ldp Timer State  : Disabled             Ldp Tm Left      : 0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count        : 0                    If Events        : 2
Tot Rx Packets   : 0                    Tot Tx Packets   : 0
Rx Hellos        : 0                    Tx Hellos        : 0
Rx DBDs          : 0                    Tx DBDs          : 0
Rx LSRs          : 0                    Tx LSRs          : 0
Rx LSUs          : 0                    Tx LSUs          : 0
Rx LS Acks       : 0                    Tx LS Acks       : 0
Discards         : 0                    Tx Failures      : 0
                                        Retransmits      : 0
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 0                    LSA Checksum     : 0x0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example – OSPFv2 detailed interface

```
A:node-2# show router ospf 1 interface "DUTC_TO_DUTB.1.0" detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Interface "DUTC_TO_DUTB.1.0" (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address       : 1.0.23.3
Area Id          : 0.0.0.0              Priority         : 1
Hello Intrvl     : 2 sec                Rtr Dead Intrvl  : 10 sec
Retrans Intrvl   : 5 sec                Poll Intrvl      : 120 sec
Cfg Metric       : 7000                 Advert Subnet    : True
Transit Delay    : 1                    Cfg IF Type      : Point To Point
Passive          : False                Cfg MTU          : 0
LSA-filter-out   : None                 Adv Rtr Capab    : Yes
LFA              : Include              LFA NH Template  : template1
Auth Type        : None
-------------------------------------------------------------------------------
State
-------------------------------------------------------------------------------
Admin Status     : Enabled              Oper State       : Point To Point
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
IF Type          : Point To Point       Network Type     : Transit
Oper MTU         : 1500                 Last Enabled     : 01/14/2014 14:33:07
Oper Metric      : 7000                 Bfd Enabled      : No
Te Metric        : 7000                 Te State         : Down
Admin Groups     : None
Ldp Sync         : outOfService         Ldp Sync Wait    : Disabled
Ldp Timer State  : Disabled             Ldp Tm Left      : 0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count        : 1                    If Events        : 1
Tot Rx Packets   : 603                  Tot Tx Packets   : 602
Rx Hellos        : 576                  Tx Hellos        : 577
Rx DBDs          : 3                    Tx DBDs          : 2
Rx LSRs          : 0                    Tx LSRs          : 1
Rx LSUs          : 15                   Tx LSUs          : 16
Rx LS Acks       : 9                    Tx LS Acks       : 6
Retransmits      : 2                    Discards         : 2
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 1
Bad Dead Int.    : 1                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 0                    LSA Checksum     : 0x0
===============================================================================
```

Output example – OSPFv2 detailed interface

```
A:node-2# show router ospf 1 interface "ip_if_1" detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Interface "ip_if_1" (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address       : 10.10.1.1
Area Id          : 0.0.0.0              Priority         : 10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Hello Intrvl     : 9 sec                Rtr Dead Intrvl  : 45 sec
Retrans Intrvl   : 10 sec               Poll Intrvl      : 120 sec
Cfg Metric       : 11                   Advert Subnet    : True
Transit Delay    : 2                    Auth Type        : MD5
Passive          : False                Cfg MTU          : 9198
LFA              : Exclude
IPsec InStatSA   :                      IPsec OutStatSA  :
IPsec InStatSATmp:
-------------------------------------------------------------------------------
State
-------------------------------------------------------------------------------
Admin Status     : Enabled              Oper State       : Down
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
IF Type          : Secondary            Network Type     : Stub
Oper MTU         : 1576                 Last Enabled     : Never
Oper Metric      : 11                   Bfd Enabled      : No
Te Metric        : 16777215             Te State         : Down
Admin Groups     : None
Ldp Sync         : outOfService         Ldp Sync Wait    : Disabled
Ldp Timer State  : Disabled             Ldp Tm Left      : 0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count        : 0                    If Events        : 0
Tot Rx Packets   : 0                    Tot Tx Packets   : 0
Rx Hellos        : 0                    Tx Hellos        : 0
Rx DBDs          : 0                    Tx DBDs          : 0
Rx LSRs          : 0                    Tx LSRs          : 0
Rx LSUs          : 0                    Tx LSUs          : 0
Rx LS Acks       : 0                    Tx LS Acks       : 0
Retransmits      : 0                    Discards         : 0
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 0                    LSA Checksum     : 0x0
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address       : 10.10.1.1
Area Id          : 1.1.1.1              Priority         : 10
Hello Intrvl     : 9 sec                Rtr Dead Intrvl  : 45 sec
Retrans Intrvl   : 10 sec               Poll Intrvl      : 120 sec
Cfg Metric       : 11                   Advert Subnet    : False
Transit Delay    : 2                    Auth Type        : MD5
Passive          : False                Cfg MTU          : 9198
LFA              : Exclude
IPsec InStatSA   :                      IPsec OutStatSA  :
IPsec InStatSATmp:
-------------------------------------------------------------------------------
State
-------------------------------------------------------------------------------
Admin Status     : Enabled              Oper State       : Down
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
IF Type          : Point To Point       Network Type     : Stub
Oper MTU         : 1576                 Last Enabled     : Never
Oper Metric      : 11                   Bfd Enabled      : No
Te Metric        : 16777215             Te State         : Down
Admin Groups     : None
Ldp Sync         : outOfService         Ldp Sync Wait    : Disabled
Ldp Timer State  : Disabled             Ldp Tm Left      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count        : 0                    If Events        : 0
Tot Rx Packets   : 0                    Tot Tx Packets   : 0
Rx Hellos        : 0                    Tx Hellos        : 0
Rx DBDs          : 0                    Tx DBDs          : 0
Rx LSRs          : 0                    Tx LSRs          : 0
Rx LSUs          : 0                    Tx LSUs          : 0
Rx LS Acks       : 0                    Tx LS Acks       : 0
Retransmits      : 0                    Discards         : 0
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 0                    LSA Checksum     : 0x0
===============================================================================
```

Output example – OSPFv2 detailed interface area

```
A:node-2# show router ospf 1 interface area 1.1.1.1 detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Interfaces in area 1.1.1.1 (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface : ip_if_1
-------------------------------------------------------------------------------
IP Address       : 10.10.1.1
Area Id          : 1.1.1.1              Priority         : 10
Hello Intrvl     : 9 sec                Rtr Dead Intrvl  : 45 sec
Retrans Intrvl   : 10 sec               Poll Intrvl      : 120 sec
Cfg Metric       : 11                   Advert Subnet    : False
Transit Delay    : 2                    Auth Type        : MD5
Passive          : False                Cfg MTU          : 9198
LFA              : Exclude
IPsec InStatSA   :                      IPsec OutStatSA  :
IPsec InStatSATmp:
Admin Status     : Enabled              Oper State       : Down
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
IF Type          : Point To Point       Network Type     : Stub
Oper MTU         : 1576                 Last Enabled     : Never
Oper Metric      : 11                   Bfd Enabled      : No
Te Metric        : 16777215             Te State         : Down
Admin Groups     : None
Ldp Sync         : outOfService         Ldp Sync Wait    : Disabled
Ldp Timer State  : Disabled             Ldp Tm Left      : 0
Nbr Count        : 0                    If Events        : 0
Tot Rx Packets   : 0                    Tot Tx Packets   : 0
Rx Hellos        : 0                    Tx Hellos        : 0
Rx DBDs          : 0                    Tx DBDs          : 0
Rx LSRs          : 0                    Tx LSRs          : 0
Rx LSUs          : 0                    Tx LSUs          : 0
Rx LS Acks       : 0                    Tx LS Acks       : 0
Retransmits      : 0                    Discards         : 0
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 0                    LSA Checksum     : 0x0
===============================================================================
```

Output example – OSPFv2 detailed interface

```
A:node-2# show router ospf 1 interface detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Interfaces (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface : system
-------------------------------------------------------------------------------
IP Address       : 9.1.255.255
Area Id          : 0.0.0.0              Priority         : 1
Hello Intrvl     : 10 sec               Rtr Dead Intrvl  : 40 sec
Retrans Intrvl   : 5 sec                Poll Intrvl      : 120 sec
Cfg Metric       : 0                    Advert Subnet    : True
Transit Delay    : 1                    Auth Type        : None
Passive          : True                 Cfg MTU          : 0
Admin Status     : Enabled              Oper State       : Designated Rtr
Designated Rtr   : 2.2.2.2              Backup Desig Rtr : 0.0.0.0
IF Type          : Broadcast            Network Type     : Transit
Oper MTU         : 1500                 Last Enabled     : 05/14/2006 09:16:26
Oper Metric      : 0                    Bfd Enabled      : No
Nbr Count        : 0                    If Events        : 5
Tot Rx Packets   : 0                    Tot Tx Packets   : 0
Rx Hellos        : 0                    Tx Hellos        : 0
Rx DBDs          : 0                    Tx DBDs          : 0
Rx LSRs          : 0                    Tx LSRs          : 0
Rx LSUs          : 0                    Tx LSUs          : 0
Rx LS Acks       : 0                    Tx LS Acks       : 0
Retransmits      : 0                    Discards         : 0
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 0                    LSA Checksum     : 0x0
-------------------------------------------------------------------------------
Interface : sender
-------------------------------------------------------------------------------
IP Address       : 11.1.1.1
Area Id          : 0.0.0.0              Priority         : 1
Hello Intrvl     : 10 sec               Rtr Dead Intrvl  : 40 sec
Retrans Intrvl   : 5 sec                Poll Intrvl      : 120 sec
Cfg Metric       : 0                    Advert Subnet    : True
Transit Delay    : 1                    Auth Type        : None
Passive          : False                Cfg MTU          : 0
===============================================================================
```

Output example – OSPF detailed interface

```
A:node-2# show router ospf interface "toB"  detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Interface "toB" (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address       : 1.2.3.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Area Id           : 0.0.0.0             Priority         : 1
Hello Intrvl      : 2 sec               Rtr Dead Intrvl  : 6 sec
Retrans Intrvl    : 5 sec               Poll Intrvl      : 120 sec
Cfg Metric        : 1000                Advert Subnet    : True
Transit Delay     : 1                   Cfg IF Type      : None
Passive           : False               Cfg MTU          : 0
LSA-filter-out    : None                Adv Rtr Capab    : Yes
LFA               : Include             LFA NH Template  :
Load Bal Weight   : None
RIB-priority      : None
Auth Type         : None
-------------------------------------------------------------------------------
State
-------------------------------------------------------------------------------
Admin Status      : Enabled             Oper State       : Designated Rtr
Designated Rtr    : 10.0.0.3            Backup Desig Rtr : 10.0.0.2
IF Type           : Broadcast           Network Type     : Transit
Oper MTU          : 1486                Last Enabled     : 08/12/2021 12:50:44
Oper Metric       : 1000                Bfd Enabled      : No
Te Metric         : 1000                Te State         : Down
Admin Groups      : None
Ldp Sync          : outOfService        Ldp Sync Wait    : Disabled
Ldp Timer State   : Disabled            Ldp Tm Left      : 0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count         : 1                   If Events        : 4
Tot Rx Packets    : 38                  Tot Tx Packets   : 48
Rx Hellos         : 11                  Tx Hellos        : 15
Rx DBDs           : 3                   Tx DBDs          : 2
Rx LSRs           : 1                   Tx LSRs          : 1
Rx LSUs           : 18                  Tx LSUs          : 27
Rx LS Acks        : 5                   Tx LS Acks       : 3
Discards          : 1                   Tx Failures      : 1
                                        Retransmits      : 1
Bad Networks      : 0                   Bad Virt Links   : 0
Bad Areas         : 0                   Bad Dest Addrs   : 0
Bad Auth Types    : 0                   Auth Failures    : 0
Bad Neighbors     : 0                   Bad Pkt Types    : 0
Bad Lengths       : 0                   Bad Hello Int.   : 1
Bad Dead Int.     : 0                   Bad Options      : 0
Bad Versions      : 0                   Bad Checksums    : 0
LSA Count         : 0                   LSA Checksum     : 0x0
===============================================================================
```

Output Example

```
A:node-2# show router ospf interface detail "to_Dut-A"
===============================================================================
Rtr Base OSPFv2 Instance 0 Interface "to_Dut-A" (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address        : 1.1.3.3
Area Id           : 0.0.0.0             Priority         : 1
Hello Intrvl      : 5 sec               Rtr Dead Intrvl  : 20 sec
Retrans Intrvl    : 5 sec               Poll Intrvl      : 120 sec
Cfg Metric        : 1000                Advert Subnet    : True
Transit Delay     : 1                   Cfg IF Type      : Point To Point
Passive           : False               Cfg MTU          : 0
LSA-filter-out    : None                Adv Rtr Capab    : Yes
LFA               : Include             LFA NH Template  :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Load Bal Weight  : None                 Bfd Enabled      : Yes
Bfd Strict Mode  : No                   Bfd Str Holddown : 0 sec
RIB-priority     : None
Auth Type        : None
-------------------------------------------------------------------------------
State
-------------------------------------------------------------------------------
Admin Status     : Enabled              Oper State       : Down
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
IF Type          : Point To Point       Network Type     : Stub
Oper MTU         : 1564                 Last Enabled     : 11/30/2022 06:07:00
Oper Metric      : 1000                 .                                  .
Te Metric        : 1000                 Te State         : Down
Admin Groups     : None
Ldp Sync         : outOfService         Ldp Sync Wait    : Disabled
Ldp Timer State  : Disabled             Ldp Tm Left      : 0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count        : 0                    If Events        : 2
Tot Rx Packets   : 3080                 Tot Tx Packets   : 3094
Rx Hellos        : 3029                 Tx Hellos        : 3032
Rx DBDs          : 3                    Tx DBDs          : 2
Rx LSRs          : 1                    Tx LSRs          : 1
Rx LSUs          : 20                   Tx LSUs          : 48
Rx LS Acks       : 27                   Tx LS Acks       : 11
Discards         : 0                    Tx Failures      : 1
                                        Retransmits      : 3
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 0                    LSA Checksum     : 0x0
===============================================================================
```

Output example – OSPFv2 detailed interface

```
A:node-2# show router ospf interface "if1" detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Interface "if1" (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address       : 10.10.1.1
Area Id          : 6.6.6.6              Priority         : 1
Hello Intrvl     : 10 sec               Rtr Dead Intrvl  : 40 sec
Retrans Intrvl   : 5 sec                Poll Intrvl      : 120 sec
Cfg Metric       : 0                    Advert Subnet    : True
Transit Delay    : 1                    Cfg IF Type      : None
Passive          : False                Cfg MTU          : 0
LSA-filter-out   : None                 Adv Rtr Capab    : Yes
LFA              : Include              LFA NH Template  :
Load Bal Weight  : None                 Bfd Enabled      : No
Bfd Strict Mode  : No                   Bfd Str Holddown : 0 sec
RIB-priority     : None
Delay Normaliz.  : Disabled
Minimum Delay    : N.A.                 Delay Tolerance  : N.A.
Auth Type        : None
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
State
-------------------------------------------------------------------------------
Admin Status     : Enabled             Oper State       : Down
Designated Rtr   : 0.0.0.0             Backup Desig Rtr : 0.0.0.0
IF Type          : Broadcast           Network Type     : Stub
Oper MTU         : 576                 Last Enabled     : 03/21/2024 12:02:35
Oper Metric      : 1000
Te Metric        : 1000                Te State         : Down
Admin Groups     : None
Measured Delay   : 0 usec              Normalized Delay : N.A.
Ldp Sync         : outOfService        Ldp Sync Wait    : Disabled
Ldp Timer State  : Disabled            Ldp Tm Left      : 0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count        : 0                   If Events        : 0
Tot Rx Packets   : 0                   Tot Tx Packets   : 0
Rx Hellos        : 0                   Tx Hellos        : 0
Rx DBDs          : 0                   Tx DBDs          : 0
Rx LSRs          : 0                   Tx LSRs          : 0
Rx LSUs          : 0                   Tx LSUs          : 0
Rx LS Acks       : 0                   Tx LS Acks       : 0
Discards         : 0                   Tx Failures      : 0
                                       Retransmits      : 0
Bad Networks     : 0                   Bad Virt Links   : 0
Bad Areas        : 0                   Bad Dest Addrs   : 0
Bad Auth Types   : 0                   Auth Failures    : 0
Bad Neighbors    : 0                   Bad Pkt Types    : 0
Bad Lengths      : 0                   Bad Hello Int.   : 0
Bad Dead Int.    : 0                   Bad Options      : 0
Bad Versions     : 0                   Bad Checksums    : 0
LSA Count        : 0                   LSA Checksum     : 0x0
===============================================================================
```

Table 227: Output fields: detailed OSPF Interface

Label	Description
IP Address	The IP address and mask of this OSPF interface
Area Id	A 32-bit integer uniquely identifying the area to which this interface is connected. Area ID 0.0.0.0 is used for the OSPF backbone.
Priority	The priority of this interface. Used in multi-access networks, this field is used in the designated router election algorithm.
Hello Intrvl	The length of time, in seconds, between the Hello packets that the router sends on the interface. This value must be the same for all routers attached to a common network.
Rtr Dead Intrvl	The number of seconds that the Hello packets of a router have not been seen before its neighbors declare the router down. This should be some multiple of the Hello interval. This value must be the same for all routers attached to a common network.
Retrans Intrvl	The number of seconds between link-state advertisement retransmissions, for adjacencies belonging to this interface. This

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	value is also used when retransmitting database description and link-state request packets.
Poll Intrvl	The larger time interval, in seconds, between the Hello packets sent to an inactive non-broadcast multi-access neighbor
Cfg Metric	The metric to be advertised for this interface
Advert Subnet	False — when a point-to-point interface is configured as false, the subnet is not advertised and the endpoints are advertised as host routes True — when a point-to-point interface is configured to true, the subnet is advertised
Transit Delay	The estimated number of seconds it takes to transmit a link state update packet over this interface
Cfg IF Type	The configured interface type
Passive	False — this interface operates as a normal OSPF interface with regard to adjacency forming and network or link behavior True — no OSPF Hellos will be sent out on this interface and the router advertises this interface as a stub network or link in its router LSAs
Cfg MTU	The required size of the largest packet that can be sent or received on this OSPF interface, specified in octets. This size does include the underlying IP header length, but not the underlying layer headers/trailers.
LSA-filter-out	This field indicates if LSA filter out is configured
Adv Rtr Capab	The capability of the advertising router
LFA	This field indicates if Loop-Free Alternate (LFA) is configured
LFA NH Template	The LFA Next-Hop (NH) template configuration
Load Bal Weight	The load balancing weight, if this weight is configured
Bfd Enabled	This field indicates if Bidirectional Forwarding Detection (BFD) is enabled. The field will include the following values: • Yes – BFD is enabled • No – BFD is disabled
Bfd Strict Mode	This field indicates if BFD strict-mode is enabled. The field includes the following values: • Yes – BFD strict-mode is enabled • No – BFD strict-mode is disabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Bfd Str Holddown	The BFD strict-mode holddown timer
RIB-priority	The RIB prioritization for the OSPF protocol specified as either high (enabled) or none (disabled). When enabled at the OSPF interface level, all routes learned through the associated OSPF interface are processed through the OSPF route calculation process at a higher priority. This field is configured using the **configure router ospf area interface rib-priority [high]** command.
Delay Normaliz.	Displays the state of delay normalization: • Enabled – delay normalization is enabled and normalized delay is used by the respective TLVs within the IGP link-state packets. • Disabled – delay normalization is disabled and measured delay is used by the respective TLVs within the IGP link-state packets
Minimum Delay	The lowest delay allowed on the interface
Delay Tolerance	The delay interval granularity
Auth Type	Displays the authentication procedure to be used for the packet:. None — routing exchanges over the network/subnet are not authenticated Simple — a 64-bit field is configured on a per-network basis. All packets sent on a particular network must have this configured value in their OSPF header 64-bit authentication field. This essentially serves as a "clear” 64-bit password. MD5 — a shared secret key is configured in all routers attached to a common network or subnet. For each OSPF protocol packet, the key is used to generate or verify a "message digest” that is appended to the end of the OSPF packet.
State	
Admin Status	Disabled — OSPF on this interface is administratively shut down Enabled — OSPF on this interface is administratively enabled
Oper State	Down — this is the initial interface state. In this state, the lower-level protocols have indicated that the interface is unusable Waiting — the router is trying to determine the identity of the (Backup) Designated Router for the network Point To Point — the interface is operational, and connects either to a physical point-to-point network or to a virtual link. Designated Rtr — this router is the Designated Router for this network

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Other Desig Rtr — the interface is operational and part of a broadcast or NBMA network on which another router has been selected to be the Designated Router Backup Desig Rtr — this router is the Backup Designated Router for this network
Designated Rtr	The IP interface address of the router identified as the Designated Router for the network in which this interface is configured. Set to 0.0.0.0 if there is no Designated router.
Backup Designated Router	The IP interface address of the router identified as the Backup Designated Router for the network in which this interface is configured. Set to 0.0.0.0 if there is no Backup Designated Router.
IF Type	Broadcast — LANs, such as Ethernet Non-Broadcast — X.25, Frame Relay and similar technologies Point-To-Point — Point-to-point links
Network Type	Stub – OSPF has not established a neighbor relationship with any other OSPF router on this network, as such only traffic sourced or destined to this network is routed to this network Transit – OSPF has established at least one neighbor relationship with any other OSPF router on this network, as such traffic enroute to other networks may be routed via this network
Oper MTU	The operational size of the largest packet which can be sent or received on this OSPF interface, specified in octets. This size does include the underlying IP header length, but not the underlying layer headers/trailers.
Last Enabled	The time that this interface was last enabled to run OSPF on this interface
Oper Metric	The operational metric for the interface used by OSPF
Te Metric	The TE metric configured for this interface. This metric is flooded out in the TE metric sub-TLV in the OSPF TE LSAs. Depending on the configuration, either the TE metric value or the native OSPF metric value is used in CSPF computations.
Te State	Displays if TE is enabled on the interface
Admin Groups	Displays the bitmap inherited from MPLS interface that identifies the admin groups to which this interface belongs
Measured Delay	The measured delay on the interface. When delay normalization is disabled, the measured delay is used by the respective TLVs within IGP link-state packets.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Normalized Delay	The delay normalized based on the configuration. When normalized delay is configured, the respective TLVs within the IGP link-state packets use the normalized delay value
Ldp Sync	Displays whether the IGP-LDP synchronization feature is enabled or disabled on all interfaces participating in the OSPF routing protocol
Ldp Sync Wait	The time to wait for the LDP adjacency to come up
Ldp Timer State	The state of the LDP sync time left on the OSPF interface
Ldp Tm Left	Displays the time left before OSPF reverts back to advertising normal metric for this interface
Statistics	
Nbr Count	The number of OSPF neighbors on the network for this interface
If Events	The number of times this OSPF interface has changed its state, or an error has occurred since this interface was last enabled
Tot Rx Packets	The total number of OSPF packets received on this interface since this interface was last enabled
Tot Tx Packets	The total number of OSPF packets transmitted on this interface since this interface was last enabled
Rx Hellos	The total number of OSPF Hello packets received on this interface since this interface was last enabled.
Tx Hellos	The total number of OSPF Hello packets transmitted on this interface since this interface was last enabled
Rx DBDs	The total number of OSPF database description packets received on this interface since this interface was last enabled
Tx DBDs	The total number of OSPF database description packets transmitted on this interface since this interface was last enabled.
Rx LSRs	The total number of Link State Requests (LSRs) received on this interface since this interface was last enabled
Tx LSRs	The total number of Link State Requests (LSRs) transmitted on this interface since this interface was last enabled.
Rx LSUs	The total number of Link State Updates (LSUs) received on this interface since this interface was last enabled
Tx LSUs	The total number of Link State Updates (LSUs) transmitted on this interface since this interface was last enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Rx LS Acks	The total number of Link State Acknowledgments received on this interface since this interface was last enabled
Tx LS Acks	The total number of Link State Acknowledgments transmitted on this interface since this interface was last enabled
Discards	The total number of OSPF packets discarded on this interface since this interface was last enabled
Tx Failures	The transmitted OSPF packets that are dropped due to resource shortage
Retransmits	The total number of OSPF Retransmits sent on this interface since this interface was last enabled
Bad Networks	The total number of OSPF packets received with invalid network or mask since this interface was last enabled
Bad Virt Links	The total number of OSPF packets received on this interface that are destined to a virtual link that does not exist since this interface was last enabled
Bad Areas	The total number of OSPF packets received with an area mismatch since this interface was last enabled
Bad Dest Addrs	The total number of OSPF packets received with the incorrect IP destination address since this interface was last enabled
Bad Auth Types	The total number of OSPF packets received with an invalid authorization type since this interface was last enabled.
Auth Failures	The total number of OSPF packets received with an invalid authorization key since this interface was last enabled
Bad Neighbors	The total number of OSPF packets received where the neighbor information does not match the information this router has for the neighbor since this interface was last enabled
Bad Pkt Types	The total number of OSPF packets received with an invalid OSPF packet type since this interface was last enabled
Bad Lengths	The total number of OSPF packets received on this interface with a total length not equal to the length provided in the packet itself since this interface was last enabled
Bad Hello Int.	The total number of OSPF packets received where the hello interval provided in packet was not equal to that configured on this interface since this interface was last enabled
Bad Dead Int.	The total number of OSPF packets received where the dead interval provided in the packet was not equal to that configured on this interface since this interface was last enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Bad Options	The total number of OSPF packets received with an option that does not match those configured for this interface or area since this interface was last enabled
Bad Versions	The total number of OSPF packets received with bad OSPF version numbers since this interface was last enabled
Bad Checksums	The number of bad checksums for the interface
LSA Count	The LSA count for the interface
LSA Checksum	The sum of all link-scoped LSA checksums on the interface

interface

Syntax

interface [*ip-int-name* | *ip-address* | *ipv6-address*] [**detail**]

interface [**area** *area-id*] [**detail**]

interface [*ip-int-name* | *ip-address*]| *ipv6-address* **database** [**detail**]

Context

[Tree] (show>router>ospf3 interface)

Full Context

show router ospf3 interface

Description

This command displays the details of the OSPFv3 interface identified by the IP address or IP interface name. When neither is specified, all in-service interfaces are displayed.

The **detail** option generates large volumes of data. Nokia recommends using the **detail** keyword only when requesting a specific interface.

Parameters

ip-int-name

Displays only the interface identified by this interface name, up to a maximum of 32 characters.

ip-address

Displays only the interface identified by this IPv4 or IPv6 address.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

area *area-id*

Displays all interfaces configured in this area.

Values ip-address — a.b.c.d

area — 0 to 4294967295

detail

Displays detailed information for the interface.

database

Displays database information for the interface.

Platforms

All

Output

The following output is an example of an OSPFv3 interface information, and Table 228: Output fields: OSPFv3 interface detail describes the output fields.

Output Example (OSPFv3 Detailed)

```
show router ospf3 interface "toB"  detail
===============================================================================
Rtr Base OSPFv3 Instance 0 Interface "toB" (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address       : fe80::200:ff:fe00:3-"toB"
Area Id          : 0.0.0.0              Priority         : 1
Hello Intrvl     : 2 sec                Rtr Dead Intrvl  : 10 sec
Retrans Intrvl   : 5 sec                Poll Intrvl      : 120 sec
Cfg Metric       : 1000                 Advert Subnet    : True
Transit Delay    : 1                    Cfg IF Type      : None
Passive          : False                Cfg MTU          : 0
LSA-filter-out   : None                 Adv Rtr Capab    : Yes
LFA              : Include              LFA NH Template  :
Load Bal Weight  : None
RIB-priority     : None
IPsec InStatSA   :                      IPsec OutStatSA  :
IPsec InStatSATmp:
-------------------------------------------------------------------------------
State
-------------------------------------------------------------------------------
Admin Status     : Enabled              Oper State       : Designated Rtr
Designated Rtr   : 10.0.0.3             Backup Desig Rtr : 10.0.0.2
IF Type          : Broadcast            Network Type     : Transit
Oper MTU         : 1486                 Last Enabled     : 08/12/2021 12:50:45
Oper Metric      : 1000                 Bfd Enabled      : No
Te Metric        : 1000                 Te State         : Down
Admin Groups     : None
Ldp Sync         : outOfService         Ldp Sync Wait    : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ldp Timer State  : Disabled             Ldp Tm Left      : 0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count        : 1                    If Events        : 2
Tot Rx Packets   : 141                  Tot Tx Packets   : 162
Rx Hellos        : 93                   Tx Hellos        : 94
Rx DBDs          : 3                    Tx DBDs          : 2
Rx LSRs          : 1                    Tx LSRs          : 1
Rx LSUs          : 39                   Tx LSUs          : 62
Rx LS Acks       : 5                    Tx LS Acks       : 3
Discards         : 0                    Tx Failures      : 0
                                        Retransmits      : 0
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 2                    LSA Checksum     : 0x136b4
===============================================================================
```

Table 228: Output fields: OSPFv3 interface detail

Label	Description
IP Address	The IP address and mask of this OSPF interface.
Area Id	A 32-bit integer uniquely identifying the area to which this interface is connected. Area ID 0.0.0.0 is used for the OSPF backbone.
Priority	The priority of this interface. Used in multi-access networks, this field is used in the designated router election algorithm.
Hello Intrvl	The interval of time, in seconds, between the Hello packets that the router sends on the interface. This value must be the same for all routers attached to a common network.
Rtr Dead Intrvl	The number of seconds that a router's Hello packets have not been seen before its neighbors declare the router down. This should be some multiple of the hello interval. This value must be the same for all routers attached to a common network.
Retrans Intrvl	The number of seconds between link-state advertisement retransmissions, for adjacencies belonging to this interface. This value is also used when retransmitting database description and link-state request packets.
Poll Intrvl	The larger time interval, in seconds, between the Hello packets sent to an inactive non-broadcast multi-access neighbor.
Advert Subnet	False — When a point-to-point interface is configured as false, the subnet is not advertised and the endpoints are advertised as host routes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	True — When a point-to-point interface is configured to true, then the subnet is advertised.
Transit Delay	The estimated number of seconds it takes to transmit a link state update packet over this interface.
Passive	False — This interfaces operates as a normal OSPF interface with regard to adjacency forming and network/link behavior. True — No OSPF Hello messages sent out on this interface and the router advertises this interface as a stub network/link in its router LSAs.
MTU	The desired size of the largest packet, specified in octets, which can be sent or received on this OSPF interface. This size includes the underlying IP header length, but not the underlying layer headers and trailers.
Admin Status	Disabled — OSPF on this interface is administratively shut down.
	Enabled — OSPF on this interface is administratively enabled.
Oper State	Down — This is the initial interface state. In this state, the lower-level protocols have indicated that the interface is unusable. Waiting — The router is trying to determine the identity of the (Backup) Designated router for the network. Point To Point — The interface is operational, and connects either to a physical point-to-point network or to a virtual link. Designated Rtr — This router is the Designated router for this network. Other Desig Rtr — The interface is operational and part of a broadcast or NBMA network on which another router has been selected to be the Designated router. Backup Desig Rtr — This router is the Backup Designated router for this network.
IF Type	Broadcast — LANs, such as Ethernet. Non-Broadcast — X.25, Frame Relay and similar technologies. Point-To-Point — Point-to-point links.
Network Type	Stub — OSPF has not established a neighbor relationship with any other OSPF router on this network as such only traffic sourced or destined to this network is routed to this network.
	Transit — OSPF has established at least one neighbor relationship with any other OSPF router on this network as such traffic enroute to other networks may be routed via this network.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper MTU	The operational size of the largest packet, in octets, which can be sent or received on this OSPF interface. This size includes the underlying IP header length, but not the underlying layer headers and trailers.
Last Enabled	The time that this interface was last enabled to run OSPF on this interface.
Nbr Count	The number of OSPF neighbors on the network for this interface.
If Events	The number of times this OSPF interface has changed its state, or an error has occurred since this interface was last enabled.
Tot Rx Packets	The total number of OSPF packets received on this interface since this interface was last enabled.
Tot Tx Packets	The total number of OSPF packets transmitted on this interface since this interface was last enabled.
Rx Hellos	The total number of OSPF Hello packets received on this interface since this interface was last enabled.
Tx Hellos	The total number of OSPF Hello packets transmitted on this interface since this interface was last enabled.
Rx DBDs	The total number of OSPF database description packets received on this interface since this interface was last enabled.
Tx DBDs	The total number of OSPF database description packets transmitted on this interface since this interface was last enabled.
Rx LSRs	The total number of Link State Requests (LSRs) received on this interface since this interface was last enabled.
Tx LSRs	The total number of LSRs transmitted on this interface since this interface was last enabled.
Rx LSUs	The total number of Link State Updates (LSUs) received on this interface since this interface was last enabled.
Tx LSUs	The total number of LSUs transmitted on this interface since this interface was last enabled.
Rx LS Acks	The total number of Link State Acknowledgments (LSAs) received on this interface since this interface was last enabled.
Tx LS Acks	The total number of LSAs transmitted on this interface since this interface was last enabled.
Retransmits	The total number of OSPF retransmits sent on this interface since this interface was last enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Discards	The total number of OSPF packets discarded on this interface since this interface was last enabled.
Bad Networks	The total number of OSPF packets received with invalid network or mask since this interface was last enabled.
Bad Virt Links	The total number of OSPF packets received on this interface that are destined to a virtual link that does not exist since this interface was last enabled.
Bad Areas	The total number of OSPF packets received with an area mismatch since this interface was last enabled.
Bad Dest Addrs	The total number of OSPF packets received with the incorrect IP destination address since this interface was last enabled.
Bad Auth Types	The total number of OSPF packets received with an invalid authorization type since this interface was last enabled.
Auth Failures	The total number of OSPF packets received with an invalid authorization key since this interface was last enabled.
Bad Neighbors	The total number of OSPF packets received where the neighbor information does not match the information this router has for the neighbor since this interface was last enabled.
Bad Pkt Types	The total number of OSPF packets received with an invalid OSPF packet type since this interface was last enabled.
Bad Lengths	The total number of OSPF packets received on this interface with a total length not equal to the length given in the packet itself since this interface was last enabled.
Bad Hello Int.	The total number of OSPF packets received where the hello interval given in packet was not equal to that configured on this interface since this interface was last enabled.
Bad Dead Int.	The total number of OSPF packets received where the dead interval given in the packet was not equal to that configured on this interface since this interface was last enabled.
Bad Options	The total number of OSPF packets received with an option that does not match those configured for this interface or area since this interface was last enabled.
Bad Versions	The total number of OSPF packets received with bad OSPF version numbers since this interface was last enabled.
Te State	Indicates the MPLS interface TE status from OSPF standpoint.
Admin Groups	Indicates the bit-map inherited from MPLS interface that identifies the admin groups to which this interface belongs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ldp Sync	Specifies whether the IGP-LDP synchronization feature is enabled or disabled on all interfaces participating in the OSPF routing protocol.
Ldp Sync Wait	Indicates the time to wait for the LDP adjacency to come up.
Ldp Timer State	Indicates the state of the LDP sync time left on the OSPF interface.
Ldp Tm Left	Indicates the time left before OSPF reverts back to advertising normal metric for this interface.
Tx Failures	Transmitted OSPFv3 packets that are dropped due to resource shortage.

Output Example

```
*A:Dut-C# show router ospf3 interface "Loopback0" detail
===============================================================================
Rtr Base OSPFv3 Instance 0 Interface "Loopback0" (detail)
===============================================================================
-------------------------------------------------------------------------------
Configuration
-------------------------------------------------------------------------------
IP Address       : fe80::e13:ffff:fe00:0-"Loopback0"
node sid index   : 29                    Shared node sid  : <Yes/No>
Area Id          : 0.0.0.0               Priority         : 1
Hello Intrvl     : 10 sec                Rtr Dead Intrvl  : 40 sec
Retrans Intrvl   : 5 sec                 Poll Intrvl      : 120 sec
Cfg Metric       : 0                     Advert Subnet    : True
Transit Delay    : 1                     Cfg IF Type      : None
Passive          : False                 Cfg MTU          : 0
LSA-filter-out   : None                  Adv Rtr Capab    : Yes
LFA              : Include               LFA NH Template  :
Load Bal Weight  : None
RIB-priority     : None
IPsec InStatSA   :                       IPsec OutStatSA  :
IPsec InStatSATmp:
-------------------------------------------------------------------------------
State
-------------------------------------------------------------------------------
Admin Status     : Enabled               Oper State       : Designated Rtr
Designated Rtr   : 255.0.0.0             Backup Desig Rtr : 0.0.0.0
IF Type          : Broadcast             Network Type     : Stub
Oper MTU         : 1500                  Last Enabled     : 12/03/2020 14:14:33
Oper Metric      : 0                     Bfd Enabled      : No
Te Metric        : 0                     Te State         : Down
Admin Groups     : None
Ldp Sync         : outOfService          Ldp Sync Wait    : Disabled
Ldp Timer State  : Disabled              Ldp Tm Left      : 0
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Nbr Count        : 0                     If Events        : 2
Tot Rx Packets   : 0                     Tot Tx Packets   : 0
Rx Hellos        : 0                     Tx Hellos        : 0
Rx DBDs          : 0                     Tx DBDs          : 0
Rx LSRs          : 0                     Tx LSRs          : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rx LSUs          : 0                    Tx LSUs          : 0
Rx LS Acks       : 0                    Tx LS Acks       : 0
Retransmits      : 0                    Discards         : 0
Bad Networks     : 0                    Bad Virt Links   : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
LSA Count        : 0                    LSA Checksum     : 0x0
===============================================================================
*A:Dut-C#
```

interface

Syntax

interface *interface-name* [**detail** | **aggregate** | **sample** | **debug-counters**]

interface *interface-name* **lag-micro-sessions** [**detail** | **aggregate** | **sample** | **debug-counters**]

interface *interface-name* **lag-micro-sessions port** *port-id* [**detail** | **aggregate** | **sample** | **debug-counters**]

Context

[Tree] (show>test-oam>link-measurement interface)

Full Context

show test-oam link-measurement interface

Description

This command displays the link measurement operational information, reporting, and recorded results for a specific interface.

Parameters

interface-name

Specifies the interface name, up to 32 characters, for which link measurement information is displayed.

detail

Optional keyword to display complete link measurement operational information, reporting, and results.

aggregate

Optional keyword to display operational information, reporting and aggregate sample window results.

sample

Optional keyword to display operational information, reporting, and sample window results.

debug-counters

Optional keyword to display debug counter information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lag-micro-sessions

Keyword to display LAG micro-session information.

port-id

Specifies the port ID to display LAG micro-session information for a specific port.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following outputs are examples of link measurement information, and Table 229: Output fields: link measurement interface describe the output fields:

- Output example — single Ethernet port with LAG micro sessions disabled
- Output example — LAG with two member ports and LAG micro sessions disabled
- Output example — LAG with two member ports and LAG micro sessions enabled
- Output example — detailed
- Output example — LAG micro sessions
- Output example — detailed LAG micro-sessions information

Output example — single Ethernet port with LAG micro sessions disabled

```
A:node-2>show>test-oam>link-measurement# interface "to-sr7-unnumbered"

===============================================================================
Interface Link Measurement Information - to-sr7-unnumbered
===============================================================================
Template Name: link-1
Oper State               : Up
LAG Micro Sessions       : disabled
Port                     : 1/1/1
Protocol                 : IPv4
Oper Source Address      : 192.168.0.12
Source Auto-Assigned     : Yes
Oper Destination Address : 192.168.0.7
Destination Auto-Assigned: No
In-Use Src UDP Port      : 49154
In-Use Dst UDP Port      : 862
Session Sender Type      : stamp
STAMP Session Identifier : 1008
Failure Condition(s)     : None
Detectable Tx Error      : None
Delay Metric            :  min
-------------------------------------------------------------------------------
Reporting
-------------------------------------------------------------------------------
Reporting Operational      : Yes
Delay Measure Last Reported: 22us
Timestamp                  : 2025/09/11 21:43:40
Triggered By               : SampleThresholdAbsolute
Measurement Source         : interface
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example — LAG with two member ports and LAG micro sessions disabled

```
A:node-2>show>test-oam>link-measurement# interface "to-sr7"

===============================================================================
Interface Link Measurement Information - to-sr7
===============================================================================
Template Name: link-1
Oper State               : Up
LAG Micro Sessions       : disabled
LAG ID                   : 1
LAG Name                 : lag-x1
Protocol                 : IPv4
Oper Source Address      : 192.168.0.12
Source Auto-Assigned     : Yes
Oper Destination Address : 192.168.0.7
Destination Auto-Assigned: No
In-Use Src UDP Port      : 49154
In-Use Dst UDP Port      : 862
Session Sender Type      : stamp
STAMP Session Identifier : 1009
Failure Condition(s)     : None
Detectable Tx Error      : None
Delay Metric             : min
-------------------------------------------------------------------------------
Reporting
-------------------------------------------------------------------------------
Reporting Operational      : Yes
Delay Measure Last Reported: 22us
Timestamp                  : 2025/09/11 21:43:40
Triggered By               : SampleThresholdAbsolute
Measurement Source         : interface
-------------------------------------------------------------------------------
===============================================================================
```

Output example — LAG with two member ports and LAG micro sessions enabled

```
A:node-2>show>test-oam>link-measurement# interface "to-sr7"

===============================================================================
Interface Link Measurement Information - to-sr7
===============================================================================
Template Name: link-1
Oper State               : Up
LAG Micro Sessions       : enabled
LAG ID                   : 1
LAG Name                 : lag-x1
LAG Micro-Session Count  : 2
Protocol                 : IPv4
Oper Source Address      : 192.168.0.12
Source Auto-Assigned     : Yes
Oper Destination Address : 192.168.0.7
Destination Auto-Assigned: No
In-Use Src UDP Port      : 49154
In-Use Dst UDP Port      : 862
Session Sender Type      : stamp
STAMP Session Identifier : port-specific
Failure Condition(s)     : None
Detectable Tx Error      : None
Delay Metric             : max-of-min
-------------------------------------------------------------------------------
Reporting
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Reporting Operational      : Yes
Delay Measure Last Reported: 22us
Timestamp                  : 2025/09/11 21:43:40
Triggered By               : SampleThresholdAbsolute
Measurement Source         : 1/1/1
-------------------------------------------------------------------------------
===============================================================================
```

Output example — detailed

```
A:node-2>show>test-oam>link-measurement# interface "to-sr7" detail

===============================================================================
Interface Link Measurement Information - to-sr7
===============================================================================
Template Name: link-1
Oper State               : Up
LAG Micro Sessions       : disabled
LAG ID                   : 1
LAG Name                 : lag-x1
Protocol                 : IPv4
Oper Source Address      : 192.168.0.12
Source Auto-Assigned     : Yes
Oper Destination Address : 192.168.0.7
Destination Auto-Assigned: No
In-Use Src UDP Port      : 49154
In-Use Dst UDP Port      : 862
Session Sender Type      : stamp
STAMP Session Identifier : 1009
Failure Condition(s)     : None
Detectable Tx Error      : None
Delay Metric             : min
-------------------------------------------------------------------------------
Reporting
-------------------------------------------------------------------------------
Reporting Operational      : Yes
Delay Measure Last Reported: 22us
Timestamp                  : 2025/09/11 21:43:40
Triggered By               : SampleThresholdAbsolute
Measurement Source         : interface
-------------------------------------------------------------------------------
Reporting
-------------------------------------------------------------------------------
Reporting Operational      : Yes
Delay Measure Last Reported: 22us
Timestamp                  : 2025/09/11 21:43:40
Triggered By               : SampleThresholdAbsolute
Measurement Source         : interface
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Aggregate Sample Window Delay Measurement Detail       Currently Reporting: Min
-------------------------------------------------------------------------------
End Timestamp (UTC)              State Count Min(us) Max(us) Avg(us) I  Result
-------------------------------------------------------------------------------
N/A                           InProgress     7       0       0       0 -       0
2025/10/21 12:57:53            Completed    12      23      23      23 Y      23
2025/10/21 12:55:53            Completed    12      21      23      22 Y      21
2025/10/21 12:53:53            Completed    12      21      24      23 Y      21
2025/10/21 12:51:53            Completed    12      22      24      23 Y      22
2025/10/21 12:49:53            Completed    12      22      24      23 Y      22
2025/10/21 12:47:53            Completed    12      22      24      23 Y      22
2025/10/21 12:45:53           SwReported     1       0       0       0 N       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Sample Window Delay Measurement Detail                Currently Reporting: Min
-------------------------------------------------------------------------------
End Timestamp (UTC)       State  Rcv/Snt  Min(us) Max(us) Avg(us) E F I  Result
-------------------------------------------------------------------------------
N/A                   InProgress    9/9          0       0       0 N N -       0
2025/10/21 12:59:03   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:58:53   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:58:43   Completed   10/10         21      25      24 N N Y      21
2025/10/21 12:58:33   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:58:23   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:58:13   Completed   10/10         23      25      24 N N Y      23
2025/10/21 12:58:03   Completed   10/10         21      27      24 N N Y      21
2025/10/21 12:57:53   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:57:43   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:57:33   Completed   10/10         23      25      24 N N Y      23
2025/10/21 12:57:23   Completed   10/10         23      27      25 N N Y      23
2025/10/21 12:57:13   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:57:03   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:56:53   Completed   10/10         23      25      24 N N Y      23
2025/10/21 12:56:43   Completed   10/10         23      25      23 N N Y      23
2025/10/21 12:56:33   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:56:23   Completed   10/10         23      27      25 N N Y      23
2025/10/21 12:56:13   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:56:03   Completed   10/10         23      27      25 N N Y      23
2025/10/21 12:55:53   Completed   10/10         21      27      23 N N Y      21
2025/10/21 12:55:43   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:55:33   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:55:23   Completed   10/10         23      27      25 N N Y      23
2025/10/21 12:55:13   Completed   10/10         21      25      23 N N Y      21
2025/10/21 12:55:03   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:54:53   Completed   10/10         23      25      23 N N Y      23
2025/10/21 12:54:43   Completed   10/10         23      27      25 N N Y      23
2025/10/21 12:54:33   Completed   10/10         23      25      24 N N Y      23
2025/10/21 12:54:23   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:54:13   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:54:03   Completed   10/10         23      27      25 N N Y      23
2025/10/21 12:53:53   Completed   10/10         21      27      24 N N Y      21
2025/10/21 12:53:43   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:53:33   Completed   10/10         23      27      25 N N Y      23
2025/10/21 12:53:23   Completed   10/10         23      25      23 N N Y      23
2025/10/21 12:53:13   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:53:03   Completed   10/10         23      25      24 N N Y      23
2025/10/21 12:52:53   Completed   10/10         23      25      24 N N Y      23
2025/10/21 12:52:43   Completed   10/10         23      27      24 N N Y      23
2025/10/21 12:52:33   Completed   10/10         23      28      25 N N Y      23
2025/10/21 12:52:23   Completed   10/10         24      26      25 N N Y      24
2025/10/21 12:52:13   Completed   10/10         24      26      25 N N Y      24
2025/10/21 12:52:03   Completed   10/10         24      28      26 N N Y      24
2025/10/21 12:51:53   Completed   10/10         24      26      25 N N Y      24
2025/10/21 12:51:43   Completed   10/10         24      28      25 N N Y      24
2025/10/21 12:51:33   Completed   10/10         24      26      25 N N Y      24
2025/10/21 12:51:23   Completed   10/10         24      28      25 N N Y      24
2025/10/21 12:51:13   Completed   10/10         24      28      25 N N Y      24
2025/10/21 12:51:03   Completed   10/10         22      28      24 N N Y      22

-------------------------------------------------------------------------------
===============================================================================
===============================================================================
Sample and Aggregate Legend:
      *: Value greater than column width allows
    N/A: Nonexistent or incalculable value
      I: Integrity threshold satisfied
      E: Indicates reception of duplicate packets or zero or negative values
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      F: Indicates unexpected STAMP flag state
===============================================================================
```

Output example — LAG micro sessions

```
A:node-2>show>test-oam>link-measurement# interface "to-sr7" lag-micro-sessions
===============================================================================
Interface Link Measurement Information - to-sr7
===============================================================================
Template Name: link-1
Oper State               : Up
LAG Micro Sessions       : enabled
LAG ID                   : 1
LAG Name                 : lag-x1
LAG Micro-Session Count  : 2
Protocol                 : IPv4
Oper Source Address      : 192.168.0.12
Source Auto-Assigned     : Yes
Oper Destination Address : 192.168.0.7
Destination Auto-Assigned: No
In-Use Src UDP Port      : 49154
In-Use Dst UDP Port      : 862
Session Sender Type      : stamp
STAMP Session Identifier : port-specific
Failure Condition(s)     : None
Detectable Tx Error      : None
Delay Metric            :  max-of-min
-------------------------------------------------------------------------------
Reporting
-------------------------------------------------------------------------------
Reporting Operational      : Yes
Delay Measure Last Reported: 22us
Timestamp                  : 2025/09/11 21:43:40
Triggered By               : SampleThresholdAbsolute
Measurement Source         : 1/1/1
-------------------------------------------------------------------------------
===============================================================================
Port: 1/1/1
-------------------------------------------------------------------------------
STAMP Session Identifier           : 1
Sender Micro Session ID            : 1
Reflector Micro Session ID         : 1
Detectable Tx Error                : none
Reflector Micro Sess ID Renum Count: 1
Frame Discard Counts
  Sender Micro Session ID Zero     : 0
  Reflector Micro Session ID Zero  : 0
  Sender Micro Session ID Mismatch : 0
===============================================================================
Port: 1/1/2
-------------------------------------------------------------------------------
STAMP Session Identifier           : 2
Sender Micro Session ID            : 2
Reflector Micro Session ID         : 2
Detectable Tx Error                : none
Reflector Micro Sess ID Renum Count: 1
Frame Discard Counts
  Sender Micro Session ID Zero     : 0
  Reflector Micro Session ID Zero  : 0
  Sender Micro Session ID Mismatch : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example — detailed LAG micro-sessions information

```
A:node-2>show>test-oam>link-measurement# interface "to-sr7" lag-micro-sessions detail
===============================================================================
Interface Link Measurement Information - to-sr7
===============================================================================
Template Name: link-1
Oper State               : Up
LAG Micro Sessions       : enabled
LAG ID                   : 1
LAG Name                 : lag-x1
LAG Micro-Session Count  : 2
Protocol                 : IPv4
Oper Source Address      : 192.168.0.12
Source Auto-Assigned     : Yes
Oper Destination Address : 192.168.0.7
Destination Auto-Assigned: No
In-Use Src UDP Port      : 49154
In-Use Dst UDP Port      : 862
Session Sender Type      : stamp
STAMP Session Identifier : port-specific
Failure Condition(s)     : None
Detectable Tx Error      : None
Delay Metric            :  max-of-min
-------------------------------------------------------------------------------
Reporting
-------------------------------------------------------------------------------
Reporting Operational      : Yes
Delay Measure Last Reported: 22us
Timestamp                  : 2025/09/11 21:43:40
Triggered By               : SampleThresholdAbsolute
Measurement Source         : 1/1/1
-------------------------------------------------------------------------------
===============================================================================
Port: 1/1/1
-------------------------------------------------------------------------------
STAMP Session Identifier           : 1
Sender Micro Session ID            : 1
Reflector Micro Session ID         : 1
Detectable Tx Error                : none
Reflector Micro Sess ID Renum Count: 1
Frame Discard Counts
  Sender Micro Session ID Zero     : 0
  Reflector Micro Session ID Zero  : 0
  Sender Micro Session ID Mismatch : 0
-------------------------------------------------------------------------------
Aggregate Sample Window Delay Measurement Detail       Currently Reporting: XoM
-------------------------------------------------------------------------------
End Timestamp (UTC)              State Count Min(us) Max(us) Avg(us) I  Result
-------------------------------------------------------------------------------
N/A                           InProgress     7       0       0       0 -       0
2025/10/16 12:57:40            Completed    12      23      25      24 Y      23
2025/10/16 12:55:40            Completed    12      25      25      25 Y      25
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Sample Window Delay Measurement Detail                 Currently Reporting: XoM
-------------------------------------------------------------------------------
End Timestamp (UTC)       State  Rcv/Snt  Min(us) Max(us) Avg(us) E F I  Result
-------------------------------------------------------------------------------
N/A                    InProgress    8/8          0       0       0 N N -       0
2025/10/16 12:59:00   Completed   10/10         25      27      26 N N Y      25
2025/10/16 12:58:50   Completed   10/10         25      29      26 N N Y      25
2025/10/16 12:58:40   Completed   10/10         25      29      27 N N Y      25
2025/10/16 12:58:30   Completed   10/10         25      29      26 N N Y      25
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2025/10/16 12:58:20   Completed   10/10        25      27      26 N N Y      25
2025/10/16 12:58:10   Completed   10/10        25      27      26 N N Y      25
-------------------------------------------------------------------------------
===============================================================================
Port: 1/1/2
-------------------------------------------------------------------------------
STAMP Session Identifier           : 2
Sender Micro Session ID            : 2
Reflector Micro Session ID         : 2
Detectable Tx Error                : none
Reflector Micro Sess ID Renum Count: 1
Frame Discard Counts
  Sender Micro Session ID Zero     : 0
  Reflector Micro Session ID Zero  : 0
  Sender Micro Session ID Mismatch : 0
-------------------------------------------------------------------------------
Aggregate Sample Window Delay Measurement Detail       Currently Reporting: XoM
-------------------------------------------------------------------------------
End Timestamp (UTC)              State Count Min(us) Max(us) Avg(us) I  Result
-------------------------------------------------------------------------------
N/A                           InProgress     7       0       0       0 -       0
2025/10/16 12:57:40            Completed    12      23      25      24 Y      23
2025/10/16 12:55:40            Completed    12      25      25      25 Y      25
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Sample Window Delay Measurement Detail                 Currently Reporting: XoM
-------------------------------------------------------------------------------
End Timestamp (UTC)       State  Rcv/Snt  Min(us) Max(us) Avg(us) E F I  Result
-------------------------------------------------------------------------------
N/A                   InProgress    8/8          0       0       0 N N -       0
2025/10/16 12:59:00   Completed   10/10        25      27      26 N N Y      25
2025/10/16 12:58:50   Completed   10/10        25      29      26 N N Y      25
2025/10/16 12:58:40   Completed   10/10        25      29      27 N N Y      25
2025/10/16 12:58:30   Completed   10/10        25      29      26 N N Y      25
2025/10/16 12:58:20   Completed   10/10        25      27      26 N N Y      25
2025/10/16 12:58:10   Completed   10/10        25      27      26 N N Y      25
-------------------------------------------------------------------------------
===============================================================================
Sample and Aggregate Legend:
      *: Value greater than column width allows
    N/A: Nonexistent or incalculable value
      I: Integrity threshold satisfied
      E: Indicates reception of duplicate packets or zero or negative values
      F: Indicates unexpected STAMP flag state
===============================================================================
```

Table 229: Output fields: link measurement interface

Label	Description
Interface Link Measurement Information	
Template Name	The name of the link measurement template
Oper State	The operational state of the test configured under the interface Up — assigned link-measurement template. A test protocol is enabled; UDP port is available, and internal resources are available. Down — one or more requirements for the Up state is not met

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
LAG Micro Sessions	The administrative status of LAG micro sessions
Port	The port assigned to the interface, if link measurement is configured on a single port
LAG ID	The LAG assigned to the interface, if link measurement is configured on a LAG
LAG Name	The LAG name, if link measurement is configured on a LAG
LAG Micro Session Count	The number of LAG micro sessions
Session Sender Type	The Session-Sender type
STAMP Session Identifier	The STAMP session ID
Protocol	The active protocol encapsulating the test packet IPv4 or IPv6
Oper Source Address	The source address of the test packet
Source Auto-Assigned	The source address is automatically determined No — the source is configured or cannot be automatically determined Yes — the source is automatically determined
Oper Destination Address	The destination address of the test packet (IPv4 or IPv6)
Destination Auto-Assigned	The destination address is automatically determined No — the destination is configured or cannot be automatically determined Yes — the destination is automatically determined
Failure Condition(s)	The requirements not met causing an Oper Down state
Detectable Tx Errors	The error condition detected that may prevent the test packet from being sent
Reporting	
Reporting Enabled	The current value should be compared to a threshold and possibly reported Yes — at least one threshold in either window is configured No — none of the thresholds in either window is configured
Delay Measurement Last Reported	The value of the last measurement reported to the routing engine
Timestamp	The end timestamp (UTC) of the last reported delay measurement
Trigger By	The window and threshold type that was exceeded triggering the reporting. Only one will be reported if multiple are triggered in the same window.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Measurement Source	The measurement source of the reported delay value. This is an interface name when LAG micro sessions is disabled, and a port ID when LAG micro sessions is enabled.
Aggregate Sample Window Delay Measurement Detail	
Count	The number of sample widows included in the aggregate sample window
Sample Window Delay Measurement Detail	
Rcv/Snt	The number of response test packets received (Rcv) and sent (Snt)
Err	The number of errors included in the sample window. This is the total of duplicates, zero, and negative valued measurements. The negative error count is incremented if either direction is negative, regardless of the unidirectional-measurement configuration method. A negative measurement in either direction calls into question the validity of both directions. Errors are included in the receive count, but do not count toward integrity. * — value exceeds column width; value more than 999
Common Table Labels	
Currently Reporting	The configured value of the delay measurement to consider (Min, Max, Avg, MoX, XoM)
End Timestamp (UTC)	The time at which the window closed
State	The state of the window InProgress — currently executing Completed — closed via normal execution Terminated — preempted by some action; closed and not considered for report SwReported — new delay reported from this sample window AswReported — new delay reported from this aggregate sample window (only applicable to Aggregate Sample Windows)
Min (us)	The minimum delay value recorded in this window, in units microseconds N/A — not applicable or incalculable, when no responses are received, or all are in error * — value exceeds column width; value in excess of 9999999
Max (us)	The maximum delay value recorded in this window, in units microseconds N/A — not applicable or incalculable, when no responses are received, or all are in error

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	* — value exceeds column width; value in excess of 9999999
Avg (us)	The average delay value recorded in this window, in units microseconds N/A — not applicable or incalculable, when no responses are received, or all are in error * — value exceeds column width; value in excess of 9999999
I	The window has integrity and should be considered Y — yes, achieved integrity N — no, did not meet configured integrity percentage
Results	The metric considered for reporting in this window N/A — not applicable or incalculable, when no responses are received, or all are in * — value exceeds column width; value more than 9999999

interface

Syntax

interface *interface-name*

interface *interface-name* **port** *port-id* [**debug-counters**]

Context

[Tree] (show>test-oam>lag-meas interface)

Full Context

show test-oam lag-ip-measurement interface

Description

This command displays LAG measurement data for the specified LAG interface.

Parameters

interface-name

Specifies the interface name, up to 32 characters.

port-id

Specifies the port ID.

Values

slot[/*mda*[/*port*]]		
eth-sat-id	**esat**-*id*[/*slot*/[**u**]*port*]	
	esat	keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	id	1 to 40
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 256
	sub-port	a to b

debug-counters

Keyword to display the debug counters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following outputs are examples of LAG measurement data:

- Output example: LAG IP measurement interface summary, Table 230: Output fields: LAG IP measurement interface summary
- Output example: LAG IP measurement interface port 1/1/1, Table 231: Output fields: LAG IP measurement port 1/1/1 summary
- Output example: LAG IP measurement port 1/1/1 debug-counters, Table 232: Output fields: LAG IP measurement port 1/1/1 debug-counters

Output example: LAG IP measurement interface summary

```
show test-oam lag-ip-measurement interface <interface-name>
-------------------------------------------------------------------------------
LAG IP Measurement Results for Interface to-sr7
-------------------------------------------------------------------------------
LAG Template: twl-on-lag-1
LAG Measurement Oper State: down
LAG ID                    : 1
LAG Name                  : lag-1
LAG Member Count          : 2
Protocol                  : IPv4
Oper Source Address       : 192.168.1.12
Source Auto-Assigned      : yes
Oper Destination Address  : 192.168.1.7
Destination Auto-Assigned : no
In-Use Source UDP Port    : 0
Destination UDP Port      : 862
Session Sender Type       : stamp
STAMP Session ID          : 1000
Failure Condition(s)      : template-admin-down
Detectable Tx Error       : none
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
LAG IP Measurement Results Summary for Port 1/1/1
-------------------------------------------------------------------------------
Detectable Tx Error       : none
Summary of the Newest Closed Sample Window
  End Timestamp (UTC)     : 2024/10/09 12:54:08
  Sample Window State     : complt
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Frame Loss Ratio        : 0.000%
  Average Round Trip Delay: 53 microseconds
  Average Round Trip IFDV : 1 microseconds
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
LAG IP Measurement Results Summary for Port 1/1/2
-------------------------------------------------------------------------------
Detectable Tx Error       : none
Summary of the Newest Closed Sample Window
  End Timestamp (UTC)     : 2024/10/09 12:54:08
  Sample Window State     : complt
  Frame Loss Ratio        : 0.000%
  Average Round Trip Delay: 53 microseconds
  Average Round Trip IFDV : 2 microseconds
-------------------------------------------------------------------------------
```

Table 230: Output fields: LAG IP measurement interface summary

Label	Description
LAG IP Measurement Results for Interface	
LAG Template	Displays the name of the link measurement interface on the LAG template
LAG Measurement Oper State	Displays the operational state of the test configured under the interface Up — assigned link measurement template. A test protocol is enabled, a UDP port is available, and internal resources are available. Down — one or more requirements for the Up state are not met
LAG Name	Displays the name of the LAG
LAG Member Count	Displays the number of ports in the LAG (micro sessions)
Protocol	Displays the active protocol encapsulating the test IPv4 or IPv6 packet
Oper Source Address	Displays the source address of the test packet (IPv4 or IPv6)
Source Auto-Assigned	Displays the source address that is automatically determined No — the source is configured or cannot be automatically determined Yes — the source is automatically determined
Destination Address	Displays the destination address of the test packet (IPv4 or IPv6)
Destination Auto-Assigned	Displays the destination address that is automatically determined No — the source is configured or cannot be automatically determined Yes — the source is automatically determined

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Destination UDP Port	Displays the destination UDP port that is the listening port on the Session-Reflector
Session Sender Type	Displays the format of the test packet that will be transmitted
STAMP Session ID	Displays the STAMP session ID
Failure Condition	Displays if the requirements are not met, which causes an operationally down state
Detectable Tx Errors	Displays the detected error condition that may prevent the test packet from being sent
LAG IP Measurement Results Summary for Port Information	
Detectable Tx Error	Displays the detected error condition that may prevent the test packet from being sent for the micro session on the port
End Timestamp	Displays the time of last completed sample window
Sample Window State	Displays the state of the sample window complt – completed sample window discrd – operational state of the LAG IP measurement transitioned to per down during the sample window inProg – the micro session is currently running
Frame Loss Ratio	Displays the round trip Frame Loss Ratio (FLR) using the count of transmitted and received packets in the sample window
Average Round Trip Delay	Displays the average round trip delay, in microseconds, for the sample window
Average Round Trip IFDV	Displays the average Inter Frame Delay Variation (IFDV) for the sample window in microseconds

Output example: LAG IP measurement interface port 1/1/1

```
show test-oam lag-ip-measurement interface "to-sr7" port 1/1/1
-------------------------------------------------------------------------------
LAG IP Measurement Results for Interface to-sr7
-------------------------------------------------------------------------------
LAG Template: twl-on-lag-1
LAG Measurement Oper State: up
LAG ID                    : 1
LAG Name                  : lag-1
LAG Member Count          : 2
Protocol                  : IPv4
Oper Source Address       : 192.168.1.12
Source Auto-Assigned      : yes
Oper Destination Address  : 192.168.1.7
Destination Auto-Assigned : no
In-Use Source UDP Port    : 64374
Destination UDP Port      : 862
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Session Sender Type       : stamp
STAMP Session ID          : 1000
Failure Condition(s)      : none
Detectable Tx Error       : none
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
LAG IP Measurement Results for Port 1/1/1
-------------------------------------------------------------------------------
Sender Micro Session ID           : 1
Reflector Micro Session ID        : 1
Detectable Tx Error               : none
Reflector Micro Sess ID Renum Count: 1
Frame Discard Counts
  Sender Micro Session ID Zero     : 0
  Reflector Micro Session ID Zero  : 0
  Sender Micro Session ID Mismatch : 0
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
LAG IP Measurement Sample Windows for Port 1/1/1
-------------------------------------------------------------------------------
End Timestamp (UTC)  State  Rcv/Sent    FLR% Dir Type E Min(us) Max(us) Avg(us)
-------------------------------------------------------------------------------
N/A                 inProg    2/2        N/A  RT   FD       N/A     N/A     N/A
                                                 IFDV       N/A     N/A     N/A
2024/10/09 13:29:59 complt   10/10     0.000  RT   FD        48      52      50
                                                 IFDV         0       4       2
2024/10/09 13:29:49 complt   10/10     0.000  RT   FD        48      56      50
                                                 IFDV         0       8       3
2024/10/09 13:29:39 complt   10/10     0.000  RT   FD        48      56      50
                                                 IFDV         0       4       1
2024/10/09 13:29:29 complt   10/10     0.000  RT   FD        48      56      50
                                                 IFDV         0       8       4
2024/10/09 13:29:19 complt   10/10     0.000  RT   FD        48      56      50
                                                 IFDV         0       8       2
2024/10/09 13:29:09 complt   10/10     0.000  RT   FD        48      52      50
                                                 IFDV         0       4       2
2024/10/09 13:28:59 complt   10/10     0.000  RT   FD        44      56      50
                                                 IFDV         0       8       2
2024/10/09 13:28:49 complt   10/10     0.000  RT   FD        48      56      50
                                                 IFDV         0       8       2
2024/10/09 13:28:39 complt   10/10     0.000  RT   FD        48      56      51
                                                 IFDV         0       4       2
2024/10/09 13:28:29 complt   10/10     0.000  RT   FD        48      52      49
                                                 IFDV         0       4       1
2024/10/09 13:28:19 complt   10/10     0.000  RT   FD        44      56      50
                                                 IFDV         0       8       3
2024/10/09 13:28:09 complt   10/10     0.000  RT   FD        48      52      50
                                                 IFDV         0       4       2
2024/10/09 13:27:59 complt   10/10     0.000  RT   FD        48      56      50
                                                 IFDV         0       4       3
2024/10/09 13:27:49 complt   10/10     0.000  RT   FD        48      52      50
                                                 IFDV         0       4       2
2024/10/09 13:27:39 complt   10/10     0.000  RT   FD        48      56      51
                                                 IFDV         0       8       2
2024/10/09 13:27:29 complt   10/10     0.000  RT   FD        48      52      50
                                                 IFDV         0       4       1
2024/10/09 13:27:19 complt   10/10     0.000  RT   FD        48      52      50
                                                 IFDV         0       4       2
2024/10/09 13:27:09 complt   10/10     0.000  RT   FD        48      56      51
                                                 IFDV         0       4       1
2024/10/09 13:26:59 complt   10/10     0.000  RT   FD        48      52      50
                                                 IFDV         0       4       2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2024/10/09 13:26:49 complt   10/10     0.000  RT   FD        48      52      50
                                                 IFDV       0       4       2
2024/10/09 13:26:39 complt    9/9      0.000  RT   FD Y      48      52      49
                                                 IFDV Y     0       4       3
2024/10/09 13:26:29 complt    0/0        N/A  RT   FD       N/A     N/A     N/A
                                                 IFDV      N/A     N/A     N/A
2024/10/09 13:26:19 complt    0/0        N/A  RT   FD       N/A     N/A     N/A
                                                 IFDV      N/A     N/A     N/A
2024/10/09 13:26:09 complt    0/0        N/A  RT   FD       N/A     N/A     N/A
                                                 IFDV      N/A     N/A     N/A
2024/10/09 13:25:59 complt    0/0        N/A  RT   FD       N/A     N/A     N/A
                                                 IFDV      N/A     N/A     N/A
2024/10/09 13:25:49 complt    0/1    100.000  RT   FD       N/A     N/A     N/A
                                                 IFDV      N/A     N/A     N/A
2024/10/09 13:25:39 complt    4/10    60.000  RT   FD Y      52      52      52
                                                 IFDV Y     0       0       0
2024/10/09 13:25:29 complt   10/10     0.000  RT   FD        48      56      52
                                                 IFDV       0       4       1
2024/10/09 12:54:09 discrd    2/2        N/A  RT   FD       N/A     N/A     N/A
                                                 IFDV      N/A     N/A     N/A
2024/10/09 12:54:08 complt   10/10     0.000  RT   FD        51      55      53
                                                 IFDV       0       4       1
2024/10/09 12:53:58 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       4       2
2024/10/09 12:53:48 complt   10/10     0.000  RT   FD        51      55      53
                                                 IFDV       0       4       2
2024/10/09 12:53:38 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       8       1
2024/10/09 12:53:28 complt   10/10     0.000  RT   FD        51      59      53
                                                 IFDV       0       4       3
2024/10/09 12:53:18 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       8       2
2024/10/09 12:53:08 complt   10/10     0.000  RT   FD        47      59      53
                                                 IFDV       0       8       4
2024/10/09 12:52:58 complt   10/10     0.000  RT   FD        51      55      52
                                                 IFDV       0       4       1
2024/10/09 12:52:48 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       4       2
2024/10/09 12:52:38 complt   10/10     0.000  RT   FD        51      55      53
                                                 IFDV       0       4       0
2024/10/09 12:52:28 complt   10/10     0.000  RT   FD        47      55      53
                                                 IFDV       0       8       1
2024/10/09 12:52:18 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       4       3
2024/10/09 12:52:08 complt   10/10     0.000  RT   FD        51      59      53
                                                 IFDV       0       8       1
2024/10/09 12:51:58 complt   10/10     0.000  RT   FD        51      59      53
                                                 IFDV       0       8       3
2024/10/09 12:51:48 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       8       2
2024/10/09 12:51:38 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       8       3
2024/10/09 12:51:28 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       8       3
2024/10/09 12:51:18 complt   10/10     0.000  RT   FD        51      55      53
                                                 IFDV       0       4       0
2024/10/09 12:51:08 complt   10/10     0.000  RT   FD        51      59      54
                                                 IFDV       0       4       2
2024/10/09 12:50:58 complt   10/10     0.000  RT   FD        51      59      53
                                                 IFDV       0       8       3
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 231: Output fields: LAG IP measurement port 1/1/1 summary

Label	Description
LAG IP Measurement Results for Interface	
LAG Template	Displays the name of the link measurement on the LAG template
LAG Measurement Oper State	Displays the operational state of the test configured under the interface Up — assigned link measurement template. A test protocol is enabled, a UDP port is available, and internal resources are available. Down — one or more requirements for the Up state are not met
LAG Name	Displays the name of the LAG
LAG Member Count	Displays the number of ports in the LAG (micro sessions)
Protocol	Displays the active protocol encapsulating the test IPv4 or IPv6 packet
Oper Source Address	Displays the source address of the test packet (IPv4 or IPv6)
Source Auto-Assigned	Displays the source address that is automatically determined No — the source is configured or cannot be automatically determined Yes — the source is automatically determined
Destination Address	Displays the destination address of the test packet (IPv4 or IPv6)
Destination Auto-Assigned	Displays the destination address that is automatically determined No — the source is configured or cannot be automatically determined Yes — the source is automatically determined
Destination UDP Port	Displays the destination UDP port that is the listening port on the Session-Reflector
Session Sender Type	Displays the format of the test packet that will be transmitted
STAMP Session ID	Displays the STAMP session ID
Failure Condition	Displays if the requirements are not met, which causes an operationally down state
Detectable Tx Errors	Displays the detected error condition that may prevent the test packet from being sent
LAG IP Measurement Results for Port Information	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Sender Micro Session ID	Displays the micro-session ID in the packet added by the Session-Sender
Reflector Micro Session ID	Displays the micro-session ID in the packet added by the Session-Reflector
Detectable Tx Error	Displays the error condition detected that may prevent the test packet from being sent for the micro session on the port
Sender Micro Session ID Zero	Displays the number of packets arriving on the Session-Sender with all zeros in the sender micro-session ID field
Reflector Micro Session ID Zero	Displays the number of packets arriving on the Session-Sender with all zeros in the reflector micro-session ID field
Sender Micro Session ID Mismatch	Displays the number of packets arriving on the Session-Sender with a different sender micro-session ID than expected
LAG IP Measurement Sample Window for Port Information	
End Timestamp	Displays the time of the last completed sample window. "N/A" indicates the window is not completed and results are not computed.
State	Displays the state of the sample window complt – completed sample window discrd – the operational state of the LAG IP measurement transitioned to per down during the sample window inProg – the micro session is currently running
Rcv/Sent	Displays the number of test packets sent and received
FLR%	Displays the round trip FLR using the number transmitted and received packets in the sample window
Dir	Displays the direction relative to the result RT – round trip
Type	Displays the type of measurement FD – Frame Delay IFDV – InterFrame Delay Variation
E	Displays if zero or negative round trip delay is calculated Y – yes Blank – no
Min(us)	Displays the minimum measured value in microseconds
Max(us)	Displays the maximum measured value in microseconds

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Avg(us)	Displays the maximum computed valued in microseconds

Output example: LAG IP measurement interface debug-counters

```
show test-oam lag-ip-measurement interface "to-sr7" port "1/1/1" debug-counters
-------------------------------------------------------------------------------
LAG IP Measurement Sample Window Debug Counters for Port 1/1/1
-------------------------------------------------------------------------------
End Timestamp (UTC)  State  Rcv/Sent MFlag UFlag 0Neg
-------------------------------------------------------------------------------
N/A                 inProg    8/8        0     0    N
2025/03/03 21:37:14 complt   10/10       0     0    N
2025/03/03 21:37:04 complt   10/10       0     0    N
2025/03/03 21:36:54 complt   10/10       0     0    N
2025/03/03 21:36:44 complt   10/10       0     0    N
2025/03/03 21:36:34 complt   10/10       0     0    N
2025/03/03 21:36:24 complt   10/10       0     0    N
-------------------------------------------------------------------------------
MFlag: number of Malformed STAMP packets reported by the far end.
UFlag: number of Unrecognized STAMP packets reported by the far end.
0Neg : at least one negative (or zero) Round Trip delay calculated.
```

Table 232: Output fields: LAG IP measurement port 1/1/1 debug-counters

Label	Description
End Timestamp	Displays the time of the last completed sample window. "N/A" indicates the window is not completed and results are not computed.
State	Displays the state of the sample window complt – completed sample window discrd – the operational state of the LAG IP measurement transitioned to per down during the sample window inProg – the micro session is currently running
Rcv/Sent	Displays the number of test packets sent and received
MFlag	Displays the number of malformed STAMP packets reported by the far end
UFlag	Displays the number of unrecognized STAMP packets reported by the far end
0Neg	Displays whether at least one negative (or zero) Round Trip delay was calculated

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

interface

Syntax

interface *interface* [*interface*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] [**aux-stats**]

Context

[Tree] (monitor>router>mpls interface)

Full Context

monitor router mpls interface

Description

This command displays statistics for MPLS interfaces at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the MPLS interface(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

interface

Specifies the IP address of the interface (*ip-address*) or interface name (*ip-int-name*). Up to five interfaces can be specified. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

Values *ip-int-name*, *ip-address*

seconds

Configures the interval for each display, in seconds.

Values 11 to 60

Default 11 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rate

Displays rate-per-second for each statistic instead of the delta.

aux-stats

Displays auxiliary MPLS statistics next to the default MPLS statistics.

Platforms

All

Output

The following output is an example of MPLS interface information.

Output Example

```
A:ALA-12>monitor>router>mpls# interface system interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for MPLS Interface "system"
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
===============================================================================
A:ALA-12>monitor>router>mpls#


A:ALA-12>monitor>router>mpls# interface system interval 3 repeat 3 rate
===============================================================================
Monitor statistics for MPLS Interface "system"
===============================================================================
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
===============================================================================
A:ALA-12>monitor>router>mpls#

A:ALA-12>monitor router mpls interface aux-stats
===============================================================================
Monitor statistics for MPLS Interface "toR2"
===============================================================================
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
  Transmitted  : Pkts - 0                    Octets - 0
  Received     : Pkts - 0                    Octets - 0
  Transmitted  : SR-Pkts - 0                 SR-Octets - 0
  Received     : SR-Pkts - 0                 SR-Octets - 0
===============================================================================
A:ALA-12>monitor>router>mpls#
```

interface

Syntax

interface *interface* [*interface*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>ospf interface)

[Tree] (monitor>router>ospf3 interface)

Full Context

monitor router ospf interface

monitor router ospf3 interface

Description

This command displays statistics for OSPF interfaces at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the OSPF interface(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

interface

Specifies the IP address of the interface (*ip-address*s) or interface name (*ip-int-name*). Up to five interfaces can be specified. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values *ip-int-address*, *ip-address*

seconds

Configures the interval for each display, in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of OSPF interface information.

Output Example

```
A:ALA-12>monitor>router>ospf# interface to-104 interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for OSPF Interface "to-104"
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Tot Rx Packets : 8379                  Tot Tx Packets : 8528
Rx Hellos      : 8225                  Tx Hellos      : 8368
Rx DBDs        : 6                     Tx DBDs        : 12
Rx LSRs        : 2                     Tx LSRs        : 1
Rx LSUs        : 55                    Tx LSUs        : 95
Rx LS Acks     : 91                    Tx LS Acks     : 52
Retransmits    : 2                     Discards       : 0
Bad Networks   : 0                     Bad Virt Links : 0
Bad Areas      : 0                     Bad Dest Addrs : 0
Bad Auth Types : 0                     Auth Failures  : 0
Bad Neighbors  : 0                     Bad Pkt Types  : 0
Bad Lengths    : 0                     Bad Hello Int. : 0
Bad Dead Int.  : 0                     Bad Options    : 0
Bad Versions   : 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Tot Rx Packets : 8379                  Tot Tx Packets : 8528
Rx Hellos      : 8225                  Tx Hellos      : 8368
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rx DBDs        : 6                     Tx DBDs        : 12
Rx LSRs        : 2                     Tx LSRs        : 1
Rx LSUs        : 55                    Tx LSUs        : 95
Rx LS Acks     : 91                    Tx LS Acks     : 52
Retransmits    : 2                     Discards       : 0
Bad Networks   : 0                     Bad Virt Links : 0
Bad Areas      : 0                     Bad Dest Addrs : 0
Bad Auth Types : 0                     Auth Failures  : 0
Bad Neighbors  : 0                     Bad Pkt Types  : 0
Bad Lengths    : 0                     Bad Hello Int. : 0
Bad Dead Int.  : 0                     Bad Options    : 0
Bad Versions   : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Tot Rx Packets : 8380                  Tot Tx Packets : 8529
Rx Hellos      : 8226                  Tx Hellos      : 8369
Rx DBDs        : 6                     Tx DBDs        : 12
Rx LSRs        : 2                     Tx LSRs        : 1
Rx LSUs        : 55                    Tx LSUs        : 95
Rx LS Acks     : 91                    Tx LS Acks     : 52
Retransmits    : 2                     Discards       : 0
Bad Networks   : 0                     Bad Virt Links : 0
Bad Areas      : 0                     Bad Dest Addrs : 0
Bad Auth Types : 0                     Auth Failures  : 0
Bad Neighbors  : 0                     Bad Pkt Types  : 0
Bad Lengths    : 0                     Bad Hello Int. : 0
Bad Dead Int.  : 0                     Bad Options    : 0
Bad Versions   : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Tot Rx Packets : 8380                  Tot Tx Packets : 8529
Rx Hellos      : 8226                  Tx Hellos      : 8369
Rx DBDs        : 6                     Tx DBDs        : 12
Rx LSRs        : 2                     Tx LSRs        : 1
Rx LSUs        : 55                    Tx LSUs        : 95
Rx LS Acks     : 91                    Tx LS Acks     : 52
Retransmits    : 2                     Discards       : 0
Bad Networks   : 0                     Bad Virt Links : 0
Bad Areas      : 0                     Bad Dest Addrs : 0
Bad Auth Types : 0                     Auth Failures  : 0
Bad Neighbors  : 0                     Bad Pkt Types  : 0
Bad Lengths    : 0                     Bad Hello Int. : 0
Bad Dead Int.  : 0                     Bad Options    : 0
Bad Versions   : 0
===============================================================================
A:ALA-12>monitor>router>ospf#


A:ALA-12>monitor>router>ospf# interface to-104 interval 3 repeat 3 rate
===============================================================================
Monitor statistics for OSPF Interface "to-104"
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Tot Rx Packets : 8381                  Tot Tx Packets : 8530
Rx Hellos      : 8227                  Tx Hellos      : 8370
Rx DBDs        : 6                     Tx DBDs        : 12
Rx LSRs        : 2                     Tx LSRs        : 1
Rx LSUs        : 55                    Tx LSUs        : 95
Rx LS Acks     : 91                    Tx LS Acks     : 52
Retransmits    : 2                     Discards       : 0
Bad Networks   : 0                     Bad Virt Links : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Bad Areas      : 0                      Bad Dest Addrs : 0
Bad Auth Types : 0                      Auth Failures  : 0
Bad Neighbors  : 0                      Bad Pkt Types  : 0
Bad Lengths    : 0                      Bad Hello Int. : 0
Bad Dead Int.  : 0                      Bad Options    : 0
Bad Versions   : 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
Tot Rx Packets : 0                      Tot Tx Packets : 0
Rx Hellos      : 0                      Tx Hellos      : 0
Rx DBDs        : 0                      Tx DBDs        : 0
Rx LSRs        : 0                      Tx LSRs        : 0
Rx LSUs        : 0                      Tx LSUs        : 0
Rx LS Acks     : 0                      Tx LS Acks     : 0
Retransmits    : 0                      Discards       : 0
Bad Networks   : 0                      Bad Virt Links : 0
Bad Areas      : 0                      Bad Dest Addrs : 0
Bad Auth Types : 0                      Auth Failures  : 0
Bad Neighbors  : 0                      Bad Pkt Types  : 0
Bad Lengths    : 0                      Bad Hello Int. : 0
Bad Dead Int.  : 0                      Bad Options    : 0
Bad Versions   : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
Tot Rx Packets : 0                      Tot Tx Packets : 0
Rx Hellos      : 0                      Tx Hellos      : 0
Rx DBDs        : 0                      Tx DBDs        : 0
Rx LSRs        : 0                      Tx LSRs        : 0
Rx LSUs        : 0                      Tx LSUs        : 0
Rx LS Acks     : 0                      Tx LS Acks     : 0
Retransmits    : 0                      Discards       : 0
Bad Networks   : 0                      Bad Virt Links : 0
Bad Areas      : 0                      Bad Dest Addrs : 0
Bad Auth Types : 0                      Auth Failures  : 0
Bad Neighbors  : 0                      Bad Pkt Types  : 0
Bad Lengths    : 0                      Bad Hello Int. : 0
Bad Dead Int.  : 0                      Bad Options    : 0
Bad Versions   : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
Tot Rx Packets : 0                      Tot Tx Packets : 0
Rx Hellos      : 0                      Tx Hellos      : 0
Rx DBDs        : 0                      Tx DBDs        : 0
Rx LSRs        : 0                      Tx LSRs        : 0
Rx LSUs        : 0                      Tx LSUs        : 0
Rx LS Acks     : 0                      Tx LS Acks     : 0
Retransmits    : 0                      Discards       : 0
Bad Networks   : 0                      Bad Virt Links : 0
Bad Areas      : 0                      Bad Dest Addrs : 0
Bad Auth Types : 0                      Auth Failures  : 0
Bad Neighbors  : 0                      Bad Pkt Types  : 0
Bad Lengths    : 0                      Bad Hello Int. : 0
Bad Dead Int.  : 0                      Bad Options    : 0
Bad Versions   : 0
===============================================================================
A:ALA-12>monitor>router>ospf#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

interface

Syntax

interface *interface* [*interface*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>rsvp interface)

Full Context

monitor router rsvp interface

Description

This command displays statistics for RSVP interfaces at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the RSVP interface(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

interface

Specifies the IP address of the interface (*ip-address*s) or interface name (*ip-int-name*). Up to five interfaces can be specified. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

Values *ip-int-name*, *ip-address*

seconds

Configures the interval for each display, in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

12.35 interface-id-mapping

interface-id-mapping

Syntax

interface-id-mapping

Context

[Tree] (show>router>dhcp6>local-dhcp-server interface-id-mapping)

Full Context

show router dhcp6 local-dhcp-server interface-id-mapping

Description

This command displays information about the DHCPv6 server that uses a unique /64 prefix per interface-ID options combination.

Platforms

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

Output

The following output is an example of interface ID mapping information.

Output Example

```
show router 600 dhcp6 local-dhcp-server "d6" interface-id-mapping
===============================================================================
Interface-ID Mappings for DHCPv6 server d6
===============================================================================
Mapped Prefix      : 2001:AAAA::/64
Relay Interface ID : 1/1/10
LDRA Interface ID  : (Not Specified)
Active Leases      : 2001:AAAA::1 (stable)
===============================================================================
1 prefix found
===============================================================================
```

Table 233: Output fields: interface ID mapping describes interface ID mapping field descriptions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 233: Output fields: interface ID mapping

Field	Description
Mapped Prefix	The mapped prefix
Relay Interface ID	The value of the Interface-ID Option assigned by the DHCPv6 Relay Agent
LDRA Interface ID	The value of the Interface-ID Option assigned by the Lightweight DHCPv6 Relay Agent
Active Leases	The number of active leases
No. of prefixes found	The total number of prefixes found.

12.36 interface-statistics

interface-statistics

Syntax

interface-statistics service *service-id* **all**

interface-statistics service *service-id* **group-interface** *grp-if*

interface-statistics service *service-id* **subscriber-interface** *sub-if*

Context

[Tree] (clear>subscr-mgmt interface-statistics)

Full Context

clear subscriber-mgmt interface-statistics

Description

This command clears subscriber interface statistics.

Parameters

service-id

Specifies the service ID of the service

Values 1 to 214748364

svc-name: up to 64 characters

grp-id

Specifies the group interface name, up to 32 characters

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sub-id

Specifies the subscriber interface, up to 32 characters

Platforms

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

interface-statistics

Syntax

interface-statistics service *service-id* **all**

interface-statistics service *service-id* **group-interface** *grp-if*

interface-statistics service *service-id* **subscriber-interface** *sub-if*

Context

[Tree] (show>subscr-mgmt interface-statistics)

Full Context

show subscriber-mgmt interface-statistics

Description

This command displays subscriber interface statistics.

Parameters

service-id

Specifies the service ID of the service.

Values 1 to 2148278386

svc-name: up to 64 characters

grp-id

Specifies the group interface name, up to 32 characters

sub-id

Specifies the subscriber interface, up to 32 characters

Platforms

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

Output

The following output is an example of service interface statistics information.

Output Example

```
*B:Dut-C# show subscriber-mgmt interface-statistics service 10 all
===============================================================================
Subscriber statistics for svc 10, itf si-1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
                                    Ingress             Egress
-------------------------------------------------------------------------------
IP packets                          15                  15
Bytes in IP packets                 1990                1990
Last cleared                        06/28/2021 21:19:40
===============================================================================
===============================================================================
Subscriber statistics for svc 10, itf gi-1-6
===============================================================================
                                    Ingress             Egress
-------------------------------------------------------------------------------
IP packets                          5                   5
Bytes in IP packets                 670                 670
Last cleared                        06/28/2021 21:19:40
===============================================================================
===============================================================================
Subscriber statistics for svc 10, itf gi-1-11
===============================================================================
                                    Ingress             Egress
-------------------------------------------------------------------------------
IP packets                          10                  10
Bytes in IP packets                 1320                1320
Last cleared                        06/28/2021 21:19:40
===============================================================================

Number of active subscriber hosts    3
===============================================================================
*B:Dut-C#


*B:Dut-C# show subscriber-mgmt interface-statistics service 10 subscriber-interface "si-1"
===============================================================================
Subscriber statistics for svc 10, itf si-1
===============================================================================
                                    Ingress             Egress
-------------------------------------------------------------------------------
IP packets                          15                  15
Bytes in IP packets                 1990                1990
Last cleared                        06/28/2021 21:19:40
===============================================================================

Number of active subscriber hosts    3
===============================================================================
*B:Dut-C#


*B:Dut-C# show subscriber-mgmt interface-statistics service 10 group-interface "gi-1-6"
===============================================================================
Subscriber statistics for svc 10, itf gi-1-6
===============================================================================
                                    Ingress             Egress
-------------------------------------------------------------------------------
IP packets                          5                   5
Bytes in IP packets                 670                 670
Last cleared                        06/28/2021 21:19:40
===============================================================================

Number of active subscriber hosts    1
===============================================================================
*B:Dut-C#

*B:Dut-C# show subscriber-mgmt interface-statistics service 10 group-interface "gi-1-
"gi-1-11"  "gi-1-6"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*B:Dut-C# show subscriber-mgmt interface-statistics service 10 group-interface "gi-1-11"
===============================================================================
Subscriber statistics for svc 10, itf gi-1-11
===============================================================================
                                    Ingress              Egress
-------------------------------------------------------------------------------
IP packets                          10                   10
Bytes in IP packets                 1320                 1320
Last cleared                        06/28/2021 21:19:40
===============================================================================

Number of active subscriber hosts    2
===============================================================================
*B:Dut-C#
```

12.37 interfaces

interfaces

Syntax

interfaces

Context

[Tree] (show>test-oam>lag-meas interfaces)

Full Context

show test-oam lag-ip-measurement interfaces

Description

This command displays LAG measurement data on all LAG interfaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of the LAG measurement data on all LAG interfaces, and Table 234: Output fields: LAG IP measurement summary for all interfaces describes the output fields.

Output Example: LAG IP measurement summary for all interfaces

```
show test-oam lag-ip-measurement interfaces
-------------------------------------------------
LAG IP Measurement Interface Operational Summary
-------------------------------------------------
Interface
     Oper  Protocol    Detectable Tx Error  Ports
-------------------------------------------------
to-sr7
       Up      IPv4                  none      2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-----------------------------------------------
```

Table 234: Output fields: LAG IP measurement summary for all interfaces

Label	Description
Interface	Displays the interface name
Oper	Displays the operational state of the LAG measurement
Protocol	Displays the IP protocol enabled for the LAG measurement
Detectable Tx Error	Displays the error preventing the LAG measurement from transmitting packets on any of the ports
Ports	Displays the number of ports (micro sessions)

interfaces

Syntax

interfaces

Context

[Tree] (show>test-oam>link-meas interfaces)

Full Context

show test-oam link-measurement interfaces

Description

This command displays link measurement data on all interfaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of the link measurement data, and Table 235: Output fields: link measurement interfaces describes the output fields.

Output example

```
A:node-2>show>test-oam>link-meas# interfaces

===============================================================================
Link Measurement Interface Operational Summary
===============================================================================
Interface
 #uS Oper Protocol DetectableTxErr Report Monitor Delay(us)           Timestamp
-------------------------------------------------------------------------------
Interface: to-sr7-unnumbered
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   0   Up     IPv4            None    Yes     Min        22 2025/09/11 21:43:40
Interface: to-sr7
   2   Up     IPv4            None    Yes     XoM        23 2025/09/11 21:44:00
===============================================================================
#uS: number of micro sessions (0 lag micro sessions not enabled)
===============================================================================
```

Table 235: Output fields: link measurement interfaces

Label	Description
Interface	The interface name
#uS	The number of LAG micro-sessions
Oper	The operational state of the LAG measurement
Protocol	The IP protocol enabled for the LAG measurement
DetectableTxErr	The error preventing the LAG measurement from transmitting packets on any of the ports
Report	The reporting status of the interface
Monitor	The type of delay being reported: • Max — maximum value • Min — minimum value • Avg — average value • MoX — minimum of all maximum values • XoM — maximum of all minimum values
Delay (us)	The reported delay, in microseconds
Timestamp	The timestamp of the last reported value

12.38 iom

iom

Syntax

iom [*slot-number*]

Context

[Tree] (tools>dump>filter>resources iom)

Full Context

tools dump filter resources iom

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command shows information about filter resource utilization on all IOMs or a specified IOM. Resource utilization per filter type is available, as well as filters using most resources on a given line card.

Parameters

slot-number

Specifies that only the filter resource utilization associated with the IOM card in this slot will be displayed.

Values 1 to 10

Platforms

All

Output

The following output is an example of filter resource utilization information for all IOMs.

Output Example

```
*A:Dut-C>tools>dump>filter>resources># iom

=====================================================
Number of ACL filter entries used / available on IOMs
=====================================================
Slot                          Used           Available
-----------------------------------------------------
1                               11               65524
2                                5               65530
3                                5               65530
=====================================================

=========================================================================
Number of ACL filters and filter entries used / available on FlexPaths
=========================================================================
Slot FlexPath    Dir  Filters  Filters   MAC/IP   MAC/IP     IPv6     IPv6
                         used    avail  entries  entries  entries  entries
                                          used    avail     used    avail
-------------------------------------------------------------------------
1    1          Ingr        2     2045       10    65526        2    28670
                Egr         2     2045        5    32763        2    16382
2    1          Ingr        4     2043        7    65529        2    28670
                Egr         0     2047        2    32766        2    16382
3    1          Ingr        0     2047        7    65529        2    28670
                Egr         0     2047        2    32766        2    16382
=========================================================================

=============================================================================
Filters utilizing most resources (ordered by TCAM entries per FlexPath)
Only filters present on any IOM are displayed
=============================================================================
Type Id                                Entries     Subentries   TCAM entries
                                                               (per FlexPath)
-----------------------------------------------------------------------------
No Mac filters found
-----------------------------------------------------------------------------
Ip   100                                    5             5              5
Ip   5:23                                   2             2              2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ip   6:24                                          2             2             2
Ip   3                                             1             1             1
Ip   4                                             1             1             1
-------------------------------------------------------------------------------
Ipv6 fSpec-0                                       0             0             0
Ipv6 fSpec-2345                                    0             0             0
No more Ipv6 filters
===============================================================================
```

12.39 ip

ip

Syntax

ip [**filter-type** *filter-type*]

ip embedded [**inactive**]

ip *ip-filter-id* **embedded** [**inactive**]

ip *ip-filter-id* [**detail**]

ip *ip-filter-id* **associations**

ip *ip-filter-id* **type** *entry-type*

ip *ip-filter-id* **counters** [**type** *entry-type*] [**detail**]

ip *ip-filter-id* **entry** *entry-id* [**counters**] [**detail**]

ip *ip-filter-id* [**entry** *entry-id*] **effective-action** [{**ingress** | **egress**}]

ip *ip-filter-id* [**entry** *entry-id*] **effective-action router** [{**ingress** | **egress**}]

ip *ip-filter-id* [**entry** *entry-id*] **effective-action service** *service-id* [{ **ingress** | **egress**}]

Context

[Tree] (show>filter ip)

Full Context

show filter ip

Description

This command displays IPv4 filter information.

When **effective-action** is specified, this command displays what effectively happens to a packet that matches the criteria associated with the IPv4 filter policy.

Parameters

filter-type

Specifies the type of filter to display.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values config, flowspec, host-common

inactive

Displays all, or optionally inactive embeddings. If *ip-filter-id* is specified, displays embeddings for the IP filter ID.

ip-filter-id

Specifies the IPv4 filter policy for which to display information. Values can be expressed in different formats; the following shows decimal integer format.

Values 1 to 65535

detail

Displays detailed information.

associations

Appends, to the detailed filter policy output, information about where the specified filter policy is applied.

entry-type

Specifies the type of filter entry to display.

Values fixed, radius-insert, credit-control-insert, flow-spec, embedded, radius-shared, pcc-rule

counters

Displays counter information for the specified filter ID. Egress counters count the packets without Layer 2 encapsulation. Ingress counters count the packets with Layer 2 encapsulation.

entry-id

Specifies the filter policy entry (of the specified filter policy) for which to display information.

Values 1 to 2097151

effective-action

Displays the action that the system will effectively apply to the packet.

ingress

Filters the output and only displays the information for filter policies applied on ingress.

egress

Filters the output and only displays the information for filter policies applied on egress.

router

Filters the output and only displays the information for that specific service ("Base" instance).

service-id

Filters the output and only displays the information for the specified service. The specified value must correspond to an existing service in which the filter has been applied.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

Show Filter (no policy specified) — The following is an output example of IPv4 filter information when no policy is specified. Table 236: Output fields: IP filter ID describes the command output fields.

Output Example

```
A:ALA-49# show filter ip
===============================================================================
Configured IP Filters                                          Total:     2
===============================================================================
Filter-Id   Scope     Applied Description
-------------------------------------------------------------------------------
5           Template  Yes
6           Template  Yes

===============================================================================
Host Common IP Filters                                         Total:     2
===============================================================================
Filter-Id                   Description
-------------------------------------------------------------------------------
5:P4                        Auto-created PCC-Rule Ingress Filter
6:P5                        Auto-created PCC-Rule Egress Filter
===============================================================================
Num IP filters: 4
===============================================================================
```

Table 236: Output fields: IP filter ID

Label	Description
Filter Id	The IP filter ID
Scope	Template — the filter policy is of type template
	Exclusive—the filter policy is of type exclusive
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Description	The IP filter policy description

Show Filter (no filter-id specified, embedded keyword specified) — The following output is an example of IPv4 filter information when no filter ID is specified but the embedded keyword is specified. Table 237: Output fields: IP (no filter ID specified) describes the command output fields.

Output Example

```
*A:Dut-C>config>filter# show filter ip embedded
===============================================================================
IP Filter embedding
===============================================================================
In    From      Priority       Inserted      Status
-------------------------------------------------------------------------------
10    2           50          1/1           OK
      1           100         1/2           OK- 1 entry overwritten

20    2           100         0/5           Failed – out of resources
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Table 237: Output fields: IP (no filter ID specified)

Label	Description
In	Shows embedding filter index
From	Shows embedded filters included
Priority	Shows priority of embedded filter
Inserted	Shows embedded/total number of entries from embedded filter. Status: **OK** — embedding operation successful, if any entries are overwritten this will also be indicated **Failed** — embedding failed, the reason is displayed (out of resources)

Show Filter (with filter-id specified) — The following output is an example of IPv4 filter information with the filter ID specified. Table 238: Output fields: IP filter policy describes the command output fields.

Output Example

```
*A:Dut-B>config>filter>ip-filter# show filter ip 10
===============================================================================
IP Filter
===============================================================================
Filter Id           : 10
Scope               : Embedded
Type                : Normal
Entries             : 4
Description         : (Not Specified)
Filter Name         : 10
```

Table 238: Output fields: IP filter policy

Label	Description
Filter Id	The IPv4 filter policy ID
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Scope	Template — the filter policy is of type template
	Exclusive — the filter policy is of type exclusive
Type	Normal — the filter policy is of type normal
	src-mac — the filter policy is of type src-mac
	Packet-length — the filter policy is of type packet-length

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
System filter	Indicates if the filter has been chained to a system filter
Radius Ins Pt	Indicates the RADIUS insertion point, if any
CrCtl. Ins Pt	Indicates the Credit Control insertion point, if any
RadSh. Ins Pt	Indicates the RADIUS shared insertion point, if any
PccRl. Ins Pt	Indicates the PCC rule insertion point, if any
Entries	The number of entries configured in this filter ID
Description	The IPv4 filter policy entry description string
Filter Match Criteria	IP — Indicates the filter is an IPv4 filter policy
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
Description	The IPv4 filter policy entry description string
Log Id	The filter log ID
Src. IP	The source IPv4 address and prefix length match criterion; "0.0.0.0/0” indicates no criterion specified for the filter entry
Src. Port	The source TCP, UDP, or SCTP port number, port range, or port match list
Dest. IP	The destination IPv4 address and prefix length match criterion; "0.0.0.0/0” indicates no criterion specified for the filter entry
Dest. Port	The destination TCP, UDP, or SCTP port number, port range, or port match list
Protocol	The protocol for the match criteria; undefined indicates no protocol specified
Dscp	The DiffServ Code Point (DSCP) name
ICMP Type	The ICMP type match criterion; undefined indicates no ICMP type specified
ICMP Code	The ICMP code field in the ICMP header of an IPv4 packet

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Fragment	False — Indicates if the filter is configured to match on all non-fragmented packets
	True — Indicates if the filter is configured to match on all fragmented packets
	First-Only — Indicates if the filter is configured to match the first fragment of a fragmented packet
	Non-First-Only — Indicates if the filter is configured to match a fragment of a fragmented packet, but not the first fragment
	Off — fragments are not a matching criteria. All fragments and non-fragments implicitly match
Src Route Opt	Indicates if the source route option has been set
Sampling	Off — specifies that traffic sampling is disabled
	On—specifies that traffic matching the associated IPv4 filter entry is sampled
Int. Sampling	Off — interface traffic sampling is disabled
	On — interface traffic sampling is enabled
IP-Option	Specifies matching packets with a specific IPv4 option or a range of IPv4 options in the IPv4 header for IPv4 filter match criteria
Multiple Option	Off — the option fields are not checked
	On — packets containing one or more option fields in the IPv4 header will be used as IPv4 filter match criteria
Tcp-flag	Specifies the list of TCP flags selected: • match true is represented with the TCP flag value • match false is represented with an exclamation mark before the flag value TCP flags not selected as match criteria are not displayed Example: Matching "tcp-ack true” and "tcp-rst false” is represented in the show command as Tcp-flag : Ack !Rst
Option-present	Off — specifies not to search for packets that contain the option field or have an option field of zero
	On — matches packets that contain the option field or have an option field of zero be used as IPv4 filter match criteria
Egress PBR	Indicates if the **egress-pbr** flag is set for this entry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Primary Action	Indicates the configured action, if any; indented sub-labels in the show output provide configured parameters for this action
Secondary Action	Indicates the configured secondary action, if any; indented sub-labels in the show output provide configured parameters for this action
PBR Target Status	The status of the target of the primary or secondary action based on simple checks
Extended Action	Indicates the configured extended action, if any
PBR Down Action	Indicates the action to take when the target is down; packets that match the entry criteria will be subject to the PBR Down Action in case the target of the main action is down
Downloaded Action	The action downloaded by CPM to IOM
Dest. Stickiness	Indicates whether stickiness is configured
Hold Remain	The stickiness timer
Ing. Matches	The number of ingress filter matches/hits for the filter entry
Egr. Matches	The number of egress filter matches/hits for the filter entry

Show Filter Associations — The following output is an example of IPv4 filter information when the **associations** keyword is specified. Table 239: Output fields: IP associations describes the command output fields.

Output Example

```
A:ALA-49# show filter ip 1 associations
===============================================================================
IP Filter
===============================================================================
Filter Id           : 4                             Applied        : Yes
Scope               : Template                      Def. Action    : Drop
System filter       : Unchained
Radius Ins Pt       : n/a
CrCtl. Ins Pt       : n/a
RadSh. Ins Pt       : n/a
PccRl. Ins Pt       : n/a
Entries             : 1
Description         : (Not Specified)
-------------------------------------------------------------------------------
Filter Association : IP
-------------------------------------------------------------------------------
Service Id          : 2                             Type           : VPLS
  - SAP    1/2/2   (Ingress)
-------------------------------------------------------------------------------
Filter associated with IOM: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 239: Output fields: IP associations

Label	Description
Filter Id	The IPv4 filter policy ID
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Scope	Template — the filter policy is of type Template
	Exclusive — the filter policy is of type Exclusive
Type	Normal — the filter policy is of type normal
	src-mac — the filter policy is of type src-mac
	Packet-length — the filter policy is of type packet-length
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop—the default action for the filter ID for packets that do not match the filter entries is to drop
System filter	Indicates if the filter has been chained to a system filter
Radius Ins Pt	Indicates the RADIUS insertion point, if any
CrCtl. Ins Pt	Indicates the Credit Control insertion point, if any
RadSh. Ins Pt	Indicates the RADIUS shared insertion point, if any
PccRl. Ins Pt	Indicates the PCC rule insertion point, if any
Entries	The number of entries configured in this filter ID
Description	The IPv4 filter policy description
Filter Association	Indicates the filter is an IPv4 filter policy
Service Id	The service ID on which the filter policy ID is applied; the output also provides a list of service points where the filter has been applied
Type	The type of service of the service ID
(Ingress)	The filter policy ID is applied as an ingress filter policy on the interface
(Egress)	The filter policy ID is applied as an egress filter policy on the interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Show Filter Counters — The following output is an example of IPv4 filter information when the **counters** keyword is specified. Table 240: Output fields: IP counters describes the command output fields.

Egress counters count the packets without Layer 2 encapsulation. Ingress counters count the packets with Layer 2 encapsulation.

Output Example

```
*A:ALA-48# show filter ip 100 counters
===============================================================================
IP Filter
===============================================================================
Filter Id           : 4                             Applied        : Yes
Scope               : Template                      Def. Action    : Drop
System filter       : Unchained
Radius Ins Pt       : n/a
CrCtl. Ins Pt       : n/a
RadSh. Ins Pt       : n/a
PccRl. Ins Pt       : n/a
Entries             : 1
Description         : (Not Specified)
-------------------------------------------------------------------------------
Filter Match Criteria : IP
-------------------------------------------------------------------------------
Entry               : 4001
Ing. Matches        : 9788619 pkts (978861900 bytes)
Egr. Matches        : 9788619 pkts (978861900 bytes)
===============================================================================
```

Table 240: Output fields: IP counters

Label	Description
Filter Id	The IPv4 filter policy ID
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Scope	Template — the filter policy is of type Template
	Exclusive — the filter policy is of type Exclusive
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
System filter	Indicates if the filter has been chained to a system filter
Radius Ins Pt	Indicates the RADIUS insertion point, if any
CrCtl. Ins Pt	Indicates the Credit Control insertion point, if any
RadSh. Ins Pt	Indicates the RADIUS shared insertion point, if any
PccRl. Ins Pt	Indicates the PCC rule insertion point, if any

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Entries	The number of entries configured in this filter ID
Description	The IPv4 filter policy description
Filter Match Criteria	IP — Indicates the filter is an IPv4 filter policy
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
Ing. Matches	The number of ingress filter matches/hits for the filter entry
Egr. Matches	The number of egress filter matches/hits for the filter entry

Show Filter IP Output (with effective-action specified) — The following output is an example of IPv4 filter information when the **effective-action** keyword is specified. Table 241: Output fields: filter IP effective action describes the command output fields.

If the main action (either primary or secondary) cannot be performed, a reason will be given. This will be displayed on the same line as the Effective Action. The reason codes as currently defined are:

- action not supported in L2 service
- action not supported in L3 service
- action not supported on egress
- destination not reachable
- egress-pbr is off
- egress-pbr is on
- entry-default
- filter-default-action
- not POS unnumbered interface
- pbr-down-action-override
- target does not exist

Output Example

```
show filter ip 1 effective-action
===============================================================================
IP Filter
===============================================================================
Filter Id           : 1                           Applied        : Yes
Scope               : Template                    Def. Action    : Drop
Entries             : 1
Description         : (Not Specified)
-------------------------------------------------------------------------------
Entry               : 1
-------------------------------------------------------------------------------
Stickiness          : No
PBR Dwn Act Override: None
PBR Down Action     : Drop (entry-default)

Configuration
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Primary Action      : Forward (SAP)
  Next Hop          : 1/1/2
  Service Id        : 10
Secondary Action    : None

Status
Target status based on extended checks
  Primary Action    : Down
  Secondary Action  : None
Downloaded Action   : Primary
Stickiness Timer    : Not Running

Effective Action based on application context
Service Id          : 10                          Type           : VPLS
  Ingress
    Effective Action: Drop (entry-default)
===============================================================================
```

Table 241: Output fields: filter IP effective action

Label	Description
Filter Id	The IPv4 filter policy ID
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Scope	Template — the filter policy is of type Template
	Exclusive — the filter policy is of type Exclusive
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
Entries	The number of entries configured in this filter ID
Description	The IPv4 filter policy description
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
Stickiness	No — stickiness is not configured
	Yes — stickiness is configured
PBR Dwn Act Override	Indicates whether or not the action to take when the PBR target is down has been overridden
PBR Down Action	Indicates the action to take when the target is down; packets that match the entry criteria will be subject to the PBR Down Action in case the target of the main action is down

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Configuration	Section of the output providing information on the configured parameters
Primary Action	The configured action, if any; indented sub-labels in the show output provide configured parameters for this action
Secondary Action	The configured secondary action, if any; indented sub-labels in the show output provide configured parameters for this action
Status/Target status based on extended checks	Section of the output providing information on the operational status of certain parameters
Primary Action	The status of the target of the primary action, if any configured, based on extended checks
Secondary Action	The status of the target of the secondary action, if any configured, based on extended checks
Downloaded Action	The action downloaded by the CPM to the IOM
Stickiness Timer	The status of the stickiness timer, if any
Effective Action based on application context	Section of the output providing the effective action, in the context of services, that a packet matching the criteria will be subject to
Service Id	The service ID on which the filter policy ID is applied; the output also provides a list of service points where the filter has been applied
Type	The service type in which the service has been applied
Ingress/Egress	The direction in which the service has been applied
Effective Action	The effective action that the packet will be subject to
Extended Action	Indicates the configured extended action, if any

ip

Syntax

ip *ip-filter-id* [**entry** *entry-id*] [{**ingress** | **egress**}]

Context

[Tree] (clear>filter ip)

Full Context

clear filter ip

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Clears the counters associated with the entries of the specified IPv4 filter policy.

By default, the counters associated with each entry of the specified filter policy are all cleared. The scope of which counters are cleared can be narrowed using the command line parameters.

Default

Clears all counters associated with each entry of the specified IPv4 filter policy.

Parameters

ip-filter-id

The IPv4 filter policy ID for which to clear the entry counters. Values can be expressed in different formats. The following shows decimal integer format.

Values 1 to 65535

entry-id

Specifies that only the counters associated with the specified filter policy entry are cleared.

Values 1 to 2097151

ingress

Specifies to only clear the ingress counters.

egress

Specifies to only clear the egress counters.

Platforms

All

ip

Syntax

ip *ip-filter-id*

Context

[Tree] (tools>dump>filter>resources ip)

Full Context

tools dump filter resources ip

Description

This command displays information about the specified IP filter including resource utilization on CPM and IOM, the IOMs on which the filter is used, and the entries using the most resources.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-filter-id

Specifies that only the filter resource utilization associated with this IP filter will be displayed.

Values 1 to 65535

Platforms

All

Output

The following output is an example of IP filter resource utilization information.

Output Example

```
*A:Dut-C>tools>dump>filter>resources># ip 100

===============================================================================
Resource utilization details for Ip filter 100
===============================================================================
CPM entries used                      : 5
CPM subentries used                   : 5
TCAM entries used (per FlexPath)      : 5
Associated with IOMs                  : 1,2,3,4,5,6,7,8,9,10

-------------------------------------------------------------------------------
Largest 5 entries
-------------------------------------------------------------------------------
Entry ID                                        Active       TCAM entries
                                                          (per FlexPath)
-------------------------------------------------------------------------------
3                                                  Yes                  1
4                                                  Yes                  1
5                                                  Yes                  1
6                                                  Yes                  1
100                                                Yes                  1
-------------------------------------------------------------------------------
===============================================================================
```

ip

Syntax

ip entry *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>cpm-filter ip)

Full Context

monitor cpm-filter ip

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays monitor command statistics for IP filter entries.

Parameters

entry-id

Displays information on the specified filter entry ID for the specified filter ID only.

Values 1 to 2048

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ip

Syntax

ip *ip-filter-id* **entry** *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>filter ip)

Full Context

monitor filter ip

Description

This command enables IP filter monitoring. The statistical information for the specified IP filter entry displays at the configured interval until the configured count is reached.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The first screen displays the current statistics related to the specified IP filter. The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

ip-filter-id

Displays detailed information for the specified filter ID and its filter entries.

Values [1 to 65535] | fSpec-[0 to 2147483647] | [1 to 65535 to 8192] | [1 to 65535:P1 to 4096] | _tmnx_tms_egr- *mda-id*-F | _tmnx_tms-ing-*mda-id*-F | _tmx_ofs_*ofs-name* | *name*: 64 chars max

entry-id

Displays information on the specified filter entry ID for the specified filter ID only.

Values [1 to 65535], fSpec-[0 to 2147483647]-[1 to 65353]

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of filter IP information.

Output Example

```
A:ALA-1>monitor# filter ip 10 entry 1 interval 3 repeat 3 absolute
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Monitor statistics for IP filter 10 entry 1
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
===============================================================================
A:ALA-1>monitor#


A:ALA-1>monitor# filter ip 10 entry 1 interval 3 repeat 3 rate
===============================================================================
Monitor statistics for IP filter 10 entry 1
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
===============================================================================
A:ALA-1>monitor#
```

ip

Syntax

ip entry *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>management-access-filter ip)

Full Context

monitor management-access-filter ip

Description

This command monitors statistics for the MAF IP filter entry.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

entry-id

Specifies an existing IP MAF entry ID.

Values 1 to 9999

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

ip

Syntax

ip

Context

[Tree] (show>system ip)

Full Context

show system ip

Description

This command displays the system IP configuration.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip

Syntax

ip

Context

[Tree] (clear ip)

Full Context

clear ip

Description

Commands in this context clear IP tunnel information.

Platforms

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

ip

Syntax

ip

Context

[Tree] (show ip)

Full Context

show ip

Description

Commands in this context display IP related information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.40 ip-exception

ip-exception

Syntax

ip-exception

ip-exception *ip-filter-id*

ip-exception *ip-filter-id* [{**associations** | **counters**}]

ip-exception *ip-filter-id* **entry** *entry-id* [**counters**]

Context

[Tree] (show>filter ip-exception)

Full Context

show filter ip-exception

Description

This command shows IPv4 exception information.

Parameters

filter-id

Specifies the IPv4 exception filter.

Values 1 to 65535

associations

Displays associations applicable to the specified IPv4 exception.

counters

Displays counters for the specified IPv4 exception.

entry *entry-id*

Specifies an integer that identifies the entry.

Values 1 to 2097151

Platforms

VSR

Output

The following output is an example of IPv4 exception filter information, and Table 242: Output fields: IPv4 exception describes the fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-C>config>filter>ip-except>entry$ show filter ip-exception 1
===============================================================================
IP-Exception Filter
===============================================================================
Filter Id           : 1                             Applied        : Yes
Scope               : Template
Entries             : 2
Description         : Default description for ip-exception 1
Filter Name         : ip-exception-1
-------------------------------------------------------------------------------
Filter Match Criteria : IP
-------------------------------------------------------------------------------
Entry               : 1
Description         : Default description for Ip Exception Policy id # 1 entry
                      1
Src. IP             : 0.0.0.0/0
Src. Port           : n/a
Dest. IP            : 0.0.0.0/0
Dest. Port          : n/a
Protocol            : 1
ICMP Type           : Undefined                     ICMP Code      : Undefined
Ing. Matches        : 0 pkts
Egr. Matches        : 10 pkts (1060 bytes)
Entry               : 2
Description         : (Not Specified)
Src. IP             : 192.168.1.0/24
Src. Port           : n/a
Dest. IP            : 10.10.1.0/24
Dest. Port          : n/a
Protocol            : Undefined
ICMP Type           : Undefined                     ICMP Code      : Undefined
Ing. Matches        : 0 pkts
Egr. Matches        : 0 pkts
===============================================================================
*A:Dut-C>config>filter>ip-except>entry$
```

Table 242: Output fields: IPv4 exception

Label	Description
Filter-Id	The filter ID.
Scope	Template — The filter policy is of type Template. Exclusive — The filter policy is of type Exclusive.
Applied	No — The IPv6 exception filter has not been applied. Yes — The IPv6 exception filter is applied.
Entries	The number of entries.
Description	The description of the specified filter, if specified.
Filter Name	The filter name.
Filter Match Criteria	IP — Indicates the filter is an IPv4 filter policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Entry	The number of active or inactive entries.
Description	The IPv4 filter policy entry description string.
Src. IP	The source IP address of the logged packet.
Src. Port	The source port of the logged packet.
Dst. IP	The destination IP address of the logged packet.
Dst. Port	The destination port of the logged packet.
Protocol	The protocol for the match criteria; undefined indicates no protocol specified.
ICMP Type	The ICMP type match criterion. Undefined indicates no ICMP type specified.
Ing. Matches	The number of packets matched on ingress.
Egr. Matches	The number of packets matched on egress.

ip-exception

Syntax

ip-exception *filter-id* [**entry** *entry-id*] [{**ingress** | **egress**}]

Context

[Tree] (clear>filter ip-exception)

Full Context

clear filter ip-exception

Description

This command clears the counters associated with the entries of the specified IP exception filter policy.

Parameters

filter-id

Specifies the filter policy ID for which to clear the entry counters.

Values 1 to 65535

entry-id

Specifies that only the counters associated with the specified filter policy entry are cleared.

Values 1 to 2097151

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ingress

Specifies to only clear the ingress counters.

egress

Specifies to only clear the egress counters.

Platforms

VSR

12.41 ip-filter

ip-filter

Syntax

ip-filter [**entry** *entry-id*]

Context

[Tree] (show>system>security>cpm-filter ip-filter)

Full Context

show system security cpm-filter ip-filter

Description

This command displays CPM IP filters.

Parameters

entry-id

Identifies a CPM filter entry as configured on this system.

Values 1 to 131072

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of IP filter entry information.

Table 243: Output fields: CPM IP filter describes CPM IP filter output fields.

Output Example

```
A:ALA-35# show system security cpm-filter ip-filter
===============================================================================
CPM IP Filters
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Entry-Id  Dropped   Forwarded Description
-------------------------------------------------------------------------------
101       25880     0         CPM-Filter 10.4.101.2 #101
102       25880     0         CPM-Filter 10.4.102.2 #102
103       25880     0         CPM-Filter 10.4.103.2 #103
104       25882     0         CPM-Filter 10.4.104.2 #104
105       25926     0         CPM-Filter 10.4.105.2 #105
106       25926     0         CPM-Filter 10.4.106.2 #106
107       25944     0         CPM-Filter 10.4.107.2 #107
108       25950     0         CPM-Filter 10.4.108.2 #108
109       25968     0         CPM-Filter 10.4.109.2 #109
110       25984     0         CPM-Filter 10.4.110.2 #110
111       26000     0         CPM-Filter 10.4.111.2 #111
112       26018     0         CPM-Filter 10.4.112.2 #112
113       26034     0         CPM-Filter 10.4.113.2 #113
114       26050     0         CPM-Filter 10.4.114.2 #114
115       26066     0         CPM-Filter 10.4.115.2 #115
116       26084     0         CPM-Filter 10.4.116.2 #116
===============================================================================
A:ALA-35#

A:ALA-35# show system security cpm-filter ip-filter entry 101
===============================================================================
CPM IP Filter Entry
===============================================================================
Entry Id           : 101
Description : CPM-Filter 10.4.101.2 #101
-------------------------------------------------------------------------------
Filter Entry Match Criteria :
-------------------------------------------------------------------------------
Log Id             : n/a
Src. IP            : 10.4.101.2/32      Src. Port          : 0
Dest. IP           : 10.4.101.1/32      Dest. Port         : 0
Protocol           : 6                  Dscp               : ef
ICMP Type          : Undefined          ICMP Code          : Undefined
Fragment           : True               Option-present     : Off
IP-Option          : 130/255            Multiple Option    : True
TCP-syn            : Off                TCP-ack            : True
Match action       : Drop
===============================================================================
A:ALA-35#
```

Table 243: Output fields: CPM IP filter

Label	Description
Entry-Id	Displays information about the specified management access filter entry
Dropped	Displays the number of dropped events.
Forwarded	Displays the number of forwarded events.
Description	Displays the CPM filter description.
Log ID	Displays the log ID where matched packets will be logged.
Src IP	Displays the source IP address(/netmask or prefix-list)
Dest. IP	Displays the destination IP address(/netmask).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Src Port	Displays the source port number (range).
Dest. Port	Displays the destination port number (range).
Protocol	Displays the Protocol field in the IP header.
Dscp	Displays the DSCP field in the IP header.
Fragment	Displays the 3-bit fragment flags or 13-bit fragment offset field.
ICMP Type	Displays the ICMP type field in the ICMP header.
ICMP Code	Displays the ICMP code field in the ICMP header.
TCP-syn	Displays the SYN flag in the TCP header.
TCP-ack	Displays the ACK flag in the TCP header
Match action	When the criteria matches, displays drop or forward packet.
Next Hop	In case match action is forward, indicates destination of the matched packet.
Dropped pkts	Indicates number of matched dropped packets
Forwarded pkts	Indicates number of matched forwarded packets.

ip-filter

Syntax

ip-filter [**entry** *entry-id*]

Context

[Tree] (show>system>security>mgmt-access-filter ip-filter)

Full Context

show system security management-access-filter ip-filter

Description

This command displays management-access IP filters.

Parameters

entry-id

Displays information for the specified entry.

Values 1 to 9999

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of MAF IP filter information and Table 244: Output fields: management access filter describes the management access filter output fields.

Output Example

```
*A:Dut-F# show system security management-access-filter ip-filter
===============================================================================
IPv4 Management Access Filter
===============================================================================
filter type:  : ip
Def. Action   : permit
Admin Status  : enabled (no shutdown)
-------------------------------------------------------------------------------
Entry         : 1
Description   : (Not Specified)
Src IP        : ip-prefix-list "MAF-MATCH-ALLOW"
Src interface : undefined
Dest port     : undefined
Protocol      : undefined
Router        : undefined
Action        : none
Log           : disabled
Matches       : 0
===============================================================================
*A:Dut-F#
```

Table 244: Output fields: management access filter

Label	Description
Def. action	Permit — Specifies that packets not matching the configured selection criteria in any of the filter entries are permitted. Deny — Specifies that packets not matching the configured selection criteria in any of the filter entries are denied and that a ICMP host unreachable message will be issued. Deny-host-unreachable — Specifies that packets not matching the configured selection criteria in the filter entries are denied.
Entry	The entry ID in a policy or filter table.
Description	A text string describing the filter.
Src IP	The source IP address or prefix list used for management access filter match criteria.
Src interface	The interface name for the next hop to which the packet should be forwarded if it hits this filter entry.
Dest port	The destination port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Matches	The number of times a management packet has matched this filter entry.
Protocol	The IP protocol to match.
Action	The action to take for packets that match this filter entry.

ip-filter

Syntax

ip-filter [**entry** *entry-id*]

Context

[Tree] (clear>cpm-filter ip-filter)

Full Context

clear cpm-filter ip-filter

Description

This command clears IP filter statistics.

Parameters

entry-id

Specifies a particular CPM IP filter entry.

Values 1 to 2048

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ip-filter

Syntax

ip-filter *ip-filter-id*

Context

[Tree] (tools>perform>filter ip-filter)

Full Context

tools perform filter ip-filter

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context perform IP filter operations.

Parameters

ip-filter-id

Specifies a particular IP filter ID or filter name.

Values *filter-id* | *filter-name*

filter-id

Specifies the IP filter ID.

Values *1 to 65535*

filter-name

Specifies name of the IP filter, up to 64 characters.

Platforms

All

12.42 ip-identification-assist

ip-identification-assist

Syntax

ip-identification-assist [**isa** *mda-id/esa-vm-id*]

Context

[Tree] (show>app-assure>group ip-identification-assist)

Full Context

show application-assurance group ip-identification-assist

Description

This command displays the status and statistics for the IP identification assist feature.

Parameters

isa *mda-id*

Specifies the slot and MDA of the ISA in the format *slot*/*mda*.

Values

slot/*mda*	
slot	1 to 10, depending on chassis model

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	mda	1 to 2, depending on chassis model

isa *esa-vm-id*

Specifies the ESA and ESA VM in the format esa-*esa-id*/*vm-id*.

Values	esa-*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

Output

Use the following command to display IP identification assist information for a group.

```
show application-assurance group 1 ip-identification-assist isa 1/1
```

Output Example

```
===============================================================================
Application Assurance Group 1 IP Identification Assist
===============================================================================
ip-identification-assist              : Up
passive-dns-monitor                   : Enabled

-------------------------------------------------------------------------------
IP Entry Statistics
-------------------------------------------------------------------------------
Maximum IP entries                    : 100000
Free IP entries                       : 99866
Active IP entries                     : 134
    application                       : 126
    parent application                : 6
    conflict (apps/parent)            : 0
    conflict (other)                  : 2

-------------------------------------------------------------------------------
Active IP entry match status
-------------------------------------------------------------------------------
IP entry matched                      : 85
IP entry not matched                  : 49

-------------------------------------------------------------------------------
Cumulative IP lookup results
-------------------------------------------------------------------------------
total misses                          : 1383
total matches                         : 594
    match - application               : 528
    match - parent application        : 56
    match - app/parent conflict       : 0
    match - other conflict            : 10
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Use the following command to display IP identification assist information for a partition.

```
show application-assurance group 1:0 ip-identification-assist isa 1/1
```

Output Example

```
===============================================================================
Application Assurance Group 1:0 IP Identification Assist
===============================================================================
ip-identification-assist               : Up
passive-dns                            : Enabled
positive-app-id                        : Enabled

-------------------------------------------------------------------------------
Passive DNS Monitoring Statistics
-------------------------------------------------------------------------------
DNS responses                          : 150
    ignored - no reverse flow          : 0
    ignored - untrusted                : 0
    ignored - wrong direction          : 0
DNS responses matched                  : 150
    matched - IPv4                     : 150
    matched - IPv6                     : 0
DNS responses unknown                  : 0
    unknown - IPv4                     : 0
    unknown - IPv6                     : 0

-------------------------------------------------------------------------------
Positive Application Identification Statistics
-------------------------------------------------------------------------------
Flows with global applications         : 0
    ignored - ip-ident-assist          : 0
    ignored - no expression            : 0
Flows used to populate cache           : 0
    IPv4 added/updated                 : 0
    IPv6 added/updated                 : 0
===============================================================================
```

ip-identification-assist

Syntax

ip-identification-assist

Context

[Tree] (tools>dump>app-assure>group ip-identification-assist)

Full Context

tools dump application-assurance group ip-identification-assist

Description

Commands in this context dump statistics for the IP identification assist feature.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

12.43 ip-prefix

ip-prefix

Syntax

ip-prefix [**hunt** | **detail**] [**rd** *rd*] [**prefix** *ip-prefix/ip-prefix-length*] [**community** *comm-id*] [**tag** *tag*] [**next-hop** *next-hop*] [**aspath-regex** *reg-exp*]

Context

[Tree] (show>router>bgp>routes>evpn ip-prefix)

Full Context

show router bgp routes evpn ip-prefix

Description

This command displays BGP-EVPN IPv4 prefix routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

ip-prefix/ip-prefix-length

Specifies the IPv4 address and mask length.

Values

ip-address:	a.b.c.d
mask:	0 to 32

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{ *ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535
  – *comm-val1* — 0 to 65535
  – **type** — target, origin
  – *ip-address* — a.b.c.d
  – *comm-val2* — 0 to 4294967295
  – *as-number2* — 0 to 4294967295
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

tag

Specifies the IPv4 prefix route tag.

Values 0to 4294967295 | MAX-ET

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.44 ip-prefix-list

ip-prefix-list

Syntax

ip-prefix-list

ip-prefix-list *prefix-list-name* [**association**]

Context

[Tree] (show>qos>match-list ip-prefix-list)

Full Context

show qos match-list ip-prefix-list

Description

Displays the list of configured IPv4 QoS prefix lists or the details of a specific IPv4 QoS prefix list together with the SAP and network QoS policies in which it is used and the entry number within that policy.

Parameters

prefix-list-name

Specifies an IPv4 prefix list which contains IPv4 address prefixes to be matched.

Values A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

association

Displays the QoS policy and entry number in which the specified prefix list is used.

Platforms

All

Output

The following output is an example of ip-prefix-list information

Output Example

```
*A:PE# show qos match-list ip-prefix-list

===============================================================================
QoS Match IP Prefix List
===============================================================================
Prefix List Name                Description                     Num Prefixes
-------------------------------------------------------------------------------
ipv4list1                                                       1
ipv4list2                                                       1
-------------------------------------------------------------------------------
No. of Prefix-List: 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:PE#

*A:PE# show qos match-list ip-prefix-list "ipv4list1”

===============================================================================
QoS Match IP Prefix List
===============================================================================
Prefix Name        : ipv4list1
Description        : (Not Specified)
-------------------------------------------------------------------------------
IP Prefixes
-------------------------------------------------------------------------------
10.0.0.0/8
-------------------------------------------------------------------------------
No. of Prefixes : 1
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Association
-------------------------------------------------------------------------------
QoS Policy ID                          Criteria Entry
-------------------------------------------------------------------------------
10                  (sap-ingress)      10                  (source-ip)
10                  (sap-egress)       10                  (source-ip)
-------------------------------------------------------------------------------
===============================================================================
*A:PE#
```

ip-prefix-list

Syntax

ip-prefix-list [*prefix-list-name*]

ip-prefix-list *prefix-list-name* **references**

Context

[Tree] (show>filter>match-list ip-prefix-list)

Full Context

show filter match-list ip-prefix-list

Description

This command displays IPv4 prefix information for match criteria in IPv4 ACL and CPM filter policies.

Parameters

prefix-list-name

String of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

references

The filter policies, policy entries and source/destination IPv4 match type per entry referring to this match list.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of IPv4 prefix information for match criteria in IPv4 ACL and CPM filter policies, and Table 245: Output fields: filter match IP prefix lists describes the output fields.

Output example

```
show filter match-list ip-prefix-list "p11"
```

```
===============================================================================
Filter Match IP Prefix Lists
===============================================================================
ip-prefix-list "pl1"
===============================================================================

 excluded prefixes:
-------------------------------------------------------------------------------
    10.1.1.1/32
-------------------------------------------------------------------------------

 configured prefixes:
-------------------------------------------------------------------------------
    #10.0.0.0/8
-------------------------------------------------------------------------------

 generated prefixes:
-------------------------------------------------------------------------------
    10.0.0.0/16        10.1.0.0/24        10.1.1.0/32        10.1.1.2/31
    10.1.1.4/30        10.1.1.8/29        10.1.1.16/28       10.1.1.32/27
    10.1.1.64/26       10.1.1.128/25      10.1.2.0/23        10.1.4.0/22
    10.1.8.0/21        10.1.16.0/20       10.1.32.0/19       10.1.64.0/18
    10.1.128.0/17      10.2.0.0/15        10.4.0.0/14        10.8.0.0/13
    10.16.0.0/12       10.32.0.0/11       10.64.0.0/10       10.128.0.0/9
-------------------------------------------------------------------------------
 NUM used prefixes: 24
 Note: "#" in front of the IP address indicates that the prefix is not used

 References:
-------------------------------------------------------------------------------
 No references

===============================================================================
```

Table 245: Output fields: filter match IP prefix lists

Label	Description
Excluded prefixes	Displays excluded prefix information
Configured prefixes	Displays configured prefix information
Generated prefixes	Displays generated prefix information
NUM used prefixes	Displays the number of used prefixes

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
References	Displays reference information

12.45 ip-tunnel-stats

ip-tunnel-stats

Syntax

ip-tunnel-stats

Context

[Tree] (show>isa>stats ip-tunnel-stats)

Full Context

show isa statistics ip-tunnel-stats

Description

Commands in this context display IP tunnel statistical information. This includes statistics for non-IPsec tunnels supported on tunnel ISAs.

Platforms

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

12.46 ipoe

ipoe

Syntax

ipoe

ipoe session

Context

[Tree] (clear>service>id ipoe)

Full Context

clear service id ipoe

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears the IPoE related data for the service.

Platforms

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

ipoe

Syntax

ipoe

Context

[Tree] (clear>call-trace ipoe)

Full Context

clear call-trace ipoe

Description

Commands in this context clear the IPoE job.

Platforms

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

ipoe

Syntax

ipoe

Context

[Tree] (tools>perform>subscr-mgmt>loc-user-db ipoe)

Full Context

tools perform subscriber-mgmt local-user-db ipoe

Description

This command contains the tools used to control IPoE entries in the local user database.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipoe

Syntax

ipoe

Context

[Tree] (show>service>id ipoe)

Full Context

show service id ipoe

Description

Commands in this context display IPoE information.

Platforms

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

ipoe

Syntax

ipoe

Context

[Tree] (show>call-trace ipoe)

Full Context

show call-trace ipoe

Description

Commands in this context display IP over Ethernet (IPoE) call trace information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.47 ipoe-session

ipoe-session

Syntax

ipoe-session

Context

[Tree] (tools>dump>router ipoe-session)

Full Context

tools dump router ipoe-session

Description

Commands in this context dump information about IPoE session-related tools in the specified routing instance.

Platforms

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

12.48 ipoe-session-policy

ipoe-session-policy

Syntax

ipoe-session-policy *ipoe-session-policy-name* [**association**]

ipoe-session-policy

Context

[Tree] (show>subscr-mgmt ipoe-session-policy)

Full Context

show subscriber-mgmt ipoe-session-policy

Description

This command displays IPoE session policy information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ipoe-session-policy-name

Specifies the IPoE session policy name up to 32 characters.

association

Displays the interface and captures SAPs that reference the IPoE session policy.

Platforms

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

Output

The following output is an example of IPoE session policy information.

Output Example

```
show subscriber-mgmt ipoe-session-policy "ipoe-policy-1"
===============================================================================
IPoE Session Policy "ipoe-policy-1"
===============================================================================
Description           : IPoE policy
Last Mgmt Change      : 02/28/2015 11:51:25
Session Key           : sap-mac
Session Timeout       : unlimited
===============================================================================


show subscriber-mgmt ipoe-session-policy "ipoe-policy-1" association
===============================================================================
IPoE Session Policy "ipoe-policy-1"
===============================================================================
-------------------------------------------------------------------------------
IPoE Interface Associations
-------------------------------------------------------------------------------
Service-Id : 1000 (IES)
 - group-int-1-1
Service-Id : 2000 (VPRN)
 - group-int-1-1
-------------------------------------------------------------------------------
Capture SAP Associations
-------------------------------------------------------------------------------
Service-Id : 10 (VPLS)
- 1/1/4:*.*
===============================================================================
```

Table 246: Output fields: IPoE session policy describes subscriber management IPoE session policy output fields.

Table 246: Output fields: IPoE session policy

Field	Description
Description	The user-provided description of this IPoE policy
Last Mgmt Change	The sysUpTime at the time of the last modification

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Session Key	The session key to be used for this IPoE session to group subscriber hosts
Session Timeout	The session timeout period to be used for this IPoE session
IPoE Interface Associations	The service ID and interface name of the associated interfaces
Capture SAP Associations	The service ID and SAP ID of the associated capture SAPS

12.49 ipsec

ipsec

Syntax

ipsec

Context

[Tree] (clear ipsec)

Full Context

clear ipsec

Description

Commands in this context clear IPsec commands.

Platforms

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

ipsec

Syntax

ipsec

Context

[Tree] (show ipsec)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
show ipsec

Description
Commands in this context display IPsec related information.

Platforms
All

ipsec

Syntax
ipsec

Context
[Tree] (tools>dump ipsec)

Full Context
tools dump ipsec

Description
Commands in this context dump IPsec information.

Platforms
All

ipsec

Syntax
ipsec

Context
[Tree] (tools>perform ipsec)

Full Context
tools perform ipsec

Description
Commands in this context perform IPsec operations.

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipsec

Syntax

ipsec

Context

[Tree] (show>router>interface ipsec)

Full Context

show router interface ipsec

Description

This command displays IPsec specific information.

Platforms

VSR

12.50 ipsec-domain

ipsec-domain

Syntax

ipsec-domain [*ipsec-domain-id*]

Context

[Tree] (show>redundancy>multi-chassis ipsec-domain)

Full Context

show redundancy multi-chassis ipsec-domain

Description

This command displays information about an IPsec domain.

Parameters

ipsec-domain-id

Displays information IPsec domain ID.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of IPsec domain information. Table 247: Output fields: IPsec domain describes the output fields

Output Example

```
show>redundancy>multi-chassis# ipsec-domain 1
===============================================================================
Multi-Chassis IPsec Domain: 1
===============================================================================
Designated Role    : active             Priority           : 250
Tunnel Group       : 1                  Revertive          : false
Admin State        : Up                 Protection Status  : nominal
Router Id          : 81.81.81.81        Current Active     : 81.81.81.81
Activity State     : active
===============================================================================
===============================================================================
Domain 1 Adjacencies
===============================================================================
Peer                                       Oper    Remote       Remote
  Router-Id                                State   Activity     Designated
                                                   State        Role
-------------------------------------------------------------------------------
84.84.84.84                                Up      standby      active
  84.84.84.84
85.85.85.85                                Up      standby      standby
  85.85.85.85
-------------------------------------------------------------------------------
Domain Adjacency Entries found: 2
===============================================================================
===============================================================================
Multi-Chassis Tunnel Statistics
===============================================================================
                             Static              Dynamic
-------------------------------------------------------------------------------
Installed                    0                   0
Installing                   0                   0
Awaiting Config              0                   0
Failed                       0                   0
===============================================================================
```

Table 247: Output fields: IPsec domain

Label	Description
Designated Role	The designated role, active or standby.
Priority	The priority.
Tunnel Group	The tunnel group ID.
Revertive	The revertive value. **true** means that revertive is configured. **false** means that revertive is not configured.
Admin State	The administrative state.
Protection Status	Displays nominal or notReady.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	notReady means the system is not ready for a switchover. There could be a major traffic impact if switchover happens in the case of notReady. **nominal** means the tunnel-group is in a better situation to switchover than notReady. However, there still might be a traffic impact.
Router Id	The router ID.
Current Active	The router ID of the active router.
Activity State	The activity state.
Adjacencies	
Peer	The IP address of the peer.
Router-Id	The router ID.
Oper State	The operational state of the peer.
Remote Activity State	The activity state of the peer.
Remote Designated Role	The designated role of the peer.
Domain Adjacency Entries found	The total number of domain peer entries found.
Multi-Chassis Tunnel Statistics	
Static	The number of static multi-chassis tunnels.
Dynamic	The number of dynamic multi-chassis tunnels.
Installed	The number of tunnels that have been successfully installed.
Installing	The number of tunnels that are being installed.
Awaiting Config	The number of synchronized tunnels that do not have a corresponding configuration ready.
Failed	The number of tunnels that failed to be installed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.51 ipsec-interface

ipsec-interface

Syntax

ipsec-interface

ipsec-interface *ip-int-name* [**group** *grp-ipv6-address*]

ipsec-interface gateway-name *gw-name* [**remote-address** *ip-address* | *ipv6-address*] [**port** *port-id*] [**sa-id** *sa-id*]

ipsec-interface static-tunnel-name *tunnel-name* [**sa-id** *sa-id*]

Context

[Tree] (show>router>mld ipsec-interface)

Full Context

show router mld ipsec-interface

Description

This command displays information about the MLD states over IPsec tunnels.

Parameters

ip-int-name

Specifies the dynamic name for the MLD-enabled child_SA.

grp-ipv6-address

Displays IPv6 multicast group address for which this entry contains information.

Values ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0..FFFF]H
d - [0..255]D
- multicast group IPv6 address

gw-name

Specifies the IPsec gateway name, up to 32 characters.

ip-address

Displays the information associated with the specified IP address.

ipv6-address

Displays the information associated with the specified IPv6 address.

port-id

Specifies the peer’s UDP port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0 to 4294967295

sa-id

Specifies the child_SA ID.

Values 0 to 4294967295

tunnel-name

Specifies the IPsec static tunnel name up to 32 characters.

Platforms

All

Output

The following output is an example of MLD IPsec interface information. The interface name in the output is the dynamic name for an MLD-enabled child_sa. There is a corresponding MLD interface name in the **show>ipsec>gateway** *name* **tunnel** *tunnel* output

Output Example

```
*A:DUT-A# show router 40 mld ipsec-interface "ipsec-if-1583392"
===============================================================================
mld ipsec dynamic tunnel interfaces detail
===============================================================================
name          : ipsec_gw_1040_1
remote-address: 3ffe::900:1
port          : 500                     sa-id         : 1
index         : 1583392                 state         : in-service
version       : 2                       group count   : 0
querier up    : 11384                   querier expiry: 0
next query    : 56                      interface name: ipsec-if-1583392
querier       : fe80::6e:9c56:9651:5829
===============================================================================
```

12.52 ipsec-stats

ipsec-stats

Syntax

ipsec-stats

Context

[Tree] (show>isa>stats ipsec-stats)

Full Context

show isa statistics ipsec-stats

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display IPsec tunnel statistics.

Platforms

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

12.53 ipsec-transport-mode-profile

ipsec-transport-mode-profile

Syntax

ipsec-transport-mode-profile [*name*]

ipsec-transport-mode-profile *name* **association**

Context

[Tree] (show>ipsec ipsec-transport-mode-profile)

Full Context

show ipsec ipsec-transport-mode-profile

Description

This command displays IPsec transport mode profile information. If a name is specified, the command displays details about the named **ipsec-transport-mode-profile** , otherwise, a list of configured IPsec transport mode profiles is displayed.

Parameters

name

Displays information about the specified IPsec transport mode profile, up to 32 characters.

association

Displays a list of IP tunnels that reference the specified **ipsec-transport-mode-profile** *name*.

Platforms

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

Output

The following output is an example of IPsec transport mode profile information. Table 248: Output fields: IPsec transport mode profile describes the fields.

Output Example

```
A:v70# show ipsec ipsec-transport-mode-profile "test"
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPsec Transport Mode Profile Configuration Detail
===============================================================================
Description      : (Not Specified)
Keying Type      : Dynamic              Replay Window    : None
IKE Policy Id    : 1                    Auto Establish   : disabled
Transform Id1    : 1                    Transform Id2    : None
Transform Id3    : None                 Transform Id4    : None
Pre Shared Key   : KrbVPnF6Dg13PM/biw6ErPl5XU7+
Local Id Type    : none
Cert Profile     : (Not Specified)
TrustAnchor Prof : (Not Specified)
Cert Status Verification
    Default Resu*: revoked
    Primary      : crl
    Secondary    : none
Max Num of Keys
    Phase 1      : 0
    Phase 2      : 0
===============================================================================
* indicates that the corresponding row element may have been truncated.


A:v70# show ipsec ipsec-transport-mode-profile "test" association
===============================================================================
IP tunnels using Transport Mode Profile
===============================================================================
SvcId      Type   SAP                          Tunnel
-------------------------------------------------------------------------------
400        vprn   tunnel-1.private:100         t1
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================
```

Table 248: Output fields: IPsec transport mode profile

Label	Description
Description	The text string to describe the transport mode profile
Keying Type	The keying type
Replay Window	The replay window size
IKE Policy ID	The ID of the IKE policy used for IKE negotiation
Auto Establish	The status of auto-establish
Transform Id1, Id2, Id3, Id4	The transform ID
Pre Shared Key	The pre-shared key used for authentication (hashed)
Local Id Type	The local ID used for IDi or IDr for IKEv2 tunnels
Cert Profile	The name of certificate profile to be used for certificate authentication
TrustAnchor Prof	The name of trust anchor profile to be used for certificate authentication.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Default Result	The default result when both the primary and secondary method failed to provide an answer
Primary	The primary method that is used to verify the revocation status of the peer's certificate; either CRL or OCSP.
Secondary	The secondary method that is used to verify the revocation status of the peer's certificate; either CRL, OCSP, or none.
Max Num of Keys	Phase 1 — The maximum number of IKE_SA keys, which can be saved by the system. Phase 2 — The maximum number of CHILD_SA keys, which can be saved by the system.
Transport Mode Profile	The transport mode profile name
SvcID	The service ID
Type	The service type
SAP	The SAP ID
Tunnel	The tunnel ID

12.54 ipv4

ipv4

Syntax

ipv4 all

ipv4 entry *entry-id*

Context

[Tree] (clear>subscr-mgmt>isa-filter ipv4)

Full Context

clear subscriber-mgmt isa-filter ipv4

Description

This command resets the entry hit counts associated with the specified **isa-filter** to zero. If an *entry-id* is specified, only counters for that entry are reset, otherwise all entry counters are reset.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

all

Clears all IPv4 ISA filter entries.

entry-id

Specifies the ID of the entry within the ISA filter for which to reset the counters.

Values 1 to 1024

Platforms

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

ipv4

Syntax

ipv4 [**summary** | **detail**] [**egress-if** *port-id*]

ipv4 [**summary** | **detail**] [**egress-lsp** *tunnel-id*]

ipv4 [**summary** | **detail**] [**egress-nh** *ip-address*]

Context

[Tree] (show>router>ldp>bindings>active ipv4)

Full Context

show router ldp bindings active ipv4

Description

This command display LDP active IPv4 bindings.

Parameters

egress-if *port-id*

Displays LDP active bindings by matching egress-if.

egress-lsp *tunnel-id*

Specifies the tunnel identifier for this egress LSP.

Values 0 to 4294967295

egress-nh *ip-address*

Displays LDP active bindings by matching egress-nh.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

x - [0 to FFFF]H

d - [0 to 255]D

detail

Displays detailed information.

summary

Displays information in a summarized format.

Platforms

All

ipv4

Syntax

ipv4 [**timeout** *seconds*] [**dhcp-client-identifier** {**string** *ascii-string* | **hex** *hex-string*}] [**reboot-on-success**] [**save-provision-file-destination** *file-url*] [**include-user-class**]

Context

[Tree] (tools>perform>system>auto-node-provisioning ipv4)

Full Context

tools perform system auto-node-provisioning ipv4

Description

This command initiates the IPv4 auto-provisioning of the node on all the ports that have an operationally up port but no IP address.

Parameters

seconds

DHCP request timeout period, before the system tries the next interface. Within this timeout, the DHCP client tries to retransmit the DHCP request with randomized exponential backoff (RFC 2131). This randomized exponential backoff begins at 2 s and goes to 64 s (2,4,8,32,64,64,64,64). After 64 seconds, the system will retry every 64 s.

Values 1 to 65535 seconds

Default 10

ascii-string

DHCP client identifier in ASCII format, up to 127 characters long.

hex-string

DHCP client identifier in hexadecimal format, up to 254 hexadecimal nibbles long.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0x0 to 0xFFFFFFFF

file-url

The file URL as a *local-url.* The local file or folder name should not exceed 99 characters).

local-url	[*cflash-id*/][*file-path*]
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

include-user-class

Keyword to include user class data in network discovery requests.

Platforms

All

ipv4

Syntax

ipv4 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [l **eakable**] [**brief**] [**all**]

ipv4 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**brief**] [**all**]

ipv4 [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**all**]

Context

[Tree] (show>router>bgp>routes ipv4)

Full Context

show router bgp routes ipv4

Description

This command displays BGP IPv4 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

hunt

Displays entries for the specified route.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ex \t**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

originState

Filters the BGP routes displayed by the command to those routes with a particular RPKI route origin validation state.

Values valid — Displays valid validation state information.

invalid — Displays invalid validation state information.

notfound — Displays state information for unfound origin values.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

leaked

Filters BGP routes displayed by the command to those routes leaked into this router's BGP instance from another BGP instance.

leakable

Filters BGP routes displayed by the command to those routes eligible for leaking from this router's BGP instance to another BGP instance.

brief

Displays the IPv4 BGP route information in a brief format.

all

Displays all output for imported routes.

Platforms

All

12.55 ipv4-prefix

ipv4-prefix

Syntax

ipv4-prefix [*ip-prefix*/*ip-prefix-length*]

Context

[Tree] (show>router>bgp>routes>bgp-ls ipv4-prefix)

Full Context

show router bgp routes bgp-ls ipv4-prefix

Description

This command displays BGP-LS NLRIs with an IPv4 prefix.

Parameters

ip-prefix/ip-prefix-length

Specifies information for the specified IPv4 prefix and mask length, up to 64 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.56 ipv6

ipv6

Syntax

ipv6 all

ipv6 entry *entry-id*

Context

[Tree] (clear>subscr-mgmt>isa-filter ipv6)

Full Context

clear subscriber-mgmt isa-filter ipv6

Description

This command resets the entry hit counts associated with the specified **isa-filter** to zero. If an *entry-id* is specified, only counters for that entry are reset, otherwise all entry counters are reset.

Parameters

all

Clears all IPv6 ISA filter entries.

entry-id

Specifies the ID of the entry within the ISA filter for which to reset the counters.

Values 1 to 1024

Platforms

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

ipv6

Syntax

ipv6 [**summary** | **detail**] [**egress-if** *port-id*]

ipv6 [**summary** | **detail**] [**egress-lsp** *tunnel-id*]

ipv6 [**summary** | **detail**] [**egress-nh** *ip-address*]

Context

[Tree] (show>router>ldp>bindings>active ipv6)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router ldp bindings active ipv6

Description

This command display LDP active IPv6 bindings.

Parameters

egress-if ***port-id***

Displays LDP active bindings by matching egress-if.

egress-lsp ***tunnel-id***

Specifies the tunnel identifier for this egress LSP.

Values 0 to 4294967295

egress-nh ***ip-address***

Displays LDP active bindings by matching egress-nh.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

detail

Displays detailed information.

summary

Displays information in a summarized format.

Platforms

All

ipv6

Syntax

ipv6 [**filter-type** *filter-type*]

ipv6 embedded [**inactive**]

ipv6 *ipv6-filter-id* **embedded** [**inactive**]

ipv6 *ipv6-filter-id* [**detail**]

ipv6 *ipv6-filter-id* **associations**

ipv6 *ipv6-filter-id* **type** *entry-type*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6 *ipv6-filter-id* **counters** [**type** *entry-type*] [**detail**]

ipv6 *ipv6-filter-id* **entry** *entry-id* [**counters**] [**detail**]

ipv6 *ipv6-filter-id* [**entry** *entry-id*] **effective-action** [{**ingress** | **egress**}]

ipv6 *ipv6-filter-id* [**entry** *entry-id*] **effective-action router** [{**ingress** | **egress**}]

ipv6 *ipv6-filter-id* [**entry** *entry-id*] **effective-action service** *service-id* [{ **ingress** | **egress**}]

Context

[Tree] (show>filter ipv6)

Full Context

show filter ipv6

Description

This command shows IPv6 filter information.

When **effective-action** is specified, this command displays what effectively happens to a packet that matches the criteria associated with the IPv6 filter policy.

Parameters

filter-type

Specifies the type of filter to display.

Values config, flowspec, host-common

inactive

Shows all embeddings, optionally shows inactive embedding only, if *ipv6-filter-id* is not specified shows all embedded filters.

ipv6-filter-id

Specifies the IPv6 filter policy for which to display information. Values can be expressed in different formats. The following only shows decimal integer format.

Values 1 to 65535

detail

Displays detailed information.

associations

Appends, to the detailed filter policy output, information as to where the specified filter policy ID is applied.

entry-type

Specifies type of filter entry to display.

Values fixed, radius-insert, credit-control-insert, embedded, radius-shared

counters

Displays counter information. Egress counters count the packets without Layer 2 encapsulation. Ingress counters count the packets with Layer 2 encapsulation.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

entry-id

Specifies the filter policy entry (of the specified filter policy) to display information.

Values 1 to 2097151

effective-action

Displays the action that the system will effectively apply to the packet.

ingress

Filters the output and only displays the information for filter policies applied on ingress.

egress

Filters the output and only displays the information for filter policies applied on egress.

router

Filters the output and only displays the information for that specific service ("Base" instance).

service-id

Filters the output and only displays the information for the specified service. The specified value should correspond to an existing service in which the filter has been applied.

Platforms

All

Output

Show Filter (no filter-id specified) — The following output is an example of IPv6 filter information when no filter ID is specified, and Table 249: Output fields: filter IPv6 (no filter ID specified) describes the fields.

Output Example

```
A:ALA-48# show filter ipv6
===============================================================================
IP Filters
===============================================================================
Filter-Id Scope      Applied Description
-------------------------------------------------------------------------------
100       Template   Yes     test
200       Exclusive  Yes
-------------------------------------------------------------------------------
Num IPv6 filters: 2
===============================================================================
A:ALA-48# show filter ipv6 embedded
===============================================================================
IP Filter embedding
===============================================================================
In    From      Priority       Inserted      Status
-------------------------------------------------------------------------------
10    2           50          1/1           OK
      1           100         1/2           OK- 1 entry overwritten

20    2           100         0/5           Failed – out of resources
===============================================================================
A:ALA-48#
===============================================================================
Configured IP Filters                                        Total:     4
===============================================================================
Filter-Id   Scope     Applied Description
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1           Template  No
5           Exclusive No
10          Template  Yes
100         Embedded  N/A
===============================================================================
System IP Filters                                              Total:     1
===============================================================================
Filter-Id                    Description
-------------------------------------------------------------------------------
_tmnx_ofs_test               of-switch 'test' embedded filter
-------------------------------------------------------------------------------
Num IP filters: 5
===============================================================================
```

Table 249: Output fields: filter IPv6 (no filter ID specified)

Label	Description
Filter Id	The IPv6 filter ID
Scope	Template — the filter policy is of type template
	Exclusive — the filter policy is of type exclusive
Applied	No — the filter policy ID has not been applied
	Yes—the filter policy ID is applied
Description	The IPv6 filter policy description
In	Shows embedding filter index
From	Shows embedded filters included
Priority	Shows priority of embedded filter
Inserted	Shows embedded/total number of entries from embedded filter Status: **OK** — embedding operation successful, if any entries are overwritten this will also be indicated **Failed** — embedding failed, the reason is displayed (out of resources)

Show Filter (with filter-id specified) — The following output is an example of IPv6 filter information when filter-id is specified, and Table 250: Output fields: IPv6 filter policy describes the fields.

Output Example

```
A:ALA-48# show filter ipv6 100
===============================================================================
IPv6 Filter
===============================================================================
Filter Id    : 100                              Applied        : Yes
Scope        : Template                         Def. Action    : Forward
Entries      : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description : test
-------------------------------------------------------------------------------
Filter Match Criteria : IPv6
-------------------------------------------------------------------------------
Entry        : 10
Log Id       : 101
Src. IP      : ::/0                              Src. Port      : None
Dest. IP     : ::/0                              Dest. Port     : None
Next Header  : Undefined                         Dscp           : Undefined
ICMP Type    : Undefined                         ICMP Code      : Undefined
Tcp-flag     : (Not Specified)
Match action : Drop
Ing. Matches : 0                                 Egr. Matches   : 0
===============================================================================
A:ALA-48#
```

Table 250: Output fields: IPv6 filter policy

Label	Description
Filter Id	The IPv6 filter policy ID
Scope	Template — the filter policy is of type template
	Exclusive — the filter policy is of type exclusive
Entries	The number of entries configured in this filter ID
Description	The IPv6 filter policy description
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
Filter Match Criteria	IP — Indicates the filter is an IPv6 filter policy
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
Log Id	The filter log ID
Src. IP	The source IPv6 address and mask match criterion • "::/0” indicates no criterion specified for the filter entry
Dest. IP	The destination IPv6 address and mask match criterion • "::/0” indicates no criterion specified for the filter entry
Protocol	The protocol ID for the match criteria; undefined indicates no protocol specified

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
ICMP Type	The ICMP type match criterion; undefined indicates no ICMP type specified
Fragment	False — configures a match on all non-fragmented IPv6 packets
	True — configures a match on all fragmented IPv6 packets
	Off — fragments are not a matching criteria; all fragments and nonfragments implicitly match
Sampling	Off — specifies that traffic sampling is disabled
	On — specifies that traffic matching the associated IPv6 filter entry is sampled
IP-Option	Specifies matching packets with a specific IPv6 option or a range of IPv6 options in the IPv6 header for IPv6 filter match criteria
Match action	Default — the filter does not have an explicit forward or drop match action specified; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
	Drop — drop packets matching the filter entry
	Forward—the explicit action to perform is forwarding of the packet; if the action is Forward, then if configured, the next hop information should be displayed, including nexthop: *IPv6 address*, Indirect: *IPv6 address* or Interface: *IPv6 interface name*
Ing. Matches	The number of ingress filter matches/hits for the filter entry
Src. Port	The source TCP, UDP, or SCTP port number, port range, or port match list
Dest. Port	The destination TCP, UDP, or SCTP port number, port range, or port match list
Dscp	The DiffServ Code Point (DSCP) name
ICMP Code	The ICMP code field in the ICMP header of an IPv6 packet
Tcp-flag	Specifies the list of TCP flags selected: • match true is represented with the TCP Flag value • match false is represented with an exclamation mark before the flag value TCP flags not selected as match criteria are not displayed Example: Matching "tcp-ack true” and "tcp-rst false” is represented in the show command as Tcp-flag : Ack !Rst

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Option-present	Off — specifies not to search for packets that contain the option field or have an option field of zero
	On — matches packets that contain the option field or have an option field of zero be used as IPv6 filter match criteria
Int. Sampling	Off — interface traffic sampling is disabled
	On — interface traffic sampling is enabled
Multiple Option	Off — the option fields are not checked
	On — packets containing one or more option fields in the IPv6 header will be used as IPv6 filter match criteria
Egr. Matches	The number of egress filter matches/hits for the filter entry
Ing. Rate-limiter	The number of offered, forwarded, and dropped packet matches for the filter entry

Show Filter Associations — The following output is an example of IPv6 filter information when the **associations** keyword is specified, and Table 251: Output fields: IPv6 filter associations describes the fields.

Output Example

```
A:ALA-48# show filter ipv6 1 associations
===============================================================================
IPv6 Filter
===============================================================================
Filter Id    : 1                                Applied        : Yes
Scope        : Template                         Def. Action    : Drop
Entries      : 1
-------------------------------------------------------------------------------
Filter Association : IPv6
-------------------------------------------------------------------------------
Service Id   : 2000                             Type           : IES
 - SAP    1/1/1:2000   (Ingress)
===============================================================================
Filter Match Criteria : IPv6
-------------------------------------------------------------------------------
Entry        : 10
Log Id       : 101
Src. IP      : ::/0                             Src. Port      : None
Dest. IP     : ::/0                             Dest. Port     : None
Next Header  : Undefined                        Dscp           : Undefined
ICMP Type    : Undefined                        ICMP Code      : Undefined
TCP-flag     : (Not Specified)
Match action : Drop
Ing. Matches : 0                                Egr. Matches   : 0
===============================================================================
A:ALA-48#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 251: Output fields: IPv6 filter associations

Label	Description
Filter Id	The IPv6 filter policy ID
Scope	Template — the filter policy is of type Template
	Exclusive — the filter policy is of type Exclusive
Entries	The number of entries configured in this filter ID
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
Service Id	The service ID on which the filter policy ID is applied; the output also provides a list of service points where the filter has been applied
SAP	The Service Access Point on which the filter policy ID is applied
(Ingress)	The filter policy ID is applied as an ingress filter policy on the interface
(Egress)	The filter policy ID is applied as an egress filter policy on the interface
Type	The type of service of the service ID
Entry	The filter entry ID; if the filter entry ID indicates the entry is Inactive, the filter entry is incomplete, no action was specified
Log Id	The filter log ID
Src. IP	The source IPv6 address and mask match criterion • "0.0.0.0/0” indicates no criterion specified for the filter entry
Dest. IP	The destination IPv6 address and mask match criterion • "0.0.0.0/0” indicates no criterion specified for the filter entry
Protocol	The protocol ID for the match criteria; undefined indicates no protocol specified
ICMP Type	The ICMP type match criterion; undefined indicates no ICMP type specified

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Fragment	False — configures a match on all non-fragmented IPv6 packets
	True — configures a match on all fragmented IPv6 packets
	Off — fragments are not a matching criteria; all fragments and nonfragments implicitly match
Sampling	Off — specifies that traffic sampling is disabled
	On — specifies that traffic matching the associated IPv6 filter entry is sampled
IP-Option	Specifies matching packets with a specific IPv6 option or a range of IPv6 options in the IPv6 header for IPv6 filter match criteria
TCP-syn	False — configures a match on packets with the SYN flag set to false
	True — configures a match on packets with the SYN flag set to true
	Off — the state of the TCP SYN flag is not considered as part of the match criteria
Match action	Default — the filter does not have an explicit forward or drop match action specified; if the filter entry ID indicates the entry is Inactive, the filter entry is incomplete, no action was specified
	Drop — drop packets matching the filter entry
	Forward — the explicit action to perform is forwarding of the packet; if the action is Forward, then if configured the nexthop information should be displayed, including Nexthop: <IPv6 address>, Indirect: <IPv6 address> or Interface: <IPv6 interface name>
Ing. Matches	The number of ingress filter matches/hits for the filter entry
Src. Port	The source TCP, UDP, or SCTP port number, port range, or port match list
Dest. Port	The destination TCP, UDP, or SCTP port number, port range, or port match list
Dscp	The DiffServ Code Point (DSCP) name
ICMP Code	The ICMP code field in the ICMP header of an IPv6 packet
Option-present	Off — specifies not to search for packets that contain the option field or have an option field of zero

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	On — matches packets that contain the option field or have an option field of zero be used as IPv6 filter match criteria
Int. Sampling	Off — interface traffic sampling is disabled
	On — interface traffic sampling is enabled
Multiple Option	Off — the option fields are not checked
	On — packets containing one or more option fields in the IPv6 header will be used as IPv6 filter match criteria
TCP-ack	False — configures a match on packets with the ACK flag set to false
	True — configured a match on packets with the ACK flag set to true
	Off — the state of the TCP ACK flag is not considered as part of the match criteria
Egr. Matches	The number of egress filter matches/hits for the filter entry

Show Filter Counters — The following output is an example of IPv6 filter information when the **counters** keyword is specified, and Table 252: Output fields: IPv6 filter counters describes the output fields.

Egress count the packets without Layer 2 encapsulation. Ingress counters count the packets with Layer 2 encapsulation.

Output Example

```
A:ALA-48# show filter ipv6 8 counters
===============================================================================
IPv6 Filter
===============================================================================
Filter Id    : 8                                Applied        : Yes
Scope        : Template                         Def. Action    : Forward
Entries      : 4
Description  : Description for Ipv6 Filter Policy id # 8
-------------------------------------------------------------------------------
Filter Match Criteria : IPv6
-------------------------------------------------------------------------------
Entry        : 5
Ing. Matches : 0 pkts
Egr. Matches : 0 pkts

Entry        : 6
Ing. Matches : 0 pkts
Egr. Matches : 0 pkts

Entry        : 8
Ing. Matches : 160 pkts (14400 bytes)
Egr. Matches : 80 pkts (6880 bytes)

Entry        : 10
Ing. Matches : 80 pkts (7200 bytes)
Egr. Matches : 80 pkts (6880 bytes)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
A:ALA-48#
```

Table 252: Output fields: IPv6 filter counters

Label	Description
IP Filter Filter Id	The IPv6 filter policy ID
Scope	Template — the filter policy is of type template
	Exclusive — the filter policy is of type exclusive
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
Filter Match Criteria	IP — Indicates the filter is an IPv6 filter policy
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
Ing. Matches	The number of ingress filter matches/hits for the filter entry
Egr. Matches	The number of egress filter matches/hits for the filter entry

Egress count the packets without Layer 2 encapsulation. Ingress counters count the packets with Layer 2 encapsulation.

Show Filter IPv6 Output (with effective-action specified) — The following output is an example of IPv6 filter information when the **effective-action** keyword is specified. Table 253: Output fields: IPv6 filter effective action describes the command output fields.

If the main action (either primary or secondary) cannot be performed, a reason will be given. This will be displayed on the same line as the Effective Action. The reason codes as currently defined are:

- action not supported in L2 service
- action not supported in L3 service
- action not supported on egress
- destination not reachable
- egress-pbr is off
- egress-pbr is on
- entry-default

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- filter-default-action
- pbr-down-action-override
- target does not exist

Output Example

```
show filter ipv6 10 entry 10 effective-action
===============================================================================
IPv6 Filter
===============================================================================
Filter Id           : 10                            Applied        : Yes
Scope               : Template                      Def. Action    : Drop
Entries             : 8
Description         : (Not Specified)
-------------------------------------------------------------------------------
Entry               : 10
-------------------------------------------------------------------------------
Origin              : Fixed - overwrites embedded filter 30 entry 5
Egress PBR          : Disabled
Stickiness          : No
PBR Dwn Act Override: None
PBR Down Action     : Drop (entry-default)

Configuration
Primary Action      : Forward (Next Hop VRF)
  Next Hop          : 3ffe:0:a0a:a01:: (Indirect)
  Router            : Base
  Extended Action   : Remark DSCP "cp51"
Secondary Action    : Forward (Next Hop VRF)
  Next Hop          : 3ffe:0:1414:1401:: (Indirect)
  Router            : Base
  Extended Action   : Remark DSCP "cp31"

Status
Target status based on extended checks
  Primary Action    : Up
  Secondary Action  : Up
Downloaded Action   : Primary
Stickiness Timer    : Not Running

Effective Action based on application context
Service Id          : 100                           Type           : IES
  Ingress
    Effective Action: Primary
    Extended Action : Performed
Service Id          : N/A                           Type           : Base Router
  Egress
    Effective Action: Primary
    Extended Action : Performed
===============================================================================
```

Table 253: Output fields: IPv6 filter effective action

Label	Description
Filter Id	The IPv6 filter policy ID
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Scope	Template — the filter policy is of type Template
	Exclusive — the filter policy is of type Exclusive
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
Entries	The number of entries configured in this filter ID
Description	The IPv6 filter policy description
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
Origin	The type of filter entry
Egress PBR	Indicates if the **egress-pbr** flag is set for this entry
Stickiness	No — stickiness is not configured
	Yes — stickiness is configured
PBR Dwn Act Override	Indicates whether or not the action to take when the PBR target is down has been overridden
PBR Down Action	Indicates the action to take when the target is down; packets that match the entry criteria will be subject to the PBR Down Action in case the target of the main action is down
Configuration	Section of the output providing information on the configured parameters
Primary Action	The configured action, if any; indented sub-labels in the show output provide configured parameters for this action
Secondary Action	The configured secondary action, if any; indented sub-labels in the show output provide configured parameters for this action
Status/Target status based on extended checks	Section of the output providing information on the operational status of certain parameters
Primary Action	The status of the target of the primary action, if configured, based on extended checks
Secondary Action	The status of the target of the secondary action, if configured, based on extended checks
Downloaded Action	The action downloaded by the CPM to the IOM

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Stickiness Timer	The status of the stickiness timer, if any
Effective Action based on application context	Section of the output providing the effective action, in the context of services, that a packet matching the criteria will be subject to
Service Id	The service ID on which the filter policy ID is applied; the output also provides a list of service points where the filter has been applied
Type	The service type in which the service has been applied
Ingress/Egress	The direction in which the service has been applied
Effective Action	Indicates the effective action the packet will be subject to
Extended Action	Indicates the configured extended action, if any

ipv6

Syntax

ipv6 *ipv6-filter-id* [**entry** *entry-id*] [{**ingress** | **egress**}]

Context

[Tree] (clear>filter ipv6)

Full Context

clear filter ipv6

Description

Clears the counters associated with the entries of the specified IPv6 filter policy.

By default, the counters associated with each entry of the specified filter policy are all cleared. The scope of which counters are cleared can be narrowed using the command line parameters.

Default

Clears all counters associated with each entry of the specified IPv6 filter policy.

Parameters

ipv6-filter-id

The IPv6 filter policy ID for which to clear the entry counters. Values can be expressed in different formats. The following only shows decimal integer format.

Values 1 to 65535

entry-id

Specifies that only the counters associated with the specified filter policy entry are cleared.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 2097151

ingress

Specifies to only clear the ingress counters.

egress

Specifies to only clear the egress counters.

Platforms

All

ipv6

Syntax

ipv6 *ipv6-filter-id*

Context

[Tree] (tools>dump>filter>resources ipv6)

Full Context

tools dump filter resources ipv6

Description

This command displays information about the specified IPv6 filter including resource utilization on CPM and IOM, the IOMs on which the filter is used, and the entries using the most resources.

Parameters

ipv6-filter-id

Specifies that only the filter resource utilization associated with this IPv6 filter will be displayed.

Values 1 to 65535

Platforms

All

Output

The following output is an example of IPv6 filter resource utilization information.

Output Example

```
*A:Dut-C>tools>dump>filter>resources># ipv6 "fSpec-0"

===============================================================================
Resource utilization details for Ipv6 filter fSpec-0
===============================================================================
CPM entries used                      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
CPM subentries used                    : 0
TCAM entries used (per FlexPath)       : 0
Associated with IOMs                   : 2

-------------------------------------------------------------------------------
Largest 5 entries
-------------------------------------------------------------------------------
Entry ID                                        Active        TCAM entries
                                                           (per FlexPath)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
===============================================================================
```

ipv6

Syntax

ipv6 [**timeout** *seconds*] [**dhcp-client-identifier** {**duid-link-local** | **duid-enterprise**} { **string** *ascii-string* | **hex** *hex-string*}] [**reboot-on-success**] [**save-provision-file-destination** *file-url*] [**include-user-class**]

Context

[Tree] (tools>perform>system>auto-node-provisioning ipv6)

Full Context

tools perform system auto-node-provisioning ipv6

Description

This command initiates the IPv6 auto-provisioning of the node on all the ports that have an operationally up port but no IP address.

Parameters

seconds

DHCP request timeout period, before the system tries the next interface. Within this timeout, the DHCP client tries to retransmit the DHCP request with randomized exponential backoff (RFC 2131). This randomized exponential backoff begins at 2 s and goes to 64 s (2,4,8,32,64,64,64,64). After 64 seconds, the system will retry every 64 s.

Values 1 to 65535 seconds

Default 10

duid-link-local

Keyword to configure the type code of the server DUID.

duid-enterprise

Keyword to configure the type code of the server DUID.

ascii-string

DHCP client identifier in ASCII format, up to 127 characters long.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

hex-string

DHCP client identifier in hexadecimal format, up to 254 hexadecimal nibbles long.

Values 0x0 to 0xFFFFFFFF

file-url

The file URL as a *local-url.* The local file or folder name should not exceed 99 characters).

local-url	[*cflash-id*/][*file-path*]
cflash-id	cf1:, cf1-A:, cf1-B:, cf2:, cf2-A:, cf2-B:, cf3:, cf3-A:, cf3-B:

reboot-on-success

Keyword to reboot the router when the auto-provisioning process completes successfully.

include-user-class

Keyword to include user class data in network discovery requests.

Platforms

All

ipv6

Syntax

ipv6 entry *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>cpm-filter ipv6)

Full Context

monitor cpm-filter ipv6

Description

This command displays monitor command statistics for IPv6 filter entries.

Parameters

entry-id

Displays information on the specified filter entry ID for the specified filter ID only.

Values 1 to 2048

seconds

Configures the interval for each display in seconds.

Values 3 to 60

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ipv6

Syntax

ipv6 *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>management-access-filter ipv6)

Full Context

monitor management-access-filter ipv6

Description

This command monitors statistics for the MAF IPv6 filter entry.

Parameters

entry-id

Specifies an existing IP MAF entry ID.

Values 1 to 9999

interval seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

ipv6

Syntax

ipv6 *ipv6-filter-id* **entry** *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>filter ipv6)

Full Context

monitor filter ipv6

Description

This command enables IPv6 filter monitoring. The statistical information for the specified IPv6 filter entry displays at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified IPv6 filter. The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

ipv6-filter-id

Displays detailed information for the specified IPv6 filter ID and its filter entries.

Values [1 to 65535] | fSpec-[0 to 2147483647] | [1 to 65535 to 8192] | [1 to 65535:P1 to 4096] | _tmnx_tms_egr- *mda-id*-F | _tmnx_tms-ing-*mda-id*-F | _tmx_ofs_*ofs-name* | *name*: 64 chars max

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

entry-id

Displays information on the specified filter entry ID for the specified filter ID only.

Values 1 to 65535

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Default 10

Values 1 to 999

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of filter IPv6 information.

Output Example

```
A:ALA-48# monitor filter ipv6 100 entry 10 interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for IPv6 filter 100 entry 10
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Ing. Matches : 0                                Egr. Matches   : 1
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches : 0                                Egr. Matches   : 1
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches : 0                                Egr. Matches   : 1
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches : 0                                Egr. Matches   : 01
===============================================================================
A:ALA-48#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:ALA-48# monitor filter ipv6 100 entry 10 interval 3 repeat 3 rate
===============================================================================
Monitor statistics for IPv6 filter 100 entry 10
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Ing. Matches : 0                                Egr. Matches   : 1
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches : 0                                Egr. Matches   : 1
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches : 0                                Egr. Matches   : 1
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches : 0                                Egr. Matches   : 1
===============================================================================
A:ALA-48#
```

ipv6

Syntax

ipv6 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [l **eakable**] [**brief**] [**all**]

ipv6 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**brief**] [**all**]

ipv6 [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**all**]

Context

[Tree] (show>router>bgp>routes ipv6)

Full Context

show router bgp routes ipv6

Description

This command displays BGP IPv6 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

hunt

Displays entries for the specified route.

comm-id

Specifies the community ID, up to 72 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ex \t**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

originState

Filters the BGP routes displayed by the command to those routes with a particular RPKI route origin validation state.

Values valid — Displays valid validation state information.

invalid — Displays invalid validation state information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

notfound — Displays state information for unfound origin values.

leaked

Filters BGP routes displayed by the command to those routes leaked into this router's BGP instance from another BGP instance.

leakable

Filters BGP routes displayed by the command to those routes eligible for leaking from this router's BGP instance to another BGP instance.

brief

Displays the IPv4 BGP route information in a brief format.

all

Displays all output for imported routes.

Platforms

All

12.57 ipv6-exception

ipv6-exception

Syntax

ipv6-exception *exception*

ipv6-exception *exception* [**associations**]

ipv6-exception *exception* [**counters**]

ipv6-exception *exception* **entry** *entry-id* [**counters**]

Context

[Tree] (show>filter ipv6-exception)

Full Context

show filter ipv6-exception

Description

This command shows IPv6 exception information.

Parameters

exception

Specifies the IPv6 exception filter.

Values *exception-id*: 1 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

exception-name: An existing IPv6 exception filter name up to 64 characters.

associations

Displays associations applicable to the specified IPv6 exception.

counters

Displays counters for the specified IPv6 exception.

entry *entry-id*

Specifies an integer that identifies the entry.

Values 1 to 2097151

Platforms

VSR

Output

The following output is an example of IPv6 exception filter information, and Table 254: Output fields: IPv6 exception describes the fields.

Output Example

```
*A:Dut-C# show filter ipv6-exception

===============================================================================
Configured IPv6-Exception Filters                          Total:     1
===============================================================================
Filter-Id   Scope    Applied Description
-------------------------------------------------------------------------------
1           Template  Yes?

===============================================================================
Num IPv6-Exception filters: 1
===============================================================================
*A:kanlnx94: Dut-B# show filter ipv6-exception 1

===============================================================================
IPv6-Exception Filter
===============================================================================
Filter Id           : 1                             Applied       : Yes
Scope               : Template
Entries             : 1
Description         : (Not Specified)
Filter Name         : An IPv6 exception filter
-------------------------------------------------------------------------------
Filter Match Criteria : IPv6
-------------------------------------------------------------------------------
Entry               : 10 (Inactive)
Description         : (Not Specified)
Src. IP             : ::/0
Src. Port           : n/a
Dest. IP            : ::/0
Dest. Port          : eq 1234
Next Header         : 6
ICMP Type           : Undefined                     ICMP Code      : Undefined
Ing. Matches        : 0 pkts
Egr. Matches        : 0 pkts
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

```
*A:Dut-C# show filter ipv6-exception 1 associations

===============================================================================
IPv6-Exception Filter
===============================================================================
Filter Id           : 1                             Applied        : Yes
Scope               : Template
Entries             : 1
Description         : (Not Specified)
Filter Name         : An IPv6 exception filter
-------------------------------------------------------------------------------
Filter Association : IPv6
-------------------------------------------------------------------------------

Service Id          : N/A                           Type           : Router Base
 - Router Interface secure-interface
-------------------------------------------------------------------------------
Filter associated with IOM: 1
===============================================================================
```

```
*A:Dut-C# show filter ipv6-exception 1 counters

===============================================================================
IPv6-Exception Filter
===============================================================================
Filter Id           : 1                             Applied        : Yes
Scope               : Template
Entries             : 1
Description         : (Not Specified)
Filter Name         : An IPv6 exception filter
-------------------------------------------------------------------------------
Filter Match Criteria : IPv6
-------------------------------------------------------------------------------
Entry               : 10 (Inactive)
Ing. Matches        : 0 pkts
Egr. Matches        : 0 pkts

===============================================================================
```

```
*A:Dut-C# show filter ipv6-exception 1 entry 10

===============================================================================
IPv6-Exception Filter
===============================================================================
Filter Id           : 1                             Applied        : Yes
Scope               : Template
Entries             : 1
Description         : (Not Specified)
Filter Name         : An IPv6 exception filter
-------------------------------------------------------------------------------
Filter Match Criteria : IPv6
-------------------------------------------------------------------------------
Entry               : 10 (Inactive)
Description         : (Not Specified)
Src. IP             : ::/0
Src. Port           : n/a
Dest. IP            : ::/0
Dest. Port          : eq 1234
Next Header         : 6
ICMP Type           : Undefined                     ICMP Code      : Undefined
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ing. Matches        : 0 pkts
Egr. Matches        : 0 pkts

===============================================================================
```

```
*A:Dut-C# show filter ipv6-exception 1 entry 10 counters

===============================================================================
IPv6-Exception Filter
===============================================================================
Filter Id           : 1                             Applied        : Yes
Scope               : Template
Entries             : 1
Description         : (Not Specified)
Filter Name         : An IPv6 exception filter
-------------------------------------------------------------------------------
Filter Match Criteria : IPv6
-------------------------------------------------------------------------------
Entry?              : 10 (Inactive)
Ing. Matches        : 0 pkts
Egr. Matches        : 0 pkts

===============================================================================
*A:Dut-C#
```

Table 254: Output fields: IPv6 exception

Label	Description
Configured IPv6-Exception Filters	The number of configured IPv6 exception filters.
Filter-Id	The filter ID.
Scope	Template — The filter policy is of type Template. Exclusive — The filter policy is of type Exclusive.
Applied	No — The IPv6 exception filter has not been applied. Yes — The IPv6 exception filter is applied.
Entries	The number of entries.
Description	The description of the specified filter, if specified.
Filter Name	The filter name.
Num IPv6-Exception filters	The number of IPv6 exception filters.
Entry	The number of active or inactive entries.
Src. IP	The source IP address of the logged packet.
Src. Port	The source port of the logged packet.
Dst. IP	The destination IP address of the logged packet.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Dst. Port	The destination port of the logged packet.
Next Header	8-bit selector. Identifies the type of header immediately following the IPv6 header.
ICMP Type	The ICMP type match criterion. Undefined indicates no ICMP type specified.
ICMP Code	The ICMP code field in the ICMP header of an IPv6 packet.
Ing. Matches	The number of packets matched on ingress.
Egr. Matches	The number of packets matched on egress.
Filter Association	Indicates the filter is an IPv6 filter policy.
Service Id	The service ID on which the IPv6 exception ID is applied.
Filter association with IOM	The number of filters associated with an IOM.

ipv6-exception

Syntax

ipv6-exception *exception* [**entry** *entry-id*] [**ingress**]

Context

[Tree] (clear>filter ipv6-exception)

Full Context

clear filter ipv6-exception

Description

This command clears the information about the IPv6 exception filter.

Parameters

exception

Specifies the IPv6 exception filter by ID or name.

Values *exception-id* | *exception-name*

exception-id

Specifies the IPv6 exception filter ID for which to clear the entry counters.

Values 1 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

exception-name

Specifies name of the IPv6 exception filter, up to 64 characters.

entry-id

Specifies that only the counters associated with the specified filter policy entry are cleared.

Values 1 to 2097151

ingress

Specifies to only clear the ingress counters.

Platforms

VSR

12.58 ipv6-filter

ipv6-filter

Syntax

ipv6-filter [**entry** *entry-id*]

Context

[Tree] (show>system>security>cpm-filter ipv6-filter)

Full Context

show system security cpm-filter ipv6-filter

Description

This command displays CPM IPv6 filters and only applies to the 7750 SR and 7950 XRS.

Parameters

entry-id

Identifies a CPM IPv6 filter entry as configured on this system.

Values 1 to 131072

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of IPv6 filter entry information.

Table 255: Output fields: CPM IPv6 describes CPM IPv6 filter output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following is an output example on the 7750 SR:

```
A:ALA-35# show system security cpm-filter ipv6-filter
===============================================================================
CPM IPv6 Filters
===============================================================================
Entry-Id Dropped Forwarded Description
-------------------------------------------------------------------------------
101      25880   0         CPM-Filter 2001:db8::101:2 #101
102      25880   0         CPM-Filter 2001:db8::102:2 #102
103      25880   0         CPM-Filter 2001:db8::103:2 #103
104      25880   0         CPM-Filter 2001:db8::104:2 #104
105      25880   0         CPM-Filter 2001:db8::105:2 #105
106      25880   0         CPM-Filter 2001:db8::106:2 #106
107      25880   0         CPM-Filter 2001:db8::107:2 #107
108      25880   0         CPM-Filter 2001:db8::108:2 #108
109      25880   0         CPM-Filter 2001:db8::109:2 #109
===============================================================================
A:ALA-35#


A:ALA-35# show system security cpm-filter ipv6-filter entry 101
===============================================================================
CPM IPv6 Filter Entry
===============================================================================
Entry Id : 1
Description : CPM-Filter 2001:db8::101:2 #101
-------------------------------------------------------------------------------
Filter Entry Match Criteria :
-------------------------------------------------------------------------------
Log Id : n/a
Src. IP : 2001:db8::101:2       Src. Port : 0
Dest. IP : 2001:db8::101:1      Dest. Port : 0
next-header : none        Dscp : Undefined
ICMP Type : Undefined     ICMP Code : Undefined
TCP-syn : Off             TCP-ack : Off
Match action : Drop
Dropped pkts : 25880      Forwarded pkts : 0
===============================================================================
A:ALA-35#
```

Table 255: Output fields: CPM IPv6

Label	Description
Entry-Id	Displays information about the specified management access filter entry
Dropped	Displays the number of dropped events.
Forwarded	Displays the number of forwarded events.
Description	Displays the CPM filter description.
Log ID	Log Id where matched packets will be logged.
Src IP	Displays Source IP address(/netmask)
Dest. IP	Displays Destination IP address(/netmask).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Src Port	Displays Source Port Number (range).
Dest. Port	Displays Destination Port Number (range).
next-header	Displays next-header field in the IPv6 header.
Dscp	Displays Traffic Class field in the IPv6 header.
ICMP Type	Displays ICMP type field in the icmp header.
ICMP Code	Displays ICMP code field in the icmp header.
TCP-syn	Displays the SYN flag in the TCP header.
TCP-ack	Displays the ACK flag in the TCP header
Match action	When criteria matches, displays drop or forward packet.
Next Hop	In case match action is forward, indicates destination of the matched packet.
Dropped pkts	Indicating number of matched dropped packets
Forwarded pkts	Indicating number of matched forwarded packets.

ipv6-filter

Syntax

ipv6-filter [**entry** *entry-id*]

Context

[Tree] (show>system>security>mgmt-access-filter ipv6-filter)

Full Context

show system security management-access-filter ipv6-filter

Description

This command displays management-access IPv6 filters and only applies to the 7750 SR and 7950 XRS.

Parameters

entry-id

Specifies the IPv6 filter entry ID to display.

Values 1 to 9999

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of MAF IPv6 filter information, and the table outlined in **show>system>security>mgmt-access-filter ip-filter** describes the output fields.

Output Example

```
*A:Dut-C# show system security management-access-filter ipv6-filter entry 1
===============================================================================
IPv6 Management Access Filter
===============================================================================
filter type   : ipv6
Def. Action   : permit
Admin Status  : enabled (no shutdown)
-------------------------------------------------------------------------------
Entry         : 1
Description   : (Not Specified)
Src IP        : ipv6-prefix-list "MAF-MATCH-V6-ALLOW"
Flow label    : undefined
Src interface : undefined
Dest port     : undefined
Next-header   : undefined
Router        : undefined
Action        : permit
Log           : enabled
Matches       : 0
===============================================================================
*A:Dut-C# s
```

ipv6-filter

Syntax

ipv6-filter [**entry** *entry-id*]

Context

[Tree] (clear>cpm-filter ipv6-filter)

Full Context

clear cpm-filter ipv6-filter

Description

This command clears IPv6 filter statistics.

Parameters

entry-id

Specifies a particular CPM IP filter entry.

Values 1 to 2048

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

ipv6-filter

Syntax

ipv6-filter *ipv6-filter-id*

Context

[Tree] (tools>perform>filter ipv6-filter)

Full Context

tools perform filter ipv6-filter

Description

Commands in this context perform IPv6 filter operations.

Parameters

ip-v6filter-id

Specifies a particular IPv6 filter ID or filter name.

Values *filter-id* | *filter-name*

filter-id

Specifies the IPv6 filter ID.

Values 1 to 65535

filter-name

Specifies name of the IPv6 filter, up to 64 characters.

Platforms

All

12.59 ipv6-prefix

ipv6-prefix

Syntax

ipv6-prefix [**hunt** | **detail**] [**rd** *rd*] [**prefix** ipv6-prefix/ipv6-prefix-length] [**community** *comm-id*] [**tag** *tag*] [**next-hop** *next-hop*] [**aspath-regex** *reg-exp*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>bgp>routes>evpn ipv6-prefix)

Full Context

show router bgp routes evpn ipv6-prefix

Description

This command displays BGP-EVPN IPv6 prefix routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

ipv6-prefix/ipv6-prefix-length

Specifies the IPv6 prefix and length.

Values

ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
ipv6-prefix-length:	0 to 128

comm-id

Specifies the community ID, up to 256 characters.

tag

Specifies the IPv6 prefix route tag.

Values 0to 4294967295 | MAX-ET

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

Platforms

All

12.60 ipv6-prefix-list

ipv6-prefix-list

Syntax

ipv6-prefix-list

ipv6-prefix-list *prefix-list-name* [**association**]

Context

[Tree] (show>qos>match-list ipv6-prefix-list)

Full Context

show qos match-list ipv6-prefix-list

Description

Displays the list of configured IPv6 QoS prefix lists or the details of a specific IPv6 QoS prefix list together with the network QoS policies in which it is used and the entry number within that policy.

Parameters

prefix-list-name

Specifies an IPv6 prefix list which contains IPv6 address prefixes to be matched.

Values A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

association

Displays the QoS policy and entry number in which the specified prefix list is used.

Platforms

All

Output

The following output is an example of ipv6-prefix-list information

Output Example

```
*A:PE# show qos match-list ipv6-prefix-list
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
QoS Match IPv6 Prefix List
===============================================================================
Prefix List Name                Description                     Num Prefixes
-------------------------------------------------------------------------------
ipv6list1                                                       1
ipv6list2                                                       1
-------------------------------------------------------------------------------
No. of Prefix-List: 2
===============================================================================
*A:PE#

*A:PE# show qos match-list ip-prefix-list "ipv6list1”

===============================================================================
QoS Match IPv6 Prefix List
===============================================================================
Prefix Name        : ipv6list1
Description        : (Not Specified)
-------------------------------------------------------------------------------
IP Prefixes
-------------------------------------------------------------------------------
2001:db8::/32
-------------------------------------------------------------------------------
No. of Prefixes : 1
-------------------------------------------------------------------------------
===============================================================================
*A:PE#

*A:PE# show qos match-list ipv6-prefix-list "ipv6list1” association

===============================================================================
QoS Match IPv6 Prefix List
===============================================================================
Prefix Name        : ipv6list1
Description        : (Not Specified)
-------------------------------------------------------------------------------
IPv6 Prefixes
-------------------------------------------------------------------------------
2001:db8::/32
-------------------------------------------------------------------------------
No. of Prefixes : 1
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Association
-------------------------------------------------------------------------------
QoS Policy ID                       Criteria Entry
-------------------------------------------------------------------------------
10                  (sap-ingress)      10                  (source-ip)
-------------------------------------------------------------------------------
===============================================================================
*A:PE#
```

ipv6-prefix-list

Syntax

ipv6-prefix-list [*prefix-list-name*]

ipv6-prefix-list *prefix-list-name* **references**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>filter>match-list ipv6-prefix-list)

Full Context

show filter match-list ipv6-prefix-list

Description

This command displays IPv6 prefixes information for match criteria in IPv6 ACL and CPM filter policies.

Parameters

prefix-list-name

A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

references

Displays the filter policies, policy entries and source/destination IPv6 match type per entry referring to this match list.

Platforms

All

12.61 isa

isa

Syntax

isa

Context

[Tree] (tools>dump>nat isa)

Full Context

tools dump nat isa

Description

This command enables the dump tools for NAT ISA.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

isa

Syntax

isa

Context

[Tree] (clear isa)

Full Context

clear isa

Description

Commands in this context clear ISA commands.

Platforms

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

isa

Syntax

isa

Context

[Tree] (clear>nat isa)

Full Context

clear nat isa

Description

Commands in this context clear ISA NAT commands.

Platforms

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

isa

Syntax

isa

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>wlan-gw isa)

Full Context

clear wlan-gw isa

Description

Commands in this context clear WLAN gateway ISA commands.

Platforms

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

isa

Syntax

isa *video-group-id* **[esa-vm** *vapp-id* **] [lifetime-peaks] [hour-peaks]** [**rtcp-request-stats**]

isa *video-group-id* **[md** *mda-id*] [**lifetime-peaks**] [**hour-peaks**] [**rtcp-request-stats**]

Context

[Tree] (clear>video>statistics isa)

Full Context

clear video statistics isa

Description

This command clears statistics for a specific ISA video group.

Parameters

video-group-id

Specifies a particular ISA video group a video group ID.

Values 1 to 4

vapp-id

Specifies the video ISA group virtual application ID

Values *<esa-id>/<vm-id>*

esa-id 1 to 16

vm-id 1 to 4

mda-id

Specifies the card and slot that identifies a provisioned ISA.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values *mda-id*: slot/mda
slot: 1 to 10 (depending on the chassis model)
mda: 1 to 2

lifetime-peaks
Keyword to clear the lifetime peaks.

hour-peaks
Keyword to clear the last and current hour peaks.

rtcp-request-stats
Keyword to clear the RTCP request statistics.

Platforms
7450 ESS, 7750 SR, 7750 SR-s

isa

Syntax
isa

Context
[Tree] (show isa)

Full Context
show isa

Description
Commands in this context display ISA information.

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

isa

Syntax
isa

Context
[Tree] (tools>dump>wlan-gw isa)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump wlan-gw isa

Description

Commands in this context dump tools for Wireless LAN Gateway ISA.

Platforms

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

12.62 isa-collector

isa-collector

Syntax

isa-collector

Context

[Tree] (show>app-assure>group>cflowd>dir-exp isa-collector)

Full Context

show application-assurance group cflowd direct-export isa-collector

Description

This command displays cflowd collector assignments to ISAs.

Platforms

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

12.63 isa-filter

isa-filter

Syntax

isa-filter *name* [**all**]

Context

[Tree] (clear>subscr-mgmt isa-filter)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear subscriber-mgmt isa-filter

Description

This command resets the entry hit counts associated with the specified **isa-filter** to zero.

Parameters

name

Specifies the name of the ISA filter, up to 32 characters.

all

Clears all ISA filter entries.

Platforms

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

isa-filter

Syntax

isa-filter

isa-filter *name*

isa-filter *name* **associations**

isa-filter *name* **ipv4**

isa-filter *name* **ipv6**

Context

[Tree] (show>subscr-mgmt isa-filter)

Full Context

show subscriber-mgmt isa-filter

Description

This command displays ISA filter information.

Parameters

name

Specifies the ISA filter name, up to 32 characters.

associations

Displays associated information about the specified ISA filter name.

ipv4

Display IPv4 ISA filter information for the specified ISA filter name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6

Display IPv6 ISA filter information for the specified ISA filter name.

Platforms

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

12.64 isa-policer

isa-policer

Syntax

isa-policer *policer-name*

isa-policer *policer-name* **associations**

isa-policer

Context

[Tree] (show>subscr-mgmt isa-policer)

Full Context

show subscriber-mgmt isa-policer

Description

This command displays ISA policer information.

Parameters

policer-name

Specifies the ISA policer name, up to 32 characters.

associations

Displays associated information about the specified ISA policer name.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.65 isa-radius-policy

isa-radius-policy

Syntax

isa-radius-policy *policy-name*

isa-radius-policy *policy-name* **associations**

Context

[Tree] (show>aaa isa-radius-policy)

Full Context

show aaa isa-radius-policy

Description

This command displays ISA RADIUS policy information.

Parameters

policy-name

Displays information about the specified ISA RADIUS policy.

associations

Displays the information associated with the ISA RADIUS server policy.

Platforms

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

Output

The following output is an example of AAA ISA RADIUS policy information.

Output Example

```
*B:asd-tr0610-dr421# show aaa isa-radius-policy "ZiggoAAA_DRP_ISAPlcy"
===============================================================================
Status for ISA RADIUS server policy "ZiggoAAA_DRP_ISAPlcy"
===============================================================================
Server 1, group 1, member 1
-------------------------------------------------------------------------------
Purposes Up                                 : accounting authentication
Source IP address                           : 172.18.128.33
Acct Tx Requests                            : 2469931
Acct Tx Retries                             : 320
Acct Tx Timeouts                            : 160
Acct Rx Replies                             : 2469471
Auth Tx Requests                            : 16417061
Auth Tx Retries                             : 7169
Auth Tx Timeouts                            : 2922
Auth Rx Replies                             : 16406973
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
CoA Rx Requests                                 : 0
```

Table 256: Output fields: subscriber ISA RADIUS policy describes subscriber ISA RADIUS policy output fields.

Table 256: Output fields: subscriber ISA RADIUS policy

Label	Description
Purposes Up	The RADIUS services that are up and running, and fully operational for this server
Source IP address	The IP address of the RADIUS server
Acct Tx Requests	The number of RADIUS transaction requests transmitted
Acct TX Retries	The number of RADIUS transaction request retries
Acct TX Timeouts	The number of RADIUS transaction requests that have timed out
Acct RX Replies	The number of RADIUS transaction responses received
Auth Tx Requests	The number of authentication requests transmitted
Auth Tx Retries	The number of authentication request retries
Auth Tx Timeouts	The number of RADIUS authentication requests that have timed out for the policy
CoA RX Requests	The number of Change-of-Authorization message responses received

isa-radius-policy

Syntax

isa-radius-policy *policy-name* **statistics**

Context

[Tree] (clear>aaa isa-radius-policy)

Full Context

clear aaa isa-radius-policy

Description

This command clears ISA RADIUS policy data.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

policy-name

Specifies the ISA RADIUS policy name, up to 32 characters.

Platforms

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

12.66 isa-service-chaining

isa-service-chaining

Syntax

isa-service-chaining vas-filter *name*

Context

[Tree] (clear>subscr-mgmt isa-service-chaining)

Full Context

clear subscriber-mgmt isa-service-chaining

Description

This command clears all L2-aware NAT flows of all hosts associated with the VAS filter and can be used if all flows need re-evaluation against a modified set of matching criteria.

Parameters

name

Specifies the filter name, up to 32 characters.

Platforms

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

isa-service-chaining

Syntax

isa-service-chaining

Context

[Tree] (show>subscr-mgmt isa-service-chaining)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show subscriber-mgmt isa-service-chaining

Description

Commands in this context display ISA service chaining information.

Platforms

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

isa-service-chaining

Syntax

isa-service-chaining

Context

[Tree] (show>router isa-service-chaining)

Full Context

show router isa-service-chaining

Description

This command displays information related to service chaining (for ESM hosts with L2-aware NAT) at the router level.

Platforms

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

Output

The following output is an example of ISA service chaining information.

Output Example

```
show router isa-service-chaining
===============================================================
ISA Service Chaining - Router "Base"
===============================================================
VXLAN Tep range        : 1.2.3.4 - 1.2.3.8
NAT Groups                  : 2
===============================================================
```

Table 257: Output fields: ISA service chaining

Label	Description
VXLAN Tep range	The VXLAN Tep Information (VTEP) range

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
NAT Groups	The NAT ISA group used in a virtual router for Service Chaining.

12.67 isa-subnets

isa-subnets

Syntax

isa-subnets [**detail**]

isa-subnets [**detail**] **interface** *interface-name*

isa-subnets prefix *ipv6-address/prefix-length*

Context

[Tree] (show>router>wlan-gw isa-subnets)

Full Context

show router wlan-gw isa-subnets

Description

This command outputs all the prefixes in use by the WLAN GW pool manager.

Parameters

detail

Displays detailed information for each prefix.

interface-name

Displays only the prefixes associated with this subscriber interface.

ipv6-address/prefix-length

Displays details of a specific IPv6 address and prefix.

Platforms

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

Output

The following output is an example of WLAN-GW ISA subnet information.

Output Example

```
system# show router wlan-gw isa-subnets
===============================================================================
ISA Subnets
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Prefix                                                  MDA     Family  Usage
-------------------------------------------------------------------------------
2001:db8:0:1/48                                           3/1     dhcpv6  0%
2001:db8:1::/48                                         3/2     dhcpv6  0%
2001:db8:2::/48                                         4/1     dhcpv6  0%
2001:db8:3::/48                                         4/2     dhcpv6  0%
2001:db8:4::/48                                         5/1     dhcpv6  0%
2001:db8:5::/48                                         5/2     dhcpv6  0%
2001:db8:6::/48                                         3/1     slaac   0%
2001:db8:7::/48                                         3/2     slaac   0%
2001:db8:8::/48                                         4/1     slaac   0%
2001:db8:9::/48                                         4/2     slaac   0%
2001:db8:a::/48                                         5/1     slaac   0%
2001:db8:b::/48                                         5/2     slaac   0%
-------------------------------------------------------------------------------
No. of ISA subnets: 12
===============================================================================

*A:Dut-C# show router wlan-gw isa-subnets prefix 2001:db8::/48
===============================================================================
ISA Subnet Prefix           : 2001:db8::/48
-------------------------------------------------------------------------------
Group Id                    : 1
Member Id                   : 1
MDA                         : 3/1
Family                      : dhcpv6
Subscriber Interface        : wlangw-sub-itf
Pool Is Old                 : No
Usage Level                 : 0%
Remaining Lease Time        : 0d 23:50:54
DHCPv6 Options              : (length=512)
                            : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
===============================================================================
```

isa-subnets

Syntax

isa-subnets all

isa-subnets interface *ip-int-name*

isa-subnets prefix *ipv6-address/prefix-length*

Context

[Tree] (clear>router>wlan-gw isa-subnets)

Full Context

clear router wlan-gw isa-subnets

Description

This command clears specific subnets from the pool-manager. Associated UE's is removed from the system.

When clearing the last subnet on an ISA the pool-manager will automatically allocate a new subnet with allocation-level 0%.

Parameters

all

Clears all the isa-subnets.

ip-int-name

Clears all the isa-subnets of a specific subscriber-interface.

ipv6-address/prefix-length

Clears a specific IPv6 address and prefix length.

Platforms

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

12.68 isid-route-target

isid-route-target

Syntax

isid-route-target

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id>bgp-evpn isid-route-target)

Full Context

show service id bgp-evpn isid-route-target

Description

This command displays a list of the auto-derived or configured ISID-based route-targets per B-VPLS service. The entries show the ISID ranges and association to either an auto-rt or an actual configured route-target.

The auto-rt display format is: <2-byte-as-number>:<4-byte-value>, where: 4-byte-value = 0x30+ISID.

Platforms

All

Output

Output Example

```
*A:PE-2# show service id 10 bgp-evpn isid-route-target
===============================================================================
EVPN ISID RT Information
===============================================================================
Start     End       RT type    Route Target               Last Chgd
Range     Range
-------------------------------------------------------------------------------
11        11        auto       N/A                        10/03/2016 16:19:46
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================
```

12.69 isid-using

isid-using

Syntax

isid-using [*ISID*]

Context

[Tree] (show>service isid-using)

Full Context

show service isid-using

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays services using an ISID.

Parameters

ISID

Specifies a 24 bit (0 to 16777215) service instance identifier for this service. As part of the Provider Backbone Bridging frames, it is used at the destination PE as a demultiplexor field.

Values 0 to 16777215

Platforms

All

Output

The following output is an example of services using ISID information.

Output Example

```
*A:SetupCLI# show service isid-using
===============================================================
Services
===============================================================
SvcId      ISID     Type   b-Vpls     Adm  Opr  SvcMtu CustId
---------------------------------------------------------------
2001       122      i-VPLS 2002       Up   Down 1514   1
2005       2005     i-mVP* 2004       Down Down 1500   1
---------------------------------------------------------------
Matching Services : 2
-===============================================================
*A:SetupCLI#

A:term17# show service isid-using
===============================================================
Services
===============================================================
SvcId      ISID     Type   b-Vpls     Adm  Opr  SvcMtu CustId
---------------------------------------------------------------
2000       0        b-VPLS 0          Up   Up   1530   1
2110       123      i-VPLS 2000       Up   Up   1514   1
2299       0        b-VPLS 0          Down Down 1514   1
---------------------------------------------------------------
Matching Services : 3
---------------------------------------------------------------
A:term17#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

12.70 isis

isis

Syntax

isis [*isis-instance*]

Context

[Tree] (clear>router isis)

Full Context

clear router isis

Description

Commands in this context clear and reset IS-IS protocol entities.

Parameters

isis-instance

Specifies the IS-IS instance.

Values 0 to 127

level

Specifies the IS-IS level.

Values 1, 2

Platforms

All

Output

The following outputs are examples of IS-IS traffic engineering database information.

Output Example

```
A:Dut-B# tools dump router te-database isis
===============================================================================
Rtr: 0100.1001.0002  Addr: 10.10.10.2         ABR                 ISIS/0/L1
Rtr: 0100.1001.0003  Addr: 10.10.10.3         ABR                 ISIS/0/L1
AdvRtr: 0100.1001.0002  Nghb: 0100.1001.0003.01                   ISIS/0/L1
  LocIp/Id 100.100.100.1  /0                       Status: OK
AdvRtr: 0100.1001.0003  Nghb: 0100.1001.0003.01                   ISIS/0/L1
  LocIp/Id 100.100.100.2  /0                       Status: OK
Net: 0100.1001.0003.01                                            ISIS/0/L1
     AttRtr: 0100.1001.0002                                       ISIS/0/L1
     AttRtr: 0100.1001.0003                                       ISIS/0/L1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rtr: 0100.1001.0002  Addr: 10.10.10.2         ABR                 ISIS/0/L2
===============================================================================
A:Dut-B#

A:Dut-B# tools dump router te-database detail isis
===============================================================================
Rtr: 0100.1001.0002  Addr: 10.10.10.2         ABR                 ISIS/0/L1
    Num SR LblRanges: 1      [SR-cap]
    SR LblRange Start: 18432      Range: 505856
    Pfx: 10.10.10.2/32                                        Metric: 0
    Pfx: 100.100.100.0/30                                     Metric: 10
Rtr: 0100.1001.0003  Addr: 10.10.10.3         ABR                 ISIS/0/L1
    Num SR LblRanges: 1      [SR-cap]
    SR LblRange Start: 18432      Range: 505856
    Pfx: 10.10.10.3/32                                        Metric: 0
    Pfx: 100.100.100.0/30                                     Metric: 10
-------------------------------------------------------------------------------
AdvRtr: 0100.1001.0002  Nghb: 0100.1001.0003.01                 ISIS/0/L1
    Local Addr:  100.100.100.1      Local Id:  0    If Index:  2
    Remote Addr: 0.0.0.0            Remote Id: 0    Link Type: TRANS
                                    status:    OK
    IGP Metric:  10
-------------------------------------------------------------------------------
AdvRtr: 0100.1001.0003  Nghb: 0100.1001.0003.01                 ISIS/0/L1
    Local Addr:  100.100.100.2      Local Id:  0    If Index:  0
    Remote Addr: 0.0.0.0            Remote Id: 0    Link Type: TRANS
                                    status:    OK
    IGP Metric:  10
-------------------------------------------------------------------------------
Net: 0100.1001.0003.01                                        ISIS/0/L1
     AttRtr: 0100.1001.0002                                   ISIS/0/L1
     AttRtr: 0100.1001.0003                                   ISIS/0/L1
===============================================================================
Rtr: 0100.1001.0002  Addr: 10.10.10.2         ABR                 ISIS/0/L2
    Num SR LblRanges: 1      [SR-cap]
    SR LblRange Start: 18432      Range: 505856
    Pfx: 10.10.10.2/32                                        Metric: 0
    Pfx: 10.10.10.3/32                                        Metric: 10
    Pfx: 100.100.100.0/30                                     Metric: 10
===============================================================================
A:Dut-B#
```

isis

Syntax

isis [**instance** *isis-instance*] [**level** *level*]

Context

[Tree] (tools>dump>router>te-database isis)

Full Context

tools dump router te-database isis

Description

Commands in this context dump the IS-IS traffic engineering database.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

isis-instance

Specifies the IS-IS instance.

Values 0 to 127

level

Specifies the IS-IS level.

Values 1, 2

Platforms

All

Output

The following outputs are examples of IS-IS traffic engineering database information.

Output Example

```
A:Dut-B# tools dump router te-database isis
===============================================================================
Rtr: 0100.1001.0002  Addr: 10.10.10.2         ABR                ISIS/0/L1
Rtr: 0100.1001.0003  Addr: 10.10.10.3         ABR                ISIS/0/L1
AdvRtr: 0100.1001.0002  Nghb: 0100.1001.0003.01                  ISIS/0/L1
  LocIp/Id 100.100.100.1  /0                      Status: OK
AdvRtr: 0100.1001.0003  Nghb: 0100.1001.0003.01                  ISIS/0/L1
  LocIp/Id 100.100.100.2  /0                      Status: OK
Net: 0100.1001.0003.01                                           ISIS/0/L1
     AttRtr: 0100.1001.0002                                      ISIS/0/L1
     AttRtr: 0100.1001.0003                                      ISIS/0/L1
===============================================================================
Rtr: 0100.1001.0002  Addr: 10.10.10.2         ABR                ISIS/0/L2
===============================================================================
A:Dut-B#

A:Dut-B# tools dump router te-database detail isis
===============================================================================
Rtr: 0100.1001.0002  Addr: 10.10.10.2         ABR                ISIS/0/L1
    Num SR LblRanges: 1      [SR-cap]
    SR LblRange Start: 18432      Range: 505856
    Pfx: 10.10.10.2/32                                        Metric: 0
    Pfx: 100.100.100.0/30                                     Metric: 10
Rtr: 0100.1001.0003  Addr: 10.10.10.3         ABR                ISIS/0/L1
    Num SR LblRanges: 1      [SR-cap]
    SR LblRange Start: 18432      Range: 505856
    Pfx: 10.10.10.3/32                                        Metric: 0
    Pfx: 100.100.100.0/30                                     Metric: 10
-------------------------------------------------------------------------------
AdvRtr: 0100.1001.0002  Nghb: 0100.1001.0003.01                  ISIS/0/L1
    Local Addr:  100.100.100.1      Local Id:  0    If Index:  2
    Remote Addr: 0.0.0.0            Remote Id: 0    Link Type: TRANS
                                    status:    OK
    IGP Metric:  10
-------------------------------------------------------------------------------
AdvRtr: 0100.1001.0003  Nghb: 0100.1001.0003.01                  ISIS/0/L1
    Local Addr:  100.100.100.2      Local Id:  0    If Index:  0
    Remote Addr: 0.0.0.0            Remote Id: 0    Link Type: TRANS
                                    status:    OK
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    IGP Metric:  10
-------------------------------------------------------------------------------
Net: 0100.1001.0003.01                                        ISIS/0/L1
     AttRtr: 0100.1001.0002                                   ISIS/0/L1
     AttRtr: 0100.1001.0003                                   ISIS/0/L1
===============================================================================
Rtr: 0100.1001.0002  Addr: 10.10.10.2         ABR             ISIS/0/L2
    Num SR LblRanges: 1      [SR-cap]
    SR LblRange Start: 18432      Range: 505856
    Pfx: 10.10.10.2/32                                      Metric: 0
    Pfx: 10.10.10.3/32                                      Metric: 10
    Pfx: 100.100.100.0/30                                   Metric: 10
===============================================================================
A:Dut-B#
```

isis

Syntax

isis [*isis-instance*]

Context

[Tree] (show>router isis)

Full Context

show router isis

Description

This command displays information for a specified IS-IS instance.

Parameters

isis-instance

Specifies the instance ID for an IS-IS instance.

Values 0 to 127

Default 0

Platforms

All

isis

Syntax

isis

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump>router isis)

Full Context

tools dump router isis

Description

Commands in this context dump tools for IS-IS.

Parameters

isis-instance

Specifies the IS-IS protocol instance within the router instance.

Values 0 to 127

Platforms

All

isis

Syntax

isis

Context

[Tree] (tools>perform>router isis)

Full Context

tools perform router isis

Description

This command enables the tools to perform certain IS-IS tasks.

Parameters

isis-instance

Specifies the IS-IS protocol instance within the router instance.

Values 0 to 127

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

isis

Syntax

isis [*isis-instance*]

Context

[Tree] (monitor>router isis)

Full Context

monitor router isis

Description

This command monitors commands for the IS-IS instance.

Parameters

isis-instance

Specifies the IS-IS protocol instance within the router instance.

Values 0 to 127

Platforms

All

12.71 issu-post-process

issu-post-process

Syntax

issu-post-process

Context

[Tree] (tools>perform>redundancy issu-post-process)

Full Context

tools perform redundancy issu-post-process

Description

This command allows requests for new LSPs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

13 k Commands

13.1 keychain

keychain

Syntax

keychain [*key-chain*] [**detail**]

Context

[Tree] (show>system>security keychain)

Full Context

show system security keychain

Description

This command displays keychain information.

Parameters

key-chain

Specifies the keychain name to display.

detail

Displays detailed keychain information.

Platforms

All

Output

The following output is an example of keychain information.

Output Example

```
*A:Dut-A# show system security keychain "test"

===============================================================================
Key chain:test
===============================================================================
Description               : (Not Specified)
TCP-Option number send    : 254                   Admin state   : Up
TCP-Option number receive : 254                   Oper state    : Down
Used by                   : None
Expired                   : No
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:Dut-A# show system security keychain "test" detail

===============================================================================
Key chain:test
===============================================================================
Description               : (Not Specified)
TCP-Option number send    : 254                   Admin state   : Up
TCP-Option number receive : 254                   Oper state    : Down
Used by                   : None
Expired                   : No
===============================================================================

===============================================================================
Key entries for key chain: test
===============================================================================
Id               : 1                    Direction        : macsec
Algorithm        : aes-256-cmac-256     Option           : none
Admin State      : Up                   RX Valid         : No
TX Active        : No                   Tolerance        : 300
Begin Time       : N/A                  Begin Time (UTC) : N/A
End Time         : Forever              End Time (UTC)   : Forever
MACsec CKN       : 1234567890
===============================================================================
*A:Dut-A#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14 I Commands

14.1 l2-aware

l2-aware

Syntax

l2-aware create subscriber *sub-ident-string* **ip** *ip-address* **protocol** {**tcp** | **udp**} [**port** *port*] **lifetime** *lifetime* [**outside-ip** *ip-address*] [**outside-port** *port*] [**nat-policy** *policy-name*]

l2-aware delete subscriber *sub-ident-string* **ip** *ip-address* **protocol** {**tcp** | **udp**} **port** *port* [**nat-policy** *policy-name*]

l2-aware modify subscriber *sub-ident-string* **ip** *ip-address* **protocol** {**tcp** | **udp**} **port** *port* **lifetime** *lifetime* [**nat-policy** *policy-name*]

Context

[Tree] (tools>perform>nat>port-forwarding-action l2-aware)

Full Context

tools perform nat port-forwarding-action l2-aware

Description

This command enables Layer-2-Aware NAT port forwarding action.

Platforms

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

14.2 l2-aware-blocks

l2-aware-blocks

Syntax

l2-aware-blocks [**outside-ip-prefix** *ip-prefix/length*] [**outside-port** [*1..65535*]] [**pool** *pool-name*]

Context

[Tree] (show>router>nat l2-aware-blocks)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router nat l2-aware-blocks

Description

This command displays Layer 2 aware NAT blocks.

Parameters

ip-prefix

Specifies the IP prefix.

Values a.b.c.d (host bits must be 0)

length

Specifies the IP prefix length.

Values 1 to 32

pool-name

Specifies the pool name up to 32 characters.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
show router nat l2-aware-blocks
===============================================================================
Layer-2-Aware NAT blocks for Base
===============================================================================
10.81.0.0 [32..33]
Pool : MyPool
Policy : outPolicy
Started : 2010/02/04 16:24:55
Subscriber ID : Sub001
10.81.0.0 [34..35]
Pool : MyPool
Policy : outPolicy
Started : 2010/02/04 16:25:24
Subscriber ID : Sub003
10.81.0.203 [32..41]
Pool : MyPool2
Policy : outPolicy2
Started: 2010/02/04 16:25:21
Subscriber ID : Sub002
-------------------------------------------------------------------------------
Number of blocks: 3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.3 l2-aware-hosts

l2-aware-hosts

Syntax

l2-aware-hosts [**outside-router** *router-instance*] [**outside-ip** *outside-ip-address*] [**inside-ip-prefix** *ip-prefix/mask*] [**vas-filter** *vas-filter-name*]

Context

[Tree] (show>service>nat l2-aware-hosts)

Full Context

show service nat l2-aware-hosts

Description

This command displays layer-2 aware NAT hosts.

Parameters

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

nat-group-id

Specifies the NAT group ID.

Values 1 to 4

router-instance

Specifies the router instance.

Values

router-name:	Base , management
service-id:	1 to 2147483647
svc-name:	A string up to 64 characters in length.

outside-ip-address

Specifies the outside IP address.

Values a.b.c.d

sub-ident

Specifies the identifier, up to 32 characters.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of this command.

Output Example

```
show service nat l2-aware-hosts
===============================================================================
Layer-2-Aware NAT hosts
===============================================================================
Inside IP Out-Router Outside IP Subscriber
-------------------------------------------------------------------------------
10.0.0.100 Base 10.81.0.0 Sub001
10.0.0.102 Base 10.81.0.0 Sub001
10.0.0.101 Base 10.81.0.203 Sub002
10.0.0.103 Base 10.81.0.0 Sub003
-------------------------------------------------------------------------------
No. of hosts: 4
===============================================================================
```

14.4 l2-aware-sub

l2-aware-sub

Syntax

l2-aware-sub *sub-ident-string*

l2-aware-sub *sub-ident-string* **firewall-statistics**

Context

[Tree] (clear>nat l2-aware-sub)

Full Context

clear nat l2-aware-sub

Description

This command clears NAT mappings for L2-Aware subscribers.

Parameters

sub-ident-string

Specifies the subscriber identification string, up to 64 characters.

firewall-statistics

Clears only the firewall counters.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.5 l2-aware-subscribers

l2-aware-subscribers

Syntax

l2-aware-subscribers subscriber *sub-ident*

l2-aware-subscribers [**nat-policy** *nat-policy-name*] [**nat-group** *nat-group-id*] [**member** [*1..255*]] [**outside-router** *router-instance*] [**outside-ip** *outside-ip-address*] [**firewall-policy** *policy-name*]

Context

[Tree] (show>service>nat l2-aware-subscribers)

Full Context

show service nat l2-aware-subscribers

Description

This command displays layer-2 aware NAT subscribers.

Parameters

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

nat-group-id

Specifies the NAT group ID.

Values 1 to 4

router-instance

Specifies the router instance.

Values

router-name:	Base, management
service-id:	1 to 2147483647
svc-name:	A string up to 64 characters.

outside-ip-address

Specifies the outside IP address.

Values a.b.c.d

sub-ident

Specifies the identifier, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
show service nat l2-aware-subscribers
===============================================================================
Layer-2-Aware NAT subscribers
===============================================================================
Subscriber Policy Group/Member
Outside IP Router Ports
-------------------------------------------------------------------------------
Sub001 outPolicy 1/1
10.81.0.0 Base 32-33
Sub002 outPolicy2 1/1
10.81.0.203 Base 32-41
Sub003 outPolicy 1/1
10.81.0.0 Base 34-35
-------------------------------------------------------------------------------
No. of subscribers: 3
===============================================================================


show service nat l2-aware-subscribers subscriber "Sub881”
===============================================================================
Layer-2-Aware NAT subscriber Sub001
===============================================================================
Policy : outPolicy
ISA NAT group : 1
ISA NAT group member : 1
Outside router : Base
Outside IP : 10.81.0.0
ICMP Port usage (%) : < 1
ICMP Port usage high : false
UDP Port usage (%) : < 1
UDP Port usage high : false
TCP Port usage (%) : < 1
TCP Port usage high : false
Session usage (%) : < 1
Session usage high : false
Number of sessions : 0
Number of reserved sessions : 0
Ports : 32-33
===============================================================================
```

14.6 l2-route-table

l2-route-table

Syntax

l2-route-table [**detail**] [**bgp-ad**] [**multi-homing**] [**bgp-vpls**] [**bgp-vpws**] [**all-routes**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service l2-route-table)

Full Context

show service l2-route-table

Description

This command displays Layer 2 route table information.

Parameters

detail

Displays detailed information.

bgp-ad

Displays BGP AD related information.

multi-homing

Displays multihoming related information.

bgp-vpls

Displays BGP VPLS related information.

bgp-vpws

Displays BGP VPWS related information.

all-routes

Displays active or inactive routes.

Platforms

All

Output

Use the following command to display Layer 2 route table information.

Output Example

```
show service l2-route-table
```

```
===============================================================================
Services: L2 Route Information - Summary
===============================================================================
Svc Id L2-Routes (RD-Prefix) Next Hop Origin
Sdp Bind Id PW Temp Id
-------------------------------------------------------------------------------
1000 *192.0.2.3:60002-192.0.2.3 192.0.2.3 BGP-L2
32766:4294967293 1
-------------------------------------------------------------------------------
No. of L2 Route Entries: 1
===============================================================================
===============================================================================
Services: L2 Multi-Homing Route Information - Summary
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Svc Id L2-Routes (RD-Prefix) Next Hop SiteId State DF
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of L2 Multi-Homing Route Entries: 0
===============================================================================
=======================================================
Services: L2 Bgp-Vpls Route Information - Summary
=======================================================
Svc Id L2-Routes (RD) Next Hop Ve-Id
Sdp Bind Id PW Temp Id
-------------------------------------------------------
1001 *192.0.2.3:60003 192.0.2.3 3
32765:4294967292 1
-------------------------------------------------------
No. of L2 Bgp-Vpls Route Entries: 1
=======================================================
=======================================================
Services: L2 Bgp-Vpws Route Information - Summary
=======================================================
Svc Id L2-Routes (RD) Next Hop Ve-Id
Sdp Bind Id PW Temp Id
-------------------------------------------------------
1002 *192.0.2.3:60004 192.0.2.3 3
32764:4294967291 1
-------------------------------------------------------
No. of L2 Bgp-Vpws Route Entries: 1
=======================================================
```

```
show service l2-route-table bgp-vpls
```

```
=======================================================
Services: L2 Bgp-Vpls Route Information - Summary
=======================================================
Svc Id L2-Routes (RD) Next Hop Ve-Id
Sdp Bind Id PW Temp Id
-------------------------------------------------------
1001 *192.0.2.3:60003 192.0.2.3 3
32765:4294967292 1
-------------------------------------------------------
No. of L2 Bgp-Vpls Route Entries: 1
=======================================================
```

```
show service l2-route-table detail
```

```
===============================================================================
Services: L2 Route Information - Summary
===============================================================================
Svc Id      : 1000
Origin      : BGP-L2
PW Temp Id  : 1
RD-Prefix   : *192.0.2.3:60002-192.0.2.3
Next Hop    : 192.0.2.3
Status      : active
Sdp Bind Id : 32766:4294967293
===============================================================================
===============================================================================
Services: L2 Multi-Homing Route Information - Summary
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
===============================================================================
===============================================================================
Services: L2 Bgp-Vpls Route Information - Summary
===============================================================================
Svc Id          : 1001
VeId            : 3
PW Temp Id      : 1
RD              : *192.0.2.3 : 60003
Next Hop        : 192.0.2.3
State (D-Bit)   : up(0)
Path MTU        : 1514
Hash Label Tx   : 1
Hash Label Rx   : 1
Control Word    : 0
Seq Delivery    : 0
DF Bit          : clear
Status          : active
Sdp Bind Id     : 32765:4294967292
===============================================================================
===============================================================================
Services: L2 Bgp-Vpws Route Information - Summary
===============================================================================
Svc Id          : 1002
VeId            : 3
PW Temp Id      : 1
RD              : *192.0.2.3:60004
Next Hop        : 192.0.2.3
State (D-Bit)   : up(0)
Path MTU        : 1514
Hash Label Tx   : 1
Hash Label Rx   : 1
Control Word    : 0
Seq Delivery    : 0
Status          : active
Tx Status       : active
CSV             : 0
Preference      : 0
Sdp Bind Id     : 32764:4294967291
===============================================================================
```

l2-route-table

Syntax

l2-route-table [**detail**] [**bgp-ad**] [**multi-homing**] [**bgp-vpls**] [**bgp-vpws**] [**all-routes**]

Context

[Tree] (show>service>id l2-route-table)

Full Context

show service id l2-route-table

Description

This command displays Layer 2 route table information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

detail

Displays detailed information.

bgp-ad

Displays BGP-AD information.

multi-homing

Displays multi-homing information.

bgp-vpls

Displays BGP VPLS information.

bgp-vpws

Displays BGP VPWS information.

all-routes

Displays active or inactive routes.

Platforms

All

Output

Use the following command to display Layer 2 route table information.

Output Example

```
show service id 1 l2-route-table detail
```

```
===============================================================================
Services L2 Route Information Detail - Service 1
===============================================================================

-------------------------------------------------------------------------------
BGP Auto-discovery Information
-------------------------------------------------------------------------------
Admin State       : Down
Vpls Id           : 100.1.200.1:65535
Prefix            : 10.20.1.3
-------------------------------------------------------------------------------
===============================================================================
Services: L2 Route Information - Service 1
===============================================================================
===============================================================================
===============================================================================
Services: L2 Multi-Homing Route Information - Summary
===============================================================================
===============================================================================
===============================================================================
Services: L2 Bgp-Vpls Route Information - Service 1
===============================================================================

VeId           : 1
PW Temp Id     : 20
RD             : *10.20.1.1:1
Next Hop       : 10.20.1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
State (D-Bit)  : up(0)
Path MTU       : 0
Hash Label Tx  : 1
Hash Label Rx  : 1
Control Word   : 0
Seq Delivery   : 0
DF Bit         : clear
Status         : active
Sdp Bind Id    : 32767:4294967295

VeId  : 4
PW Temp Id     : 20
RD             : *10.20.1.6:1
Next Hop       : 10.20.1.6
State (D-Bit)  : up(0)
Path MTU       : 0
Hash Label Tx  : 1
Hash Label Rx  : 1
Control Word   : 0
Seq Delivery   : 0
DF Bit         : clear
Status         : active
Sdp Bind Id    : 32766:4294967292
===============================================================================
===============================================================================
Services: L2 Bgp-Vpws Route Information - Service 1
===============================================================================
===============================================================================
```

Table 258: Output fields: service ID Layer 2 route table

Label	Description
Admin State	Displays the administrative state of the service Up — Indicates the service is administratively enabled Down — Indicates the service is administratively disabled
Vpls Id	Displays the Virtual Private LAN Service (VPLS) ID
Prefix	Displays information for the specified IP prefix and mask length
VeId	Displays the VEID for BGP-VPLS routes
PW Temp Id	Displays the Pseudowire (PW) temporary ID
RD	Displays information for the route distinguisher
Next Hop	Displays the next hop for the route
State (D-Bit)	Displays the state of the Disable-bit (D-bit).The D-bit ensures packet integrity between the terminal and host packet assembler/disassemblers
Path MTU	Displays the maximum transmission unit (MTU) of the path
Hash Label Tx	Displays the transmit hash label value
Hash Label Rx	Displays the receive hash label value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Control Word	Displays information about the control word. The control word is an optional 4-byte field used in the pseudowire packet
Seq Delivery	Displays information about sequence delivery
DF Bit	Displays information about the DF bit
Status	Displays the status of the service
Sdp Bind Id	Displays information about the SDP binding ID

14.7 l2-services

l2-services

Syntax

l2-services [**service** *service-id*]

Context

[Tree] (show>cflowd l2-services)

Full Context

show cflowd l2-services

Description

This command displays Layer 2 and SAP/SDP services on which Layer 2 sampling is enabled.

Parameters

service-id

Specifies the service ID.

Values 1 to 2148278386, svc-name: up to 64 characters

Platforms

All

Output

The following output is an example of cflowd Layer 2 services information.

Output Example

```
*A:Dut-B>config>cflowd# show cflowd l2-services
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Cflowd L2-Services
===============================================================================
ServiceId      Type        SAP                                    Admin  Oper
-------------------------------------------------------------------------------
1              Epipe       1/1/8:1                                Up     Up
-------------------------------------------------------------------------------
No. of SAPs: 1
===============================================================================
```

14.8 l2-vpn

l2-vpn

Syntax

l2-vpn [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*] [**brief] [l2vpn-type**] [**veid** *veid*] [**offset** *vpls-base-offset*] [**siteid** *site-id*]

l2-vpn [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**rd** rd] [**brief**] [**l2vpn-type**] [**veid** *veid*] [**offset** *vpls-base-offset*] [**siteid** *site-id*]

l2-vpn [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*] [**l2vpn-type**] [**veid** *veid*] [**offset** *vpls-base-offset*] [**siteid** *site-id*]

Context

[Tree] (show>router>bgp>routes l2-vpn)

Full Context

show router bgp routes l2-vpn

Description

This command displays BGP flow L2-VPN routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

hunt

Displays entries for the specified route.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

brief

Displays the BGP flow L2-VPN route information in a brief format.

l2vpn-type

Specifies a 12-byte Virtual Switch Instance identifier (VSI-ID) type.

Values bgp-ad, bgp-vpls, bgp-vpws, and multi-homing

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

veid

Specifies a two byte identifier that represents the local bridging instance in a VPLS and is advertised through the BGP NLRI. This value must be lower than or equal to the *max-ve-id*.

Values 0 to 4294967295

vpls-base-offset

Specifies a two byte identifier advertised through the NLRI that is used to indicate which VE-ID should use the advertised NLRI at the receiving PE according to the following rule: if the offset <= local VE-ID <= offset+VBS-1 (VBS = virtual block size = 8 in our implementation) then the NLRI is processed. Otherwise it is ignored. The NLRI with this offset is generated as soon as the first VE-ID value between (offset, offset + VBS-1) is advertised in the network.

Values 0 to 4294967295

site-id

Specifies a two byte identifier usually employed for the BGP multi-homing solution. This value identifies the BGP multi-homing site associated with one or a set of objects (SAPs, pseudowires, or a combination). The *site-id* must be identical between the two PEs carrying the connection to the access device multi-homed to the PEs.

Values 0 to 4294967295

Platforms

All

14.9 l2pt

l2pt

Syntax

l2pt disabled

l2pt [**detail**]

Context

[Tree] (show>service>id l2pt)

Full Context

show service id l2pt

Description

This command displays Layer 2 Protocol Tunnel (L2-PT) route information associated with this service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

disabled

Displays only entries with termination disabled. This helps identify configuration errors.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of service L2PT information.

Output Example

```
A:ALA-48>show>service>id# l2pt
===============================================================================
L2pt summary, Service id 700
===============================================================================
       L2pt-term   L2pt-term   Bpdu-trans  Bpdu-trans  Bpdu-trans  Bpdu-trans
       enabled     disabled    auto        disabled    pvst        stp
-------------------------------------------------------------------------------
SAP's  0           1           0           1           0           0
SDP's  0           1           0           1           0           0
-------------------------------------------------------------------------------
Total  0           2           0           2           0           0
===============================================================================
A:ALA-48>show>service>id#


A:ALA-48>show>service>id# l2pt disabled
===============================================================================
L2pt details, Service id 700
===============================================================================
Service Access Points
-------------------------------------------------------------------------------
SapId          L2pt-                        Admin Bpdu-    Oper Bpdu-
               termination                  translation    translation
-------------------------------------------------------------------------------
1/1/9:0        disabled                     disabled       disabled
-------------------------------------------------------------------------------
Number of SAPs : 1

Service Destination Points
-------------------------------------------------------------------------------
SdpId          L2pt-                        Admin Bpdu-    Oper Bpdu-
               termination                  translation    translation
-------------------------------------------------------------------------------
2:222          disabled                     disabled       disabled
-------------------------------------------------------------------------------
Number of SDPs : 1
===============================================================================
L2pt summary, Service id 700
===============================================================================
       L2pt-term   L2pt-term   Bpdu-trans  Bpdu-trans  Bpdu-trans  Bpdu-trans
       enabled     disabled    auto        disabled    pvst        stp
-------------------------------------------------------------------------------
SAP's  0           1           0           1           0           0
SDP's  0           1           0           1           0           0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Total  0           2           0           2           0           0
===============================================================================
A:ALA-48>show>service>id#


A:ALA-48>show>service>id# l2pt detail
===============================================================================
L2pt details, Service id 700
===============================================================================
Service Access Points
-------------------------------------------------------------------------------
SapId          L2pt-                       Admin Bpdu-    Oper Bpdu-
               termination                 translation    translation
-------------------------------------------------------------------------------
1/1/9:0        disabled                    disabled       disabled
-------------------------------------------------------------------------------
Number of SAPs : 1

Service Destination Points
-------------------------------------------------------------------------------
SdpId          L2pt-                       Admin Bpdu-    Oper Bpdu-
               termination                 translation    translation
-------------------------------------------------------------------------------
2:222          disabled                    disabled       disabled
-------------------------------------------------------------------------------
Number of SDPs : 1
===============================================================================
L2pt summary, Service id 700
===============================================================================
       L2pt-term   L2pt-term   Bpdu-trans  Bpdu-trans  Bpdu-trans  Bpdu-trans
       enabled     disabled    auto        disabled    pvst        stp
-------------------------------------------------------------------------------
SAP's  0           1           0           1           0           0
SDP's  0           1           0           1           0           0
-------------------------------------------------------------------------------
Total  0           2           0           2           0           0
===============================================================================
A:ALA-48>show>service>id#
```

Table 259: Output fields: L2PT describes show L2PT output fields.

Table 259: Output fields: L2PT

Label	Description
Service id	Displays the 24 bit (0 to 16777215) service instance identifier for the service.
L2pt-term enabled	Indicates if L2-PT-termination and/or Bpdu-translation is in use in this service by at least one SAP or spoke-SDP binding. If in use, at least one of L2PT-termination or Bpdu-translation is enabled. When enabled it is not possible to enable STP on this service.
L2pt-term disabled	Indicates that L2-PT-termination is disabled.
Bpdu-trans auto	Specifies the number of L2-PT PDUs are translated before being sent out on a port or sap.
Bpdu-trans disabled	Indicates that Bpdu-translation is disabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
SAPs	Displays the number of SAPs with L2PT or BPDU translation enabled or disabled.
SDPs	Displays the number of SDPs with L2PT or BPDU translation enabled or disabled.
Total	Displays the column totals of L2PT entities.
SapId	The ID of the access point where this SAP is defined.
L2pt-termination	Indicates whether L2pt termination is enabled or disabled.
Admin Bpdu-translation	Specifies whether Bpdu translation is administratively enabled or disabled.
Oper Bpdu-translation	Specifies whether Bpdu translation is operationally enabled or disabled.
SdpId	Specifies the SAP ID.

l2pt

Syntax

l2pt

Context

[Tree] (clear>service>statistics>id l2pt)

Full Context

clear service statistics id l2pt

Description

This command clears the l2pt statistics for this service.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.10 l2tp

l2tp

Syntax

l2tp

Context

[Tree] (show>router l2tp)

Full Context

show router l2tp

Description

Commands in this context display L2TP related information.

Platforms

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

l2tp

Syntax

l2tp

Context

[Tree] (show>system l2tp)

Full Context

show system l2tp

Description

This command displays L2TP system information.

Platforms

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

Output

The following output is an example of L2TP system information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-C# show system l2tp
===============================================================================
L2TP system
===============================================================================
Non MC tunnel ID range                                : 8193-16383
Max number of tunnels                                 : 16383
Max number of sessions                                : 131071
Max number of sessions per tunnel                     : 32767
===============================================================================
```

l2tp

Syntax

l2tp

Context

[Tree] (clear>router l2tp)

Full Context

clear router l2tp

Description

Commands in this context clear L2TP data.

Platforms

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

l2tp

Syntax

l2tp

Context

[Tree] (tools>perform>router l2tp)

Full Context

tools perform router l2tp

Description

Commands in this context configure performance tools for L2TP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

14.11 l2tp-accounting-policy

l2tp-accounting-policy

Syntax

l2tp-accounting-policy *name* **statistics**

Context

[Tree] (clear>aaa l2tp-accounting-policy)

Full Context

clear aaa l2tp-accounting-policy

Description

This command clears L2TP accounting policy data.

Parameters

name

Specifies the L2TP accounting policy name, up to 32 characters.

Platforms

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

l2tp-accounting-policy

Syntax

l2tp-accounting-policy *policy-name*

l2tp-accounting-policy *policy-name* **associations**

l2tp-accounting-policy *policy-name* **statistics**

l2tp-accounting-policy

Context

[Tree] (show>aaa l2tp-accounting-policy)

Full Context

show aaa l2tp-accounting-policy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays L2TP accounting policy information.

Parameters

policy-name

Specifies the L2TP accounting policy name, up to 32 characters.

Platforms

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

14.12 label

label

Syntax

label start-label [**end-label** | **in-use** | **owner**]

Context

[Tree] (show>router>mpls-labels label)

Full Context

show router mpls-labels label

Description

This command displays MPLS labels exchanged.

Parameters

start-label

Specifies the label value assigned at the ingress router.

end-label

Specifies the label value assigned for the egress router.

in-use

Specifies the number of in-use labels displayed.

Platforms

All

Output

The following output is an example of MPLS label information.

Table 260: Output fields: MPLS label describes MPLS label output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 260: Output fields: MPLS label

Label	Description
Label	Displays the value of the label being displayed.
Label Type	Specifies whether the label value is statically or dynamically assigned.
Label Owner	The label owner.
In-use labels in entire range	The total number of labels being used by RSVP.

Output Example

```
*A:Atlanta 224>show>router>mpls-labels># label-range
===============================================================================
Label Ranges
===============================================================================
Label Type      Start Label End Label   Aging       Available   Total
-------------------------------------------------------------------------------
Static          32          18431       -           18400       18400
Dynamic         18432       524287      0           505443      505856
    Seg-Route   200501      200900      -           0           400
===============================================================================
```

```
*A:SRU4>config>router>mpls#    show router mpls label 202
===========================================================================
MPLS Label 202
===========================================================================
Label               Label Type          Label Owner
---------------------------------------------------------------------------
202                 static-lsp          STATIC
---------------------------------------------------------------------------
In-use labels in entire range                   : 5057
===========================================================================
*A:SRU4>config>router>mpls#
```

label

Syntax

label summary

label [**start** *start-label*] [**end** *end-label*] [**in-use**] [**owner** {**static** | **pce** | **sr-pol**}]

Context

[Tree] (show>router>p2mp-sr-tree label)

Full Context

show router p2mp-sr-tree label

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays P2MP SR label information.

Parameters

start-label

specifies the starting label value from which to display the P2MP SR label information. If only *start-label* is specified, only labels using *start-label* are displayed.

Values 32 to 524287

end-label

Specifies the ending label value for which to display P2MP SR label information.

Values 32 to 524287

in-use

Displays labels that are in use.

owner

Displays labels owned by the specified owner.

static

Displays labels owned by the static owner.

pce

Displays labels owned by the PCE.

sr-pol

Displays labels owned by the SR policy.

Platforms

All

Output

The following output is an example of P2MP SR label information.

Output Example

```
A:swsim103>show>router>p2mp-sr-tree# label
============================================================
P2MP-SR Label Information
============================================================
Label               Owner               InUse
------------------------------------------------------------
30000               static              Yes
30001               static              Yes
```

label

Syntax

label [*label*] [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

label [*label*] **egress-stats**

label [*label*] **ingress-stats**

Context

[Tree] (show>router>rib-api label)

Full Context

show router rib-api label

Description

This command displays RIB-API label information.

Parameters

label

Specifies the label of a specified RIB-API entry.

Values 16 to 1048575

detail

Displays detailed RIB-API label information.

egress-stats

Displays egress statistics of all instances for the specified RIB-API label.

ingress-stats

Displays ingress statistics of all instances for the specified RIB-API label.

Platforms

All

Output

The following output is an example of RIB-API label information.

Output Example

```
show router rib-api label 400001 egress-stats
===============================================================================
Label (Detail)
===============================================================================
Label          : 400001                Rib-Api Pref   : 16
Client Ip      : 172.21.38.76          Client Tag     : 1
Active         : Y                     EgrStatsState  : Up
 Next-hop Group   : 1
  Primary nexthop : 10.10.5.5
   StatsOperState : Up
   Aggr Pkts: 11000                   Aggr Octets: 11550000
  Backup nexthop  : 10.10.11.4
   StatsOperState : Up
   Aggr Pkts: 11000                   Aggr Octets: 11550000
 Next-hop Group   : 2
  Primary nexthop : 10.10.5.5
   StatsOperState : Up
   Aggr Pkts: 11000                   Aggr Octets: 11550000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Backup nexthop  : 10.10.11.4
   StatsOperState : Up
   Aggr Pkts: 11000                    Aggr Octets: 11550000
Total Aggr        :
   Aggr Pkts: 44000                    Aggr Octets: 46200000
-------------------------------------------------------------------------------
===============================================================================
```

label

Syntax

label *label* **preference** *preference* **client-tag** *client-tag* **egress-stats**

label *label* **ingress-stats**

Context

[Tree] (clear>router>rib-api label)

Full Context

clear router rib-api label

Description

Clears the egress or ingress statistics of the specified RIB-API label.

Parameters

label

Specifies the label of the specified RIB-API entry.

Values 32 to 1048575

preference

Specifies the preference of the specified RIB-API entry.

Values 0 to 4294967295

client-tag

Specifies the client tag of the specified RIB-API entry.

Values 0 to 4294967295

egress

Specifies to only clear the egress statistics.

ingress

Specifies to only clear the ingress statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

label

Syntax

label *label*

Context

[Tree] (tools>dump>router>rib-api label)

Full Context

tools dump router rib-api label

Description

This command configures the dump tools for RIB-API label.

Parameters

label

Specifies the label of the specified RIB-API entry.

Values 32 to 1048575

Platforms

All

Output

The following output is an example of RIB-API label route information.

Output Example

```
*A:Dut-B>config>service# /tools dump router rib-api label 30044
 Db Mgr flags 0x80 ilmStatsFailCnt 0
-------------------------------------------------------------------------
 dbOwner RIB-API routeOwner 50 rsvdBlkId 3 flags 0x3 numPolicies 1 numInstalled 1
-------------------------------------------------------------------------
 Label DB 30044
 dbFlags 0xd PathCount 1 srTunnelId 1015811 ilmStatsIdx[MGMT] 0x0 ilmStatsIdx[API] 0x0
LABEL RESERVED:  PROGRAMMED
 Path bitmap 0
 Label Retry time left : 0 retrycount : 0,  SR Retry time left : 0 SR retrycount : 0
 Best Db Path owner 1 path name vrId:1, dbOwner:1, Client Tag:2 bindingLbl 30044 preference 246
 Last Modified 02/07/2020 23:44:51 Up Time 0d 02:15:54
 Preference 246 flags 0x245 Status FWDPLCY_ERR_NA SR status SR_ERR_OK
 PrimResolved NH's 1 BkupResolved NH's 1
 NHGroup 2
 flags 0x3bf9 : weight 0 normalized weight 0
 Revert timer 65535 Time left 0 NumOfReverts 0
 Hold timer 0 Time left 0
DIRECT NH:  PRIM PGMED:  PRIM RESOLVED:  BKUP RESOLVED:  BKUP PGMED:
 primaryNH 1.2.3.3 egrStatsIdx 0x0 Status FWDPLCY_NHERR_NA
 Label Stack:30055 0
 Nexthop 1 1.2.3.3 outIf 3 globalIfIndex 32 globaIfInNHgrp 32
 PG ID 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 PG ID 5
 backupNH 1.2.3.33 egrStatsIdx 0x0 Status FWDPLCY_NHERR_NA
 Label stack:30255 0
 Nexthop 1 1.2.3.33 outIf 3 globalIfIndex 32 globaIfInNHgrp 32
 PG ID 0
 PG ID 6
 ------------------------------------------------------------------
*A:Dut-B>config>service#
```

label

Syntax

label *label* **preference** *preference* **client-tag** *client-tag* **egress-stats** [**interval** *seconds*] [**repeat** *repeat*] [{**absolute** | **rate**}]

Context

[Tree] (monitor>router>rib-api label)

Full Context

monitor router rib-api label

Description

This command monitors the egress statistics of the specified RIB-API label.

Parameters

label

Specifies the label of the specified RIB-API entry.

Values 0 to 4294967295

preference

Specifies the preference of the specified RIB-API entry.

Values 0 to 4294967295

client-tag

Specifies the client tag of the specified RIB-API entry.

Values 0 to 4294967295

egress-stats

Specifies to monitor the egress statistics of the specified RIB-API label.

seconds

Configures the interval for each display in seconds.

Values 3 to 60

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

repeat

Configures how many times the command is repeated.

Values 1 to 999

absolute

Displays the absolute statistics of the specified RIB-API label.

rate

Displays the rate-per-second statistics of the specified RIB-API label.

Platforms

All

14.13 label-ipv4

label-ipv4

Syntax

label-ipv4 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**brief**] [**all**]

label-ipv4 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**brief**] [**all**]

label-ipv4 [**detail** | **longer**] [**aspath-regex** *reg-exp* [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**all**]

Context

[Tree] (show>router>bgp>routes label-ipv4)

Full Context

show router bgp routes label-ipv4

Description

This command displays BGP IPv4 routes.

Parameters

reg-exp

Displays routes with an AS path matching the specified regular expression *reg-exp*, up to 80 characters.

comm-id

Specifies community IDs, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ex \t**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**

originState

Filters the BGP routes displayed by the command to those routes with a particular RPKI route origin validation state.

Values valid — Displays valid validation state information.

invalid — Displays invalid validation state information.

notfound — Displays state information for unfound origin values.

hunt

Displays entries for the specified route.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

leaked

Filters the BGP routes displayed by the command to those routes leaked into this router's BGP instance from another BGP instance.

leakable

Filters the BGP routes displayed by the command to those routes eligible for leaking from this router's BGP instance to another BGP instance.

brief

Provides a summarized display of the set of peers to which a BGP route is advertised.

longer

Displays the specified route and subsets of the route.

detail

Display the longer, more detailed version of the output.

all

Displays output for all label BGP IPv4 routes.

Platforms

All

14.14 label-ipv6

label-ipv6

Syntax

label-ipv6 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**brief**] [**all**]

label-ipv6 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**brief**] [**all**]

label-ipv6 [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**origin-val** *originState*] [**leaked**] [**leakable**] [**all**]

Context

[Tree] (show>router>bgp>routes label-ipv6)

Full Context

show router bgp routes label-ipv6

Description

This command displays information about BGP IPv6 routes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

reg-exp

Displays routes with an AS path matching the specified regular expression *reg-exp*, up to 80 characters.

comm-id

Specifies community IDs, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ex \t**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

originState

Filters the BGP routes displayed by the command to those routes with a particular RPKI route origin validation state.

Values valid — Displays valid validation state information.

invalid — Displays invalid validation state information.

notfound — Displays state information for unfound origin values.

hunt

Displays entries for the specified route.

leaked

Filters the BGP routes displayed by the command to those routes leaked into this router's BGP instance from another BGP instance.

leakable

Filters the BGP routes displayed by the command to those routes eligible for leaking from this router's BGP instance to another BGP instance.

brief

Provides a summarized display of the set of peers to which a BGP route is advertised.

longer

Displays the specified route and subsets of the route.

detail

Display the longer, more detailed version of the output.

all

Displays output for all label BGP IPv6 routes.

Platforms

All

Output

The following output an example of BGP routes label IPv6 information.

Output Example

```
show router bgp routes label-ipv6 hunt
-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
Network        : 100::1/128
Nexthop        : ::ffff:10.20.1.4
Path Id        : None
To             : 10.20.1.6
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : NotAvailable
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : 1
AIGP Metric    : None                   IGP Cost       : n/a
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Originator Id  : None                   Peer Router Id : 10.20.1.6
IPv6 Label     : 2 (Ipv6 Explicit-Null) Label Type     : POP
Lbl Allocation : EXPLICIT-NULL
Origin         : IGP
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : n/a
Orig Validation: NotFound
Source Class   : 0                      Dest Class     : 0
Prefix SID     : index 2, originator-srgb [18450/16551]

-------------------------------------------------------------------------------
Routes : 1
show router bgp routes label-ipv6 detail

BGP Routes
===============================================================================
Original Attributes

Network        : 100::1/128
Nexthop        : ::ffff:10.10.13.1
Path Id        : None
From           : 10.10.13.1
Res. Nexthop   : 10.10.13.1
Local Pref.    : n/a                    Interface Name : to_A
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None                   IGP Cost       : 0
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.1
Fwd Class      : None                   Priority       : None
IPv6 Label     : 524287
Flags          : Used Valid Best IGP In-TTM In-RTM
Route Source   : External
AS-Path        : 100
Route Tag      : 0
Neighbor-AS    : 100
Orig Validation: NotFound
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
RIB Priority   : Normal
Last Modified  : 00h00m29s
```

14.15 label-range

label-range

Syntax

label-range

Context

[Tree] (show>router>mpls-labels label-range)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router mpls-labels label-range

Description

This command displays the MPLS label range.

Platforms

All

Output

The following output is an example of MPLS label range information.

Table 261: Output fields: MPLS label range describes the MPLS label range output fields.

Table 261: Output fields: MPLS label range

Label	Description
Label Type	Displays the information about **static-lsp**, **static-svc**, and **dynamic** label types.
Start Label	The label value assigned at the ingress router.
End Label	The label value assigned for the egress router.
Aging	The number of labels released from a service which are transitioning back to the label pool. Labels are aged 15 s.
Total Available	The number of label values available.

Output Example

```
*A:Atlanta 224>show>router>mpls-labels># label-range
===============================================================================
Label Ranges
===============================================================================
Label Type      Start Label End Label   Aging       Available   Total
-------------------------------------------------------------------------------
Static          32          18431       -           18400       18400
Dynamic         18432       524287      0           505443      505856
    Seg-Route   200501      200900      -           0           400
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.16 label-type

label-type

Syntax

label-type start-label *start-label* [**end-label** *end-label*] *label-type* [**family**]

Context

[Tree] (show>router>ldp>bindings label-type)

Full Context

show router ldp bindings label-type

Description

This command displays LDP FEC bindings by matching labels.

Parameters

start-label

Specifies a label value to begin the display.

Values 16 to 1048575

end-label

Specifies a label value to end the display.

Values 17 to 1048575

family

Displays either IPv4 or IPv6 LDP information.

Platforms

All

14.17 labels

labels

Syntax

labels

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id labels)

Full Context

show service id labels

Description

This command displays the labels being used by the service.

Platforms

All

Output

The following output is an example of service label information.

Output Example

```
A:ALA-12# show service id 1 labels
===============================================================================
Martini Service Labels
===============================================================================
Svc Id     Sdp Id             Type I.Lbl        E.Lbl
-------------------------------------------------------------------------------
1          10:1               Mesh 0            0
1          20:1               Mesh 0            0
1          30:1               Mesh 0            0
1          40:1               Mesh 130081       131061
1          60:1               Mesh 131019       131016
1          100:1              Mesh 0            0
-------------------------------------------------------------------------------
Number of Bound SDPs : 6
-------------------------------------------------------------------------------
A:ALA-12#
```

Table 262: Output fields: service ID labels describes show service-id labels output fields:

Table 262: Output fields: service ID labels

Label	Description
Svc Id	The service identifier
Sdp Id	The SDP identifier
Type	The SDP type, spoke or mesh
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP
E. Lbl	The VC label used by this device to send packets to the far-end device in this service by the SDP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.18 lacp-partner

lacp-partner

Syntax

lacp-partner

lacp-partner detail

Context

[Tree] (show>lag lacp-partner)

Full Context

show lag lacp-partner

Description

This command displays LACP partner information.

Parameters

detail

Displays detailed information.

Platforms

All

14.19 lag

lag

Syntax

lag [*lag-id*] [**detail**] [**statistics**]

lag [*lag-id*] [**detail**] [**lacp-statistics**]

lag [*lag-id*] **description**

lag [*lag-id*] **egress-rate-distribution**

lag [*lag-id*] **port**

lag *lag-id* **associations per-link-hash interface** [**class** {**1** | **2** | **3**}]

lag *lag-id* **associations**

lag *lag-id* **bfd**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lag *lag-id* [**detail**] **eth-cfm** [**tunnel** *tunnel-id*]

lag *lag-id* **flow-distribution**

lag *lag-id* **associations per-link-hash interface**

lag *lag-id* **associations link-map-profile** [*link-map-profile*] **interface**

lag *lag-id* **lacp-partner**

lag *lag-id* **detail lacp-partner**

lag *lag-id* **link-map-profile** *link-map-profile*

lag *lag-id* **per-link-hash** [**class** {**1** | **2** | **3**}]

lag *lag-id* **associations per-link-hash sap** [**class** {**1** | **2** | **3**}]

lag *lag-id* **associations link-map-profile** [*link-map-profile*] **sap**

lag *lag-id* **per-link-hash port** *port-id*

Context

[Tree] (show lag)

Full Context

show lag

Description

This command displays Link Aggregation Group (LAG) information.

If no command line options are specified, a summary listing of all LAGs is displayed.

Parameters

lag-id

Displays only information on the specified LAG ID.

Values 1 to 800

Default Displays information for all LAG IDs.

detail

Keyword that displays detailed LAG information.

Default Displays summary information.

statistics

Keyword that displays LAG statistics information.

lacp-statistics

Keyword that displays the number of LACP PDUs transmitted and received per LAG port.

description

Keyword that displays the user-defined description for the LAG.

egress-rate-distribution

Keyword that displays the egress traffic rate in kb/s per LAG port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port

Keyword that displays port information.

associations

Keyword that displays a list of current router interfaces to which the LAG is assigned.

interface

Keyword that displays interface information.

bfd

Keyword that displays per-member BFD information.

eth-cfm

Keyword that displays a list of Ethernet tunnels to which the LAG is assigned.

tunnel-id

Filters ETH-CFM MEP information to one tunnel.

Values 1 to 4094

flow-distribution

Keyword that displays the flow distribution per active LAG port in a given LAG. The operator can control the flow distribution per LAG by configuring a **hash-weight** value on each ports of a LAG.

Inactive LAG ports are not displayed.

per-link-hash

Keyword that displays information about a SAP or interface associated with this LAG sends traffic over a single link of a LAG auto-re-balancing as links are added and removed from this LAG.

lacp-partner

Keyword that displays LACP partner information.

link-map-profile

Displays information about a specified LAG link map profile.

Values 1 to 64

sap

Keyword that displays SAP information.

port-id

Specifies the port ID.

Values *slot*/*mda*/*port*

Platforms

All

Output

The following outputs are examples of lag information, and the associated tables describe the output fields.

- Output Example: show lag

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output Fields: show lag
- Output Example: show lag <lag-id> detail
- Output Fields: show lag <lag-id> detail
- Output Example: Show LAG Statistics
- Output Fields: Show LAG Statistics
- Output Example: show lag <lag-id> egress-rate-distribution
- Output Fields: show lag <lag-id> egress-rate-distribution
- Output Example: show lag <lag-id> lacp-statistics
- Output Fields: show lag <lag-id> lacp-statistics
- Output Example: Show lag <lag-id> flow-distribution
- Output Fields: show lag <lag-id> flow-distribution
- Output Example: Show lag <lag-id> associations
- Output Fields: Show lag <lag-id> associations
- Output Example: Show lag <lag-id> detail (with MC-LAG Output)
- Output Example: show lag <lag-id> lcap-partner

Output Example: show lag

```
A:7750# show lag
===============================================================================
Lag Data
===============================================================================
Lag-id         Adm     Opr     Weighted Threshold Up-Count MC Act/Stdby
    name
-------------------------------------------------------------------------------
1              up      down    No       0         0        active
    lag-1
2              up      down    No       0         0        N/A
    lag-2
-------------------------------------------------------------------------------
Total Lag-ids: 2       Single Chassis: 1        MC Act: 1       MC Stdby: 0
===============================================================================
```

Output Fields: show lag

Table 263: Output fields: LAG describes the output fields for the **show lag** command.

Table 263: Output fields: LAG

Label	Description
Lag-id	The LAG or multi-link bundle ID that the port is assigned to.
Lag-name	The LAG name.
Adm	Up — The LAG is administratively up. Down — The LAG is administratively down.
Opr	Up — The LAG is operationally up.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Down—The LAG is operationally down.
Threshold	The number of operational links for the LAG at or below which the configured action is invoked.
Up-Count	The number of ports that are physically present and have physical links present.
MC Act/Stdby	Member port is selected as active or standby link.

Output Example: show lag <lag-id> detail

```
A:Dut-B# show lag  1 detail
===============================================================================
LAG Details
===============================================================================
Description        : N/A
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Lag-id              : 1                     Mode                : access
Lag-name            : lag-1
Adm                 : up                    Opr                 : down
Thres. Last Cleared : 04/12/2021 12:21:41   Thres. Exceeded Cnt  : 0
Dynamic Cost        : false                 Encap Type          : null
Configured Address  : e2:e5:ff:00:01:41     Lag-IfIndex         : 1342177281
Hardware Address    : e2:e5:ff:00:01:41     Adapt Qos (access)  : distribute
Hold-time Down      : 0.0 sec               Port Type           : standard
Per-Link-Hash       : disabled
Include-Egr-Hash-Cfg: disabled              Forced              : -
Per FP Ing Queuing  : disabled              Per FP Egr Queuing  : disabled
Per FP SAP Instance : disabled
Access Bandwidth    : N/A                   Access Booking Factor: 100
Access Available BW : 0
Access Booked BW    : 0
LACP                : enabled               Mode                : passive
LACP Transmit Intvl : fast                  LACP xmit stdby     : enabled
Selection Criteria  : highest-count         Slave-to-partner    : disabled
MUX control         : coupled
Subgrp hold time    : 0.0 sec               Remaining time      : 0.0 sec
Subgrp selected     : MC peer               Subgrp candidate    : -
Subgrp count        : 1
System Id           : e2:e5:ff:00:00:00     System Priority     : 32768
Admin Key           : 32768                 Oper Key            : 1
Prtr System Id      : e2:f2:ff:00:00:00     Prtr System Priority : 1000
Prtr Oper Key       : 32768
Standby Signaling   : lacp
Port hashing        : port-speed            Port weight speed   : 0 gbps
Ports Up            : 0
Weights Up          : 0                     Hash-Weights Up     : 0
Threshold Type      : bandwidth-threshold
  Percentage        : 60
  Action            : dynamic-cost
  Cost              : N/A
Monitor oper group  : N/A
Adaptive loadbal.   : disabled              Tolerance           : N/A
MC Peer Address     : 3.3.3.3               MC Peer Lag-id      : 1
MC System Id        : 00:00:00:00:00:01     MC System Priority  : 100
MC Admin Key        : 1                     MC Active/Standby   : standby
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MC Lacp ID in use   : true                  MC extended timeout  : false
MC Selection Logic  : local master decided
MC Config Mismatch  : no mismatch
-------------------------------------------------------------------------------
Port-id        Adm     Act/Stdby Opr     Primary   Sub-group     Forced  Prio
-------------------------------------------------------------------------------
1/1/3          up      standby   down    yes       1             -       32768
1/1/4          up      standby   down              1             -       32768
-------------------------------------------------------------------------------
Port-id        Role      Exp   Def   Dist  Col   Syn   Aggr  Timeout  Activity
-------------------------------------------------------------------------------
1/1/3          actor     No    No    No    No    No    Yes   Yes      No
1/1/3          partner   No    No    No    No    Yes   Yes   Yes      Yes
1/1/4          actor     No    No    No    No    No    Yes   Yes      No
1/1/4          partner   No    No    No    No    Yes   Yes   Yes      Yes
===============================================================================
```

Output Fields: show lag <lag-id> detail

Table 264: Output fields: LAG detail describes the output fields for the **show lag** *lag-id* **detail** command. The output is dependent on whether or not the LAG was configured as a multi-chassis (MC) LAG.

Table 264: Output fields: LAG detail

Label	Description
Lag-id	The LAG identification.
Lag-name	The LAG name.
Mode	The LAG mode: • access • hybrid • network
Adm	Administrative state of the LAG. Up — The LAG is administratively up. Down — The LAG is administratively down.
Opr	Operational state of the LAG. Up — The LAG is operationally up. Down — The LAG is operationally down.
Thres. Last Cleared	The last time that port or weight thresholds were cleared: • when there is a falling or rising hit • when they are configured and immediately reached • when they are not configured when reached Not cleared by the threshold cfg or deconfig command when the port or weight threshold is removed. The port or weight threshold can then be configured but not immediately reached.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Thres. Exceeded Cnt	The number of times that the weight or port threshold rising counter was reached. The Thresh. Exceed counter displays the rising counter, as the falling counter is only available via SNMP. When we configure or deconfigure the port or weight threshold, the Thresh. Exceed counter is set to 0.
Dynamic Cost	Enabled — Dynamic cost is enabled. Disabled — Dynamic cost is disabled.
Encap Type	The LAG port encapsulation type: • dot1q • null • qinq
Configured Address	The configured Ethernet MAC address.
Lag-IfIndex	A box-wide unique number assigned to this interface.
Hardware Address	The Ethernet MAC address.
Adapt Qos (access)	Displays the configured QoS mode: • distribute • link • port-fair
Hold-Time Down	The timer, in tenths of seconds, which controls the delay between detecting that a LAG is down and reporting it to the higher levels.
Port Type	The port type: • hs • standard
Per-Link-Hash	Enabled — Per link hash is enabled. Disabled — Per link hash is disabled.
Include-Egr-Hash-Cfg	The explicitly configured hashing that is included to the egress buffering and rate distribution.
Per FP Ing Queuing	The per FP ingress queuing status.
Per FP Egr Queuing	The per FP egress queuing status.
Per FP SAP Instance	The per FP SAP instance status.
Access Bandwidth	The LAG access bandwidth value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Access Booking Factor	The LAG access booking factor.
Access Available BW	The access available bandwidth.
Access Booked BW	The access booked bandwidth.
LACP	Enabled — LACP is enabled. Down — LACP is disabled.
LACP Transmit Intvl	The LACP transmit interval mode.
LACP xmit stdby	The LACP transmit standby mode.
Selection Criteria	Configured LAG selection criteria.
Slave-to-partner	The LACP slave-to-partner enabled or disabled state.
MUX control	Configured type of multiplexing machine control used in a LAG with LACP in active/passive modes. coupled — TX and RX activate together. independent — RX activates independent of TX.
Subgrp hold time	The sub-group hold time value.
Remaining time	The sub-group remaining time value.
Subgrp selected	The number of sub-group selected in this LAG.
Subgrp candidate	The sub-group candidate.
Subgrp count	The number of sub-group configured in this LAG.
System Id	System ID used by actor in LACP messages.
System Priority	System priority used by actor in LACP messages.
Admin Key	Configured LAG key.
Oper Key	Key used by actor in LACP messages.
Prtr System Id	System ID used by partner in LACP messages.
Prtr System Priority	System priority used by partner in LACP messages.
Prtr Oper Key	Key used by partner in LACP messages.
Standby Signaling	The standby signaling mode used in this LAG.
Port hashing	Displays the LAG port hashing mechanism for flow distribution per LAG port. • **port-speed** — the port hashing value is inherited from the port speed

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• **hash-weight** — the LAG port **hash-weight** value is used to customize flow distribution per port
Port weight speed	The LAG port weight speed value for mixed-speed LAG.
Ports Up	The number of ports that are operationally up for this LAG.
Weights Up	Sum of weights for ports that are operationally up in this LAG.
Hash-Weights Up	Sum of hash weights for ports that are operationally up in this LAG.
Threshold Type	The type of threshold used in this LAG: • hash-weight-threshold • port-threshold • weight-threshold
Monitor oper group	The name of the operational group being monitored for this LAG.
Adaptive loadbal	The adaptive load balancing status. Enabled — The adaptive load balancing is enabled. Disabled — The adaptive load balancing is disabled.
Tolerance	The adaptive load balancing tolerance value.
Interval	The adaptive load balancing statistics pooling interval.
MC Peer Address	The multi-chassis peer IP address.
MC Peer Lag-id	The LAG ID for the multi-chassis peer.
MC System Id	The multi-chassis LAG system identifier MAC address.
MC System Priority	The multi-chassis LAG system priority.
MC Admin Key	The multi-chassis LAG administrative key.
MC Active/Standby	The multi-chassis LAG active or standby state.
MC Lacp ID in use	The multi-chassis LAG in use state.
MC extended timeout	The multi-chassis LAG extended timeout value.
MC Selection Logic	The multi-chassis LAG selection logic state.
MC Config Mismatch	The multi-chassis LAG configuration mismatch state.

Output Example: Show LAG Statistics

```
===============================================================================
LAG Statistics
===============================================================================
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Lag-id : 1 Lag-name : lag-1
-------------------------------------------------------------------------------
Description        : N/A
Port-id       Input(Packets)                  Output(Packets)
              Input(Bytes)                    Output(Bytes)
              Input Errors                    Output Errors
-------------------------------------------------------------------------------
1/1/4         0                               0
              0                               0
              0                               0
-------------------------------------------------------------------------------
Totals        0                               0
              0                               0
              0                               0
===============================================================================
```

Output Fields: Show LAG Statistics

Table 265: Output fields: LAG statistics describes the output fields for the **show lag statistics** command.

Table 265: Output fields: LAG statistics

Label	Description
Lag-id	The LAG or multi-link trunk (MLT) that the port is assigned to.
Lag-name	The LAG name.
Port-id	The port ID.
Input Bytes	The number of incoming bytes for the LAG on a per-port basis.
Input Packets	The number of incoming packets for the LAG on a per-port basis.
Output Bytes	The number of outbound bytes for the LAG on a per-port basis.
Output Packets	The number of outbound packets for the LAG on a per-port basis.
Input/Output Errors	For packet-oriented interfaces, the number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol. For character- oriented or fixed-length interfaces, the number of inbound transmission units that contained errors preventing them from being deliverable to a higher-layer protocol. For packet-oriented interfaces, the number of outbound packets that could not be transmitted because of errors. For character-oriented or fixed-length interfaces, the number of outbound transmission units that could not be transmitted because of errors.
Totals	Displays the column totals for bytes, packets, and errors.

Output Example: show lag <lag-id> egress-rate-distribution

```
A:7750# show lag 1 egress-rate-distribution
===============================================================================
Distribution of egress rate by adaptive load balancing
===============================================================================
Port                                                  Egress-rate (kbps)
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
8/1/71                                                          43186
8/1/72                                                          43186
8/1/73                                                          38387
===============================================================================
```

Output Fields: show lag <lag-id> egress-rate-distribution

Table 266: Output fields: LAG egress rate distribution describes the output fields for the **show lag <lag-id> egress-rate-distribution** command.

Table 266: Output fields: LAG egress rate distribution

Label	Description
Port	The LAG member port.
Egress-rate	Total egress traffic rate of the LAG port from the last scan interval.

Output Example: show lag <lag-id> lacp-statistics

```
A:7750>config>lag# show lag 1 lacp-statistics

===============================================================================
LAG LACP Statistics
===============================================================================
LAG-id    Port-id        Tx         Rx         Rx Error   Rx Illegal
                        (Pdus)     (Pdus)     (Pdus)     (Pdus)
-------------------------------------------------------------------------------
1         1/1/3          20305      20291      0          0
1         1/1/4          20304      20292      0          0
1         1/1/13         20303      20284      0          0
1         1/1/14         20303      20284      0          0
-------------------------------------------------------------------------------
Totals                   81215      81151      0          0
===============================================================================
```

Output Fields: show lag <lag-id> lacp-statistics

Table 267: Output fields: LAG LACP statistics describes the output fields for the **show lag <lag-id> lacp-statistics** command.

Table 267: Output fields: LAG LACP statistics

Label	Description
LAG-id	The LAG ID that the port is assigned to.
Port-id	The port ID.
Tx (Pdus)	The number of LACP PDUs transmitted.
Rx (Pdus)	The number of LACP PDUs received.
Rx Error	The number of LACP PDUs received when **admin-down** or when LACP is not enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
(Pdus)	
Rx Illegal (Pdus)	The number of illegal packets received.

Output Example: Show lag <lag-id> flow-distribution

```
A:Dut-A# show lag 3 flow-distribution
===============================================================================
Distribution of allocated flows
===============================================================================
Port                        Bandwidth (Gbps) Hash-weight  Flow-share (%)
-------------------------------------------------------------------------------
1/1/1                       10.000           300          37.50
1/1/2                       10.000           500          62.50
-------------------------------------------------------------------------------
Total operational bandwidth: 20.000
===============================================================================
```

Output Fields: show lag <lag-id> flow-distribution

Table 268: Output fields: LAG flow distribution describes the output fields for the **show lag flow-distribution** command.

Table 268: Output fields: LAG flow distribution

Label	Description
Bandwidth	The physical bandwidth speed per active LAG port.
Hash-Weight	The hash-weight value configured or inherited from port-speed on this LAG port.
Flow-Share	The traffic flow distribution per active LAG port.

Output Example: Show lag <lag-id> associations

```
A:ALA-1# show lag 5 associations
===============================================================================
Interface Table
===============================================================================
Router/ServiceId               Name                           Encap Val
-------------------------------------------------------------------------------
Router: Base                   LAG2West                       0
-------------------------------------------------------------------------------
Interfaces
===============================================================================
A:ALA-1#
```

Output Fields: Show lag <lag-id> associations

Table 269: Output fields: LAG associations describes the output fields for the **show lag <lag-id> associations** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 269: Output fields: LAG associations

Label	Description
Service ID	The service associated with the LAG.
Name	The name of the IP interface.
Encap Val	The Dot1q or QinQ values of the port for the IP interface.

Output Example: Show lag <lag-id> detail (with MC-LAG Output)

```
A:Dut-C# show lag 1 detail
===============================================================================
LAG Details
===============================================================================
Description        : N/A
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Lag-id              : 1                     Mode                : access
Adm                 : up                    Opr                 : up
Thres. Last Cleared : 09/16/2019 23:27:40   Thres. Exceeded Cnt  : 2
Dynamic Cost        : false                 Encap Type          : null
Configured Address  : 10:0e:ff:00:01:41     Lag-IfIndex         : 1342177281
Hardware Address    : 10:0e:ff:00:01:41     Adapt Qos (access)  : distribute
Hold-time Down      : 0.0 sec               Port Type           : standard
Per-Link-Hash       : disabled
Include-Egr-Hash-Cfg: disabled              Forced              : -
Per FP Ing Queuing  : disabled              Per FP Egr Queuing  : disabled
Per FP SAP Instance : disabled
Access Bandwidth    : N/A                   Access Booking Factor: 100
Access Available BW : 0
Access Booked BW    : 0
LACP                : enabled               Mode                : passive
LACP Transmit Intvl : fast                  LACP xmit stdby     : enabled
Selection Criteria  : highest-count         Slave-to-partner    : disabled
MUX control         : coupled
Subgrp hold time    : 1.0 sec               Remaining time      : 0.0 sec
Subgrp selected     : 2                     Subgrp candidate    : -
Subgrp count        : 1
System Id           : 10:0e:ff:00:00:00     System Priority     : 32768
Admin Key           : 32768                 Oper Key            : 1
Prtr System Id      : 1e:0e:ff:00:00:00     Prtr System Priority : 32768
Prtr Oper Key       : 32768
Standby Signaling   : lacp
Port hashing        : port-speed            Port weight speed   : 0 gbps
Ports Up            : 2
Weights Up          : 2                     Hash-Weights Up     : 2
Threshold Type      : hash-weight-threshold
  Value             : 1
  Action            : down
  Cost              : N/A
Monitor oper group  : N/A
MC Peer Address     : 2.2.2.2               MC Peer Lag-id      : 1
MC System Id        : 00:00:00:00:00:01     MC System Priority  : 100
MC Admin Key        : 1                     MC Active/Standby   : active
MC Lacp ID in use   : true                  MC extended timeout : false
MC Selection Logic  : local master decided
MC Config Mismatch  : no mismatch
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Port-id        Adm     Act/Stdby Opr     Primary   Sub-group     Forced  Prio
-------------------------------------------------------------------------------
1/1/13         up      active    up      yes       2            -       32768
1/1/14         up      active    up                2            -       32768
-------------------------------------------------------------------------------
Port-id        Role      Exp   Def   Dist  Col   Syn   Aggr  Timeout  Activity
-------------------------------------------------------------------------------
1/1/13         actor     No    No    Yes   Yes   Yes   Yes   Yes      No
1/1/13         partner   No    No    Yes   Yes   Yes   Yes   Yes      Yes
1/1/14         actor     No    No    Yes   Yes   Yes   Yes   Yes      No
1/1/14         partner   No    No    Yes   Yes   Yes   Yes   Yes      Yes
===============================================================================
```

Output Example: show lag <lag-id> lcap-partner

```
A:ALU-Dut1# show lag 3 lacp-partner
===============================================================================
LAG Partner information
===============================================================================
Partner system ID           : ea:3e:ff:00:00:00
Partner system priority     : 32768
Partner operational key     : 2
===============================================================================
===============================================================================
LAG 3 Ports Partner operational information
===============================================================================
Port                        Actor Port  Prio  Key
                            port
-------------------------------------------------------------------------------
1/1/52                      33908 33909 5     2
1/1/54                      33910 33911 5     2
1/1/56                      33912 33913 7     2
===============================================================================
===============================================================================
LAG 3 Ports Partner operational state information
===============================================================================
Port                        Exp  Def  Dist Col  Syn  Aggr Time Act
                                                       out
-------------------------------------------------------------------------------
1/1/52                      No   No   Yes  Yes  Yes  Yes  Yes  Yes
1/1/54                      No   No   Yes  Yes  Yes  Yes  Yes  Yes
1/1/56                      No   No   No   No   No   Yes  Yes  Yes
===============================================================================
A:ALU-Dut1#


A:Dut-A# show lag 10 lacp-neighbors
===============================================================================
LAG Neighbor information
===============================================================================
Partner system ID           : de:41:ff:00:00:00
Partner system priority     : 32768
Partner operational key     : 32768
===============================================================================
-------------------------------------------------------------------------------
LAG port 1/1/6 partner information
-------------------------------------------------------------------------------
Actor port                  : 33862
Partner admin system prio   : 32768
Partner oper system prio    : 32768
Partner admin system ID     : 00:00:00:00:00:00
Partner oper system ID      : de:41:ff:00:00:00
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Partner admin key           : 0
Partner oper key            : 32768
Partner admin port          : (Not Specified)
Partner oper port           : 33863
Partner admin port prio     : 32768
Partner oper port prio      : 32768
Partner admin state         : (Not Specified)
Partner oper state          : lacp-timeout aggregation synchronization
                              collecting distributing
================================================================================
A:Dut-A#


*A:bksim4001>config>lag# selection-criteria highest-weight subgroup-hold-
time 1show lag 1 detail
ght subgroup-hold-time 10
===============================================================
LAG Details
===============================================================
Description        : To Sim4002
-------------------------------------------------------------------------------
Details
-------------------------------------------------------------------------------
Lag-id              : 1                       Mode                 : access
Adm                 : down                  Opr                  : down
Thres. Exceeded Cnt : 0                     Port Threshold       : 0
Thres. Last Cleared : 01/21/2014 09:00:48   Threshold Action     : down
Dynamic Cost        : false                 Encap Type           : null
Configured Address  : 36:95:ff:00:01:41     Lag-IfIndex          : 1342177281
Hardware Address    : 36:95:ff:00:01:41     Adapt Qos (access)   : distribute
Hold-time Down      : 0.0 sec               Port Type            : standard
Per-Link-Hash       : disabled
Include-Egr-Hash-Cfg: enabled
Per FP Ing Queuing  : disabled              Per FP Egr Queuing   : disabled
Per FP SAP Instance : disabled
LACP                      : enabled               Mode                 : passive
LACP Transmit Intvl : fast                  LACP xmit stdby      : enabled
Selection Criteria      : highest-weight        Slave-to-partner     : disabled
Subgrp hold time    : 20.0 sec               Remaining time       : 2.6 sec
Subgrp selected       : 1                     Subgrp candidate     : 2
Subgrp count            : 2                     Forced               : -
System Id                 : 36:95:ff:00:00:00     System Priority      : 32768
Admin Key              : 32768                 Oper Key             : 32768
Prtr System Id          :                       Prtr System Priority : 0
Prtr Oper Key          : 0
Standby Signaling   : lacp
Port weight (gbps)   : (Not Specified)
Weight Threshold    : 0                     Threshold Action     : down
...
================================================================================


*A:Dut-A# show lag 2 associations per-link-hash sap
================================================================================
SAP Associations
================================================================================
SvcId      SAP                          Active Link            Oper   Oper
                                                               Class  Weight
--------------------------------------------------------------------------------
2          lag-2:4                          1/1/1               1      500
2          lag-2:5                          1/1/1               1      100
2          lag-2:6                          1/1/26              1      1000
2          lag-2:7                          1/1/25              1      1000
================================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Number of SAP associations: 4

A:bksim4001# show lag 1  per-link-hash
===============================================================================
Per-link-hash Weight
===============================================================================
Port                            Class      Num Users  Agg Weight
-------------------------------------------------------------------------------
1/1/1                           1          10                    10
1/1/1                           2          0          0
1/1/1                           3          2          500
===============================================================================
Number of entries: 3
===============================================================================
```

lag

Syntax

lag *lag-id* **network-aggregate-qos-stats**

Context

[Tree] (show>qos lag)

Full Context

show qos lag

Description

This command displays the aggregate QoS statistics for the default ingress and egress queues configured on a network interface LAG.

Parameters

lag-id

Displays only information about the specified LAG ID.

Values 1 to 800

network-aggregate-qos-stats

Displays the aggregate QoS statistics about network interface LAG queues.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of network aggregate QoS statistics information.

Table 270: Output fields: QoS LAG describes the output fields.

Output Example

```
*A:PE# show qos lag 1 network-aggregate-qos-stats
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Network Aggregate QoS Statistics for LAG ID 1
===============================================================================
-------------------------------------------------------------------------------
Ingress Queue  1             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    320                     160000
     Out Profile dropped   :    0                       0
Ingress Queue  2             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue 11             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Egress Queue  1              Packets                 Octets
     In/Inplus Prof fwded  :    0                       0
     In/Inplus Prof dropped:    0                       0
     Out/Exc Prof fwded    :    997022                  127618816
     Out/Exc Prof dropped  :    0                       0
Egress Queue  2              Packets                 Octets
     In/Inplus Prof fwded  :    0                       0
     In/Inplus Prof dropped:    0                       0
     Out/Exc Prof fwded    :    0                       0
     Out/Exc Prof dropped  :    0                       0
-------------------------------------------------------------------------------
```

Table 270: Output fields: QoS LAG

Label	Description
In Profile forwarded	Displays the number of in-profile packets or octets forwarded for ingress or egress queue
In Profile dropped	Displays the number of in-profile packets or octets dropped for ingress or egress queue
Out Profile forwarded	Displays the number of out-profile packets or octets forwarded for ingress or egress queue
Out Profile dropped	Displays the number of out-profile packets or octets dropped for ingress or egress queue

lag

Syntax

lag *lag-id* **bfd-session family** {**ipv4** | **ipv6**} **lag-port** *port-id*

lag *lag-id* **lacp-statistics**

lag *lag-id* **statistics** [**aggregate-queue**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear lag)

Full Context

clear lag

Description

This command clears statistics for the specified LAG ID.

Parameters

lag-id

Clears the LAG ID.

Values 1 to 800

bfd-session

Keyword that clears the specified BFD session.

family

Keyword that clears the IP address family.

ipv4

Keyword that clears IPv4.

ipv6

Keyword that clears IPv6.

port-id

Clears the port ID.

Values *slot* [/*mda* [/*port*]]

lacp-statistics

Keyword that clears the LACP PDUs statistics.

statistics

Keyword that clears the statistics or the BFD session for the specified LAG ID.

aggregate-queue

Keyword that clears the aggregate queue statistics on a PXC-based LAG.

Platforms

All

lag

Syntax

lag lag-id *lag-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump lag)

Full Context

tools dump lag

Description

This command dumps LAG information.

Parameters

lag-id

Specifies the LAG ID.

Values 1 to 800

Platforms

All

lag

Syntax

lag

Context

[Tree] (tools>perform lag)

Full Context

tools perform lag

Description

This command provides tools for controlling LAG.

Platforms

All

lag

Syntax

lag *lag-id* [*lag-id*] [**bytes** | **packets** | **errors** | **utilization**] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

lag *lag-id* **network-aggregate-qos-stats** [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (monitor lag)

Full Context

monitor lag

Description

This command monitors traffic statistics for Link Aggregation Group (LAG) ports. Statistical information for the specified LAG ID(s) displays at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified LAG ID. The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

lag-id

Specifies the number of the LAG, with a maximum of five LAG numbers specified in a single statement.

Values 1 to 200

bytes

Keyword that displays the statistics in bytes only.

packets

Keyword that displays the statistics in packets only.

errors

Keyword that displays the statistics for errors only.

utilization

Keyword that displays the statistics in percentage utilization only.

network-aggregate-qos-stats

Keyword that displays the aggregate QoS statistics on network interface LAG default ingress and egress queues.

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default 10

absolute

Keyword that displays the raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Keyword that displays the rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of monitor lag command information.

Output Example

```
A:Dut-B# monitor lag 1 interval 3 repeat 1
===============================================================================
Monitor statistics for LAG ID 1
===============================================================================
Port-id      Input packets                    Output packets
             Input bytes                      Output bytes
             Input errors [Input util %]      Output errors [Output util %]
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
1/2/1        24                               25
             2224                             2294
             0                                0
1/2/2        25                               8
             2170                             776
             0                                0
-------------------------------------------------------------------------------
Totals       49                               33
             4394                             3070
             0                                0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Delta)
-------------------------------------------------------------------------------
1/2/1        3                                3
             306                              306
             0                                0
1/2/2        0                                0
             0                                0
             0                                0
-------------------------------------------------------------------------------
Totals       3                                3
             306                              306
             0                                0
===============================================================================


A:Dut-B# monitor lag 1 interval 3 repeat 1 bytes
===============================================================================
Monitor statistics for LAG ID 1
===============================================================================
Port-id      Input bytes                      Output bytes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
1/2/1        6100                           6170
1/2/2        2514                           1120
-------------------------------------------------------------------------------
Totals       8614                           7290
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Delta)
-------------------------------------------------------------------------------
1/2/1        306                            306
1/2/2        0                              0
-------------------------------------------------------------------------------
Totals       306                            306
===============================================================================
```

The following output is an example of network aggregate QoS statistics information.

Output Example

```
*A:PE# monitor lag 1 network-aggregate-qos-stats repeat 1
===============================================================================
Monitor Network Aggregate QoS Statistics for LAG ID 1
===============================================================================
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Ingress Queue  1             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  2             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue 11             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Egress Queue  1              Packets                 Octets
     In/Inplus Prof fwded  :    0                       0
     In/Inplus Prof dropped:    0                       0
     Out/Exc Prof fwded    :    0                       0
     Out/Exc Prof dropped  :    0                       0
Egress Queue  2              Packets                 Octets
     In/Inplus Prof fwded  :    0                       0
     In/Inplus Prof dropped:    0                       0
     Out/Exc Prof fwded    :    0                       0
     Out/Exc Prof dropped  :    0                       0
-------------------------------------------------------------------------------
At time t = 11 sec (Mode: Delta)
-------------------------------------------------------------------------------
Ingress Queue  1             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    2124815                 271976320
     Out Profile dropped   :    0                       0
Ingress Queue  2             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 11             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Egress Queue  1              Packets                Octets
     In/Inplus Prof fwded  :    0                      0
     In/Inplus Prof dropped:    0                      0
     Out/Exc Prof fwded    :    1109568                1420247040
     Out/Exc Prof dropped  :    0                      0
Egress Queue  2              Packets                Octets
     In/Inplus Prof fwded  :    0                      0
     In/Inplus Prof dropped:    0                      0
     Out/Exc Prof fwded    :    0                      0
     Out/Exc Prof dropped  :    0                      0
===============================================================================
*A:PE# monitor lag 1 network-aggregate-qos-stats rate repeat 1
===============================================================================
Monitor Network Aggregate QoS Statistics for LAG ID 1
===============================================================================
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Ingress Queue  1             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue  2             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 11             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Egress Queue  1              Packets                Octets
     In/Inplus Prof fwded  :    0                      0
     In/Inplus Prof dropped:    0                      0
     Out/Exc Prof fwded    :    0                      0
     Out/Exc Prof dropped  :    0                      0
Egress Queue  2              Packets                Octets
     In/Inplus Prof fwded  :    0                      0
     In/Inplus Prof dropped:    0                      0
     Out/Exc Prof fwded    :    0                      0
     Out/Exc Prof dropped  :    0                      0
-------------------------------------------------------------------------------
At time t = 11 sec (Mode: Rate)
-------------------------------------------------------------------------------
                         Packets/sec            Octets/sec             % Port
                                                                       Util.
Ingress Queue  1             Packets                Octets
     In Profile forwarded  :    0                      0              0.00
     In Profile dropped    :    0                      0              0.00
     Out Profile forwarded :    97675                  12502383       1.00
     Out Profile dropped   :    0                      0              0.00
Ingress Queue  2             Packets                Octets
     In Profile forwarded  :    0                      0              0.00
     In Profile dropped    :    0                      0              0.00
     Out Profile forwarded :    0                      0              0.00
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
     Out Profile dropped   :    0                      0              0.00
Ingress Queue 11             Packets                 Octets
     In Profile forwarded  :    0                      0              0.00
     In Profile dropped    :    0                      0              0.00
     Out Profile forwarded :    0                      0              0.00
     Out Profile dropped   :    0                      0              0.00
Egress Queue  1              Packets                 Octets
     In/Inplus Prof fwded  :    0                      0              0.00
     In/Inplus Prof dropped:    0                      0              0.00
     Out/Exc Prof fwded    :    0                      0              0.00
     Out/Exc Prof dropped  :    0                      0              0.00
Egress Queue  2              Packets                 Octets
     In/Inplus Prof fwded  :    0                      0              0.00
     In/Inplus Prof dropped:    0                      0              0.00
     Out/Exc Prof fwded    :    97661                  12500639       1.00
     Out/Exc Prof dropped  :    0                      0              0.00
===============================================================================
```

14.20 lag-ip-measurement

lag-ip-measurement

Syntax

lag-ip-measurement

Context

[Tree] (show>test-oam lag-ip-measurement)

Full Context

show test-oam lag-ip-measurement

Description

Commands in this context display LAG measurement template information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

14.21 lag-ip-measurement-template

lag-ip-measurement-template

Syntax

lag-ip-measurement-template *template-name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>test-oam>lag-meas lag-ip-measurement-template)

Full Context

show test-oam lag-ip-measurement lag-ip-measurement-template

Description

This command displays LAG measurement template information.

Parameters

template-name

Specifies the template name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of the LAG IP measurement template information, and Table 271: Output fields: LAG IP measurement template summary describes the output fields.

Output Example: LAG IP measurement template summary

```
show test-oam lag-meas# lag-ip-measurement-template "ri"
===============================================================================
LAG Template: ri
===============================================================================
Description        : (Not Specified)
Admin State        : Down
Interval           : 1 seconds
Active Interfaces  : 0
Total Interfaces   : 0

-------------------------------------------------------------------------------
Session Sender Type:  TWAMP-Light
-------------------------------------------------------------------------------
Cnfg Source UDP Port: (Not Specified)
Destination UDP Port: 862              Timestamp Format    : ntp
DSCP                : nc1              FC                  : h1
Profile             : in               Allow Egress Remark : No
TTL                 : 1                IPv6 UDP Checksum 0 : Disallow
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
```

Table 271: Output fields: LAG IP measurement template summary

Label	Description
LAG Template	Displays the LAG template name
Description	Displays the LAG template description
Admin State	Displays administrative state of the LAG template

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Active Interfaces	Displays the number of active interfaces
Total Interfaces	Displays the total number of interfaces
Session Sender Type	Displays the Session Sender type configured for the LAG template
Cnfg Source UDP Port	Displays the configuration source for the UDP port
Destination UDP Port	Displays the UDP port destination
Timestamp Format	Displays the timestamp format
DSCP	Displays the DSCP code-point name
FC	Displays the FC name
Profile	Displays the QoS profile
Allow Egress Remark	Displays if the system overwrites the IP header DSCP for each launched packet
TTL	Displays the TTL value
IPv6 UDP Checksum 0	Displays if the system processes IPv6 packets with UDP checksum zero

14.22 lanext

lanext

Syntax

lanext

Context

[Tree] (show>subscr-mgmt>vrgw lanext)

Full Context

show subscriber-mgmt vrgw lanext

Description

This command displays Wireless LAN Gateway Home LAN Extension information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lanext

Syntax

lanext

Context

[Tree] (tools>dump>wlan-gw lanext)

Full Context

tools dump wlan-gw lanext

Description

Commands in this context dump tools information for WGLAN HLE parameter.

Platforms

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

lanext

Syntax

lanext

Context

[Tree] (tools>perform>wlan-gw lanext)

Full Context

tools perform wlan-gw lanext

Description

Commands in this context clear tools information for WGLAN HLE parameter.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.23 lbm-svc-act-responder

lbm-svc-act-responder

Syntax

lbm-svc-act-responder [**domain** {*md-index* | *md-admin-name*}] [**association** {*ma-index* | *ma-admin-name*}] [**mep** *mep-id*]

Context

[Tree] (show>eth-cfm lbm-svc-act-responder)

Full Context

show eth-cfm lbm-svc-act-responder

Description

This command displays the MEPs created with the optional **lbm-svc-act-responder** configuration command, which allocates additional resources to facilitate high-speed LBM-to-LBR processing typically used during service activation testing. The optional filters are cumulative. These filters can be used to narrow the focus of the display to a specific area.

Parameters

md-index

Specifies the MD index.

Values 1 to 4294967295

md-admin-name

Specifies the administrative name for the domain, up to 64 characters.

ma-index

Specifies the MA index.

Values 1 to 4294967295

ma-admin-name

Specifies the administrative name for the association, up to 64 characters.

mep-id

Specifies the local MEP ID.

Values 1 to 8191

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of ETH CFM LBM service activation responder information, and Table 272: Output fields: LBM service activation responder describes the output fields.

Output example

```
*A:node-2# show eth-cfm lbm-svc-act-responder
===============================================================================
Eth-CFM SAP Local MEP LBM Service Activation Responder Enabled
===============================================================================
Sap                  Lvl Dir MdIndex    MaIndex    MepId  SrcMacAddress
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
No. of MEPs: 0
===============================================================================
===============================================================================
Eth-CFM Facility Interface Local MEP LBM Service Activation Responder Enabled
===============================================================================
Interface            Lvl Dir MdIndex    MaIndex    MepId  SrcMacAddress
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
No. of MEPs: 0
===============================================================================
===============================================================================
Eth-CFM SAP Primary VLAN Local MEP LBM Service Activation Responder Enabled
===============================================================================
Sap                  Lvl Dir MdIndex    MaIndex    MepId  SrcMacAddress
  Primary VlanId
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
No. of MEPs: 0
===============================================================================
===============================================================================
Eth-CFM SDP Local MEP LBM Service Activation Responder Enabled
===============================================================================
Sdp                  Lvl Dir MdIndex    MaIndex    MepId  SrcMacAddress
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
No. of MEPs: 0
===============================================================================
===============================================================================
Eth-CFM SDP Primary VLAN Local MEP LBM Service Activation Responder Enabled
===============================================================================
Sdp                  Lvl Dir MdIndex    MaIndex    MepId  SrcMacAddress
  Primary VlanId
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
No. of MEPs: 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Table 272: Output fields: LBM service activation responder

Label	Description
Sap	Displays the SAP
Sdp	Displays the SDP binding for the bridge
Interface	Displays the interface name
Lvl	Displays the domain level
Dir	Displays the MEP direction
MdIndex	Displays the MD index value
MaIndex	Displays the MA index value
MepId	Displays the maintenance association endpoint identifier
SrcMacAddress	Displays the source MAC address
md-admin-name	Displays the administrative MD name
ma-admin-name	Displays the administrative MA name

14.24 ldp

ldp

Syntax

ldp

Context

[Tree] (clear>router ldp)

Full Context

clear router ldp

Description

Commands in this context set the hold-time during which new auto-rx targeted peers are not generated.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ldp

Syntax

ldp

Context

[Tree] (show>router ldp)

Full Context

show router ldp

Description

This command displays LDP information.

Platforms

All

ldp

Syntax

ldp

Context

[Tree] (tools>dump>router ldp)

Full Context

tools dump router ldp

Description

Commands in this context dump tools for LDP protocol instance.

Platforms

All

ldp

Syntax

ldp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (monitor>router ldp)

Full Context

monitor router ldp

Description

This command monitors commands for the LDP instance.

Platforms

All

14.25 ldp fec-egress-statistics

ldp fec-egress-statistics

Syntax

ldp fec-egress-statistics [*ip-prefix/mask*]

Context

[Tree] (clear>router ldp fec-egress-statistics)

Full Context

clear router ldp fec-egress-statistics

Description

This command clears LDP FEC egress statistics.

Parameters

ip-prefix

Specify information for the specified IP prefix. Host bits must be 0.

mask

Specifies the address mask used to indicate the bits of an IP address that are being used for the subnet address.

Values IPv4: 0 to 32

IPv6: 0 to 128

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.26 ldp-sync-exit

ldp-sync-exit

Syntax

ldp-sync-exit

Context

[Tree] (tools>perform>router>isis ldp-sync-exit)

Full Context

tools perform router isis ldp-sync-exit

Description

This command terminates LDP synchronization and restores actual cost of an ISIS interface.

Platforms

All

ldp-sync-exit

Syntax

ldp-sync-exit

Context

[Tree] (tools>perform>router>ospf ldp-sync-exit)

[Tree] (tools>perform>router>ospf3 ldp-sync-exit)

Full Context

tools perform router ospf ldp-sync-exit

tools perform router ospf3 ldp-sync-exit

Description

This command terminates LDP synchronization and restore actual cost of an OSPF interface.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.27 ldp-treetrace

ldp-treetrace

Syntax

ldp-treetrace [**prefix** *ip-prefix/mask*] [**detail**]

Context

[Tree] (show>test-oam ldp-treetrace)

Full Context

show test-oam ldp-treetrace

Description

This command displays OAM LDP treetrace information.

Parameters

ip-prefix/mask

Specifies the address prefix and subnet mask of the destination node.

Values ip-prefix: a.b.c.d (host bits must be 0)

mask: 0 to 32

detail

Displays detailed information.

Platforms

All

Output

The following output example shows OAM LDP treetrace information.

Output Example

```
*A:ALA-48# show test-oam ldp-treetrace
Admin State              : Up             Discovery State      : Done
Discovery-intvl (min)    : 60             Probe-intvl (min)    : 2
Probe-timeout (min)      : 1              Probe-retry          : 3
Trace-timeout (sec)      : 60             Trace-retry          : 3
Max-TTL                  : 30             Max-path             : 128
Forwarding-class (fc)    : be             Profile              : Out
Total Fecs               : 400            Discovered Fecs      : 400
Last Discovery Start     : 12/19/2006 05:10:14
Last Discovery End       : 12/19/2006 05:12:02
Last Discovery Duration  : 00h01m48s
Policy1                  : policy-1
Policy2                  : policy-2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:ALA-48# show test-oam ldp-treetrace detail
Admin State              : Up             Discovery State      : Done
Discovery-intvl (min)    : 60             Probe-intvl (min)    : 2
Probe-timeout (min)      : 1              Probe-retry          : 3
Trace-timeout (sec)      : 60             Trace-retry          : 3
Max-TTL                  : 30             Max-path             : 128
Forwarding-class (fc)    : be             Profile              : Out
Total Fecs               : 400            Discovered Fecs      : 400
Last Discovery Start     : 12/19/2006 05:10:14
Last Discovery End       : 12/19/2006 05:12:02
Last Discovery Duration  : 00h01m48s
Policy1                  : policy-1
Policy2                  : policy-2
===============================================================================
Prefix (FEC) Info
===============================================================================
Prefix              Path Last                 Probe  Discov    Discov
                    Num  Discovered           State  State     Status
-------------------------------------------------------------------------------
11.11.11.1/32       54   12/19/2006 05:10:15  OK     Done      OK
11.11.11.2/32       54   12/19/2006 05:10:15  OK     Done      OK
11.11.11.3/32       54   12/19/2006 05:10:15  OK     Done      OK
.............
14.14.14.95/32      72   12/19/2006 05:11:13  OK     Done      OK
14.14.14.96/32      72   12/19/2006 05:11:13  OK     Done      OK
14.14.14.97/32      72   12/19/2006 05:11:15  OK     Done      OK
14.14.14.98/32      72   12/19/2006 05:11:15  OK     Done      OK
14.14.14.99/32      72   12/19/2006 05:11:18  OK     Done      OK
14.14.14.100/32     72   12/19/2006 05:11:20  OK     Done      OK
===============================================================================
Legend: uP - unexplored paths, tO - trace request timed out
        mH - max hop exceeded, mP - max path exceeded
        nR - no internal resource


*A:ALA-48# show test-oam ldp-treetrace prefix 12.12.12.10/32
Discovery State  : Done                Last Discovered  : 12/19/2006 05:11:02
Discovery Status : ' OK '
Discovered Paths : 54                  Failed Hops      : 0
Probe State      : OK                  Failed Probes    : 0


*A:ALA-48# show test-oam ldp-treetrace prefix 12.12.12.10/32  detail
Discovery State  : Done                Last Discovered  : 12/19/2006 05:11:02
Discovery Status : ' OK '
Discovered Paths : 54                  Failed Hops      : 0
Probe State      : OK                  Failed Probes    : 0
===============================================================================
Discovered Paths
===============================================================================
PathDest            Egr-NextHop         Remote-RtrAddr      Discovery-time
  DiscoveryTtl        ProbeState          ProbeTmOutCnt       RtnCode
-------------------------------------------------------------------------------
127.1.0.5           10.10.1.2           12.12.12.10         12/19/2006 05:11:01
              7     OK                  0                   EgressRtr
127.1.0.9           10.10.1.2           12.12.12.10         12/19/2006 05:11:01
              7     OK                  0                   EgressRtr
127.1.0.15          10.10.1.2           12.12.12.10         12/19/2006 05:11:01
              7     OK                  0                   EgressRtr
127.1.0.19          10.10.1.2           12.12.12.10         12/19/2006 05:11:01
              7     OK                  0                   EgressRtr
127.1.0.24          10.10.1.2           12.12.12.10         12/19/2006 05:11:01
              7     OK                  0                   EgressRtr
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
127.1.0.28          10.10.1.2           12.12.12.10         12/19/2006 05:11:01

……..

127.1.0.252         10.10.1.2           12.12.12.10         12/19/2006 05:11:01
              7     OK                  0                   EgressRtr
127.1.0.255         10.10.1.2           12.12.12.10         12/19/2006 05:11:01
              7     OK                  0                   EgressRtr
===============================================================================
*A:ALA-48#

*A:ALA-48# show test-oam twamp server
===============================================================================
TWAMP Server (port 862)
===============================================================================
Admin State : Up                                Oper State  : Up
Up Time     : 0d 00:00:05
Curr Conn   : 1                                 Max Conn    : 32
ConnTimeout : 1800                              Conn Reject : 2
Curr Sess   : 2                                 Max Sess    : 32
Tests Done  : 5                                 Tests Rej   : 0
Tests Abort : 0
TstPktsRx   : 999                               TstPktsTx   : 999
===============================================================================
Prefix      : 10.0.0.0/8
Description : NMS-West
===============================================================================
Admin State : Up                                Oper State  : Up
Curr Conn   : 1                                 Max Conn    : 32
Conn Reject : 0
Curr Sess   : 2                                 Max Sess    : 32
Tests Done  : 5                                 Tests Rej   : 0
Tests Abort : 0
TstPktsRx   : 999                               TstPktsTx   : 999
-------------------------------------------------------------------------------
Client          Sessions              Idle     TstPktsRx    TstPktsTx
                Curr/Done/Rej/Abort
-------------------------------------------------------------------------------
10.1.1.1        2/5/0/0               920      999          999
===============================================================================
===============================================================================
Prefix      : 10.0.0.0/16
Description : NMS-West-Special
===============================================================================
Admin State : Up                                Oper State  : Up
Curr Conn   : 0                                 Max Conn    : 32
Conn Reject : 0
Curr Sess   : 0                                 Max Sess    : 32
Tests Done  : 0                                 Tests Rej   : 0
Tests Abort : 0
TstPktsRx   : 0                                 TstPktsTx   : 0
-------------------------------------------------------------------------------
Client          Sessions              Idle     TstPktsRx    TstPktsTx
                Curr/Done/Rej/Abort
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.28 learned-remote-mac

learned-remote-mac

Syntax

learned-remote-mac [**domain** {*md-index* | *md-admin-name*}] [**association** {*ma-index* | *ma-admin-name*}] [**mep** *mep-id*] [**remote-mepid** *mep-id*]

Context

[Tree] (show>eth-cfm learned-remote-mac)

Full Context

show eth-cfm learned-remote-mac

Description

This command displays the local MEP and remote MEP MAC address information relationship. The MAC address information in this table is populated and used in place of the remote *mep-id* in various ETH-CFM tests that opt to use the **remote-mepid** *mep-id* configuration instead of specifying the remote peer MAC address. This table is maintained by the ETH-CC process. If a CCM is not received for a remote peer, no entry is made in the learned-remote-mac table. However, when a CCM is received for an expected peer, an entry in the learned-remote-mac table is populated and maintained. This entry remains until the remote peer statement is deleted from the association, the local MEP is deleted, or if a manual **clear eth-cfm learned-remote-mac** command has been executed for the specified local MEP.

The optional parameters are treated as independent filters that are combined to refine the output. Omitting all optional parameters produces output that includes the entire table.

Parameters

md-index

Specifies the MD index.

Values 1 to 4294967295

md-admin-name

Specifies the MD name, up to 64 characters.

ma-index

Specifies the MA index.

Values 1 to 4294967295

ma-admin-name

Specifies the MD name, up to 64 characters.

mep *mep-id*

Specifies the local *mep-id*.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 8191

remote-mepid *mep-id*

Specifies the remote *mep-id*.

Values 1 to 8191

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of learned remote MAC information, and Table 273: Output fields: learned remote MAC describe the output fields.

Output example

```
A:node-2# show eth-cfm learned-remote-mac
===============================================================================
Eth-CFM Learned Remote MEPID MAC Address
===============================================================================
MdIndex    MaIndex    L-MepId R-MepId Learned Remote MAC Stale Updated
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
10         11400115   2       1       00:00:00:00:00:29  False False
    10
    11400115

10         11600117   2       1       00:00:00:00:00:29  False False
    10
    11600117

12         1000       928     929     00:00:01:01:09:29  False False
    12
    vpls-100-1

12         1000       928     1028    00:00:01:01:10:28  False False
    12
    vpls-100-1

12         1000       928     1029    00:00:01:01:10:29  False False
    12
    vpls-100-1

12         1000       1028    928     00:00:01:01:09:28  False False
    12
    vpls-100-1

12         1000       1028    929     00:00:01:01:09:29  False False
    12
    vpls-100-1

12         1000       1028    1029    00:00:01:01:10:29  False False
    12
    vpls-100-1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 273: Output fields: learned remote MAC

Label	Description
MdIndex	The local MEP domain index
MaIndex	The local MEP association index
L-MepId	The local MEP identifier
R-MepId	The remote MEP identifier
Learned Remote MAC	The learned MAC address of the remote peer
Stale	Results of the comparison between the CCM database and the learned-remote-mac table: False — match True — mismatch
Updated	Indicates if the learned MAC in this table has been updated in the last CCM interval
md-admin-name	The administrative MD name
ma-admin-name	The administrative MA name

learned-remote-mac

Syntax

learned-remote-mac [**mep** *mep-id* [**remote-mepid** *mep-id*]] **domain** *md-index* **association** *ma-index*

Context

[Tree] (clear>eth-cfm learned-remote-mac)

Full Context

clear eth-cfm learned-remote-mac

Description

This command clears the MAC addresses stored in the CFM learned-remote-mac address table. A valid MAC address must exist in the **learned-remote-mac** table for a successful PDU generation when that test uses the **remote-mepid** *mep-id* option in place of a *mac-address*.

The local **domain** and **association** parameters must be included as part of the clear command. The **mep** and **remote-mepid** parameters are optional. The clear command clears all matching entries based on the configured parameters. The table is populated based on the reception and processing of ETH-CC PDUs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

mep *mep-id*

Specifies the local MEP ID.

Values 1 to 8191

remote-mepid *mep-id*

Specifies the remote MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

14.29 lease-state

lease-state

Syntax

lease-state [**wholesaler** *service-id*] [**sap** *sap-id* | **sdp** *sdp-id:vc-id* | **interface** *interface-name* | **ip-address** *ip-address* [*/mask*] | **chaddr** *ieee-address* | **mac** *ieee-address* | {[**port** *port-id*] [**no-inter-dest-id** | **inter-dest-id** *inter-dest-id*]}] [**session** { **none** | **ipoe**}] [**detail**]

Context

[Tree] (show>service>id>dhcp lease-state)

Full Context

show service id dhcp lease-state

Description

This command displays DHCP lease state related information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

service-id

Specifies the service ID of the wholesaler.

Values 1 to 2148278316, *svc-name:* up to 64 characters

sap-id

Specifies the physical port identifier portion of the SAP definition.

sdp-id

The SDP identifier.

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID for which to display information.

Values 1 to 4294967295

interface-name

Displays information for the specified IP interface.

***ip-address*[*/mask*]**

Displays information associated with the specified IP address.

ieee-address

Specifies the source MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx (cannot be all zeros)

port-id

Specifies the port ID.

no-inter-dest-id

Displays the information about no intermediate destination ID.

inter-dest-id

Displays information about the specified intermediate destination ID, up to 64 characters.

session

Shows DHCPv4 lease states for hosts that are associated with an IPoE session or for hosts that are not associated with an IPoE session.

Values none, ipoe

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of the DHCP **lease-state** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:node-2# show service id 13 dhcp lease-state
===============================================================================
DHCP lease state table, service 13
===============================================================================
IP Address      Mac Address       Sap/Sdp Id          Remaining  Lease    MC
                                                      LifeTime   Origin   Stdby
-------------------------------------------------------------------------------
10.13.40.1      00:00:00:00:00:13 1/1/1:13            00h00m58s  Radius
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
A:ALA-_Dut-A#


#  show service id 1000 dhcp lease-state detail
===============================================================================
DHCP lease states for service 1000
===============================================================================
Service ID           : 1000
IP Address           : 10.250.21.2
Client HW Address    : 00:02:01:00:00:01
Subscriber-interface : sub-int-2
Group-interface      : group-int-2-3
SAP                  : [1/1/2:2513.20]
Termination Type     : local
Up Time              : 0d 00:04:51
Remaining Lease Time : 0d 00:05:09
Remaining SessionTime: N/A
Persistence Key      : 0x00000000
Sub-Ident            : "sub-02-01"
Sub-Profile-String   : "sub-profile-1"
SLA-Profile-String   : "sla-profile-1"
App-Profile-String   : ""
Lease ANCP-String    : ""
Lease Int Dest Id    : ""
Category-Map-Name    : ""
Lease Info origin    : DHCP
Ip-Netmask           : 255.255.255.0
Broadcast-Ip-Addr    : N/A
Default-Router       : 10.250.21.254
Primary-Dns          : N/A
Secondary-Dns        : N/A
Primary-Nbns         : N/A
Secondary-Nbns       : N/A
ServerLeaseStart     : 10/07/2020 15:00:19
ServerLastRenew      : 10/07/2020 15:00:19
ServerLeaseEnd       : 10/07/2020 15:10:19
Session-Timeout      : N/A
IPoE|PPP session     : IPoE
Lease-Time           : 0d 00:10:00
DHCP Server Addr     : 192.0.2.2
Relay Agent Information
  Circuit Id         : pe2|1000|group-int-2-3|1/1/2:2513.20
Radius Class 1       : This is a Class attribute
Radius User-Name     : "00:02:01:00:00:01"
-------------------------------------------------------------------------------
Overrides
-------------------------------------------------------------------------------
Dir Type           Id         PIR        CIR        CBS        MBS        WRR
    Class-Weight
-------------------------------------------------------------------------------
Egr Queue          1          1234       N/A        350000     350000     N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    N/A
-------------------------------------------------------------------------------
No. of Overrides: 1
-------------------------------------------------------------------------------
SLA Profile Instance Session Limit Overrides
ipoe                : 2
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
```

Table 274: Output fields: DHCP lease state describes service DHCP lease-state information.

Table 274: Output fields: DHCP lease state

Field	Description
Service ID	The service ID
IP Address	The IP address
Client HW Address	The client hardware address
Subscriber-interface	The subscriber interface name
Group-interface	The group interface name
SAP	The SAP
Termination Type	The termination type
Up Time	The up time
Remaining Lease Time	The remaining lease time
Remaining SessionTime	The remaining session time
Persistence Key	The persistence key
Sub-Ident	The name of the subscriber identification policy
Sub-Profile-String	The subscriber profile string
SLA-Profile-String	The name of the SLA profile
App-Profile-String	The application profile string
Lease ANCP-String	The lease ANCP string
Lease Int Dest Id	The lease internal destination ID
Category-Map-Name	The category map name
Lease Info origin	The origin of the lease
Ip-Netmask	The IP netmask address
Broadcast-Ip-Addr	The broadcast IP address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Default-Router	The default router
Primary-Dns	The primary DNS address
Secondary-Dns	The secondary DNS address
Primary-Nbns	The primary NBNS
Secondary-Nbns	The secondary NBNS
ServerLeaseStart	The date and time of the start of the server lease
ServerLastRenew	The date and time of the renewal of the server lease
ServerLeaseEnd	The date and time of the end of the server lease
Session-Timeout	The session timeout value
IPoE|PPP session	The type of session
Lease-Time	The lease time
DHCP Server Addr	The DHCP server IP address
Relay Agent Information	
Circuit Id	The circuit ID
Radius Class 1	The RADIUS Class 1 value
Radius User-Name	The RADIUS user name
Overrides: (only shown when overrides are active)	
Dir Type	The direction type
Id	The ID
PIR	The PIR value
CIR	The CIR value
CBS	The CBS value
MBS	The MBS value
WRR	The WRR value
Class-Weight	The class weight
No. of Overrides	The total number of overrides
Subscriber Host Limit Overrides and SLA Profile Instance Host Limit Overrides:	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
(only shown when overrides are active)	
ipv4-arp	The total number of IPv4 ARP hosts limit
ipv4-dhcp	The total number of IPv4 DHCP hosts limit
ipv4-ppp	The total number of IPv4 PPP hosts limit
ipv4-overall	The total number of IPv4 hosts limit
ipv6-pd-ipoe-dhcp	The total number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-ppp-dhcp	The total number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-overall	The total number of IPv6 DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-wan-ipoe-dhcp	The total number of IPv6 IPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ipoe-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-ppp-dhcp	The total number of IPv6 PPPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ppp-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-overall	The total number of IPv6 WAN hosts limit
ipv6-overall	The total number of IPv6 hosts limit
lac-overall	The total number of L2TP LAC hosts limit
overall	The total number of subscriber hosts limit
Subscriber Session Limit Overrides and SLA Profile Instance Session Limit Overrides: (only shown when overrides are active)	
ipoe	The total number of IPoE sessions limit
ppoe-local	The total number of PPPoE local terminated sessions (PTA) limit
ppoe-lac	The total number of PPPoE L2TP LAC sessions limit
ppoe-overall	The total number of PPPoE sessions limit
l2tp-lns	The total number of L2TP LNS sessions limit
l2tp-lts	The total number of L2TP LTS sessions limit

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
l2tp-overall	The total number of L2TP sessions limit
overall	The total number of subscriber sessions limit
Number of lease states	The total number of lease states

Routed CO Output Example

```
A:ALA-_Dut-A# show service id 13 dhcp lease-state
===============================================================================
DHCP lease state table, service 13
===============================================================================
IP Address      Mac Address       Sap/Sdp Id          Remaining  Lease    MC
                                                      LifeTime   Origin   Stdby
-------------------------------------------------------------------------------
10.13.40.1      00:00:00:00:00:13 1/1/1:13            00h00m58s  Radius
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
A:ALA-_Dut-A#


A:ALA-_Dut-A# show service id 13 dhcp lease-state detail
===============================================================================
DHCP lease states for service 13
===============================================================================
Service ID           : 13
IP Address           : 10.13.40.1
Mac Address          : 00:00:00:00:00:13
Subscriber-interface : ies-13-10.13.1.1
Group-interface      : intf-13
SAP                  : 1/1/1:13
Remaining Lifetime   : 00h00m58s
Persistence Key      : N/A

Sub-Ident            : "TEST"
Sub-Profile-String   : "ADSL GO"
SLA-Profile-String   : "BE-Video"
Lease ANCP-String    : ""

Sub-Ident origin     : Radius
Strings origin       : Radius
Lease Info origin    : Radius

Ip-Netmask           : 255.255.0.0
Broadcast-Ip-Addr    : 10.13.255.255
Default-Router       : N/A
Primary-Dns          : 10.13.254.254
Secondary-Dns        : 10.13.254.253

ServerLeaseStart     : 12/24/2006 23:48:23
ServerLastRenew      : 12/24/2006 23:48:23
ServerLeaseEnd       : 12/24/2006 23:49:23
Session-Timeout      : 0d 00:01:00
DHCP Server Addr     : N/A

Persistent Relay Agent Information
  Circuit Id         : ancstb6_Dut-A|13|intf-13|0|13
  Remote Id          : stringtest
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
A:ALA-_Dut-A#
```

Wholesaler/Retailer Output Example

```
A:ALA-_Dut-A# show service id 2000 dhcp lease-state detail
===============================================================================
DHCP lease states for service 2000
-------------------------------------------------------------------------------
Wholesaler 1000 Leases
-------------------------------------------------------------------------------
Service ID           : 1000
IP Address           : 10.13.1.254
Mac Address          : 00:00:00:00:00:13
Subscriber-interface : whole-sub
Group-interface      : intf-13
Retailer             : 2000
Retailer If          : retail-sub
SAP                  : 1/1/1:13
Remaining Lifetime   : 00h09m59s
Persistence Key      : N/A

Sub-Ident            : "TEST"
Sub-Profile-String   : "ADSL GO"
SLA-Profile-String   : "BE-Video"
Lease ANCP-String    : ""

Sub-Ident origin     : Retail DHCP
Strings origin       : Retail DHCP
Lease Info origin    : Retail DHCP

Ip-Netmask           : 255.255.0.0
Broadcast-Ip-Addr    : 10.13.255.255
Default-Router       : N/A
Primary-Dns          : N/A
Secondary-Dns        : N/A

ServerLeaseStart     : 12/25/2006 00:29:41
ServerLastRenew      : 12/25/2006 00:29:41
ServerLeaseEnd       : 12/25/2006 00:39:41
Session-Timeout      : 0d 00:10:00
DHCP Server Addr     : 10.232.237.2

Persistent Relay Agent Information
  Circuit Id         : 1/1/1:13
  Remote Id          : stringtest

Subscriber Host Limit Overrides
 ipv4-arp            : 1
 ipv4-dhcp           : 1
 ipv4-ppp            : 1
 ipv4-overall        : 1
 ipv6-pd-ipoe-dhcp   : 1
 ipv6-pd-ppp-dhcp    : 1
 ipv6-pd-overall     : 1
 ipv6-wan-ipoe-dhcp  : 1
 ipv6-wan-ipoe-slaac : 1
 ipv6-wan-ppp-dhcp   : 1
 ipv6-wan-ppp-slaac  : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 ipv6-wan-overall    : 1
 ipv6-overall        : 1
 lac-overall         : 1
 overall             : 1
SLA Profile Instance Host Limit Overrides
 ipv4-arp            : 1
 ipv4-dhcp           : 1
 ipv4-ppp            : 1
 ipv4-overall        : 1
 ipv6-pd-ipoe-dhcp   : 1
 ipv6-pd-ppp-dhcp    : 1
 ipv6-pd-overall     : 1
 ipv6-wan-ipoe-dhcp  : 1
 ipv6-wan-ipoe-slaac : 1
 ipv6-wan-ppp-dhcp   : 1
 ipv6-wan-ppp-slaac  : 1
 ipv6-wan-overall    : 1
 ipv6-overall        : 1
 lac-overall         : 1
 overall             : 1
Subscriber Session Limit Overrides
 ipoe                : 1
 pppoe-local         : 1
 pppoe-lac           : 1
 pppoe-overall       : 1
 l2tp-lns            : 1
 l2tp-lts            : 1
 l2tp-overall        : 1
 overall             : 1
SLA Profile Instance Session Limit Overrides
 ipoe                : 1
 pppoe-local         : 1
 pppoe-lac           : 1
 pppoe-overall       : 1
 l2tp-lns            : 1
 l2tp-lts            : 1
 l2tp-overall        : 1
 overall             : 1
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
A:ALA-_Dut-A#
```

lease-state

Syntax

lease-state [**detail**] [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

lease-state [**detail**] **interface** *interface-name* [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

lease-state [**detail**] *ipv6-address ipv6-prefix*[/pre*fix-length*] [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

lease-state [**detail**] **mac** *ieee-address* [**wholesaler** *service-id*] [**session** {**none** | **ipoe** | **ppp**}] [**router-advertisement-policy** *policy-name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id>dhcp6 lease-state)

Full Context

show service id dhcp6 lease-state

Description

This command displays DHCPv6 lease state information.

Note:
The **wholesaler** *service-id* parameter is applicable only in the VPRN context.

Parameters

detail

Displays detailed lease state information.

service-id

The service ID of the wholesaler. When specified in this context, SAP, SDP, interface, IP address and MAC parameters are ignored. This parameter only applies to the 7750 SR.

Values *service-id*: 1 to 2147483647

session

Shows DHCPv6 lease states for clients that are associated with an IPoE session or for clients that are associated with a PPP session or for clients that are not associated with an IPoE session.

Values none, ipoe, ppp

policy-name

Specifies the name of the router advertisement policy.

interface-name

Specifies the interface name, up to 32 characters.

***ipv6-address*[/*mask*]**

Shows information for the specified IPv6 address and mask.

ieee-address

Shows information for the specified 48-bit MAC address, expressed in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd-ee-ff*, where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers.

Platforms

All

Output

The following output is an example of DHCP6 lease state information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:eng-BNG-2# show  service id 1000 dhcp6 lease-state detail
===============================================================================
DHCP lease states for service 1000
===============================================================================
Service ID           : 1000
IP Address           : 2001:1000:0:4::1/128
Client HW Address    : 00:00:10:10:12:12
Subscriber-interface : sub-int-01
Group-interface      : grp-int-01
SAP                  : 1/1/20:841
Termination Type     : local
Up Time              : 0d 00:00:13
Remaining Lease Time : 0d 23:59:47 (Lease Split)
Remaining SessionTime: N/A
Persistence Key      : N/A
Sub-Ident            : "host-1"
Sub-Profile-String   : "no-prof"
SLA-Profile-String   : "no-prof"
App-Profile-String   : ""
Lease ANCP-String    : ""
Lease Int Dest Id    : ""
Category-Map-Name    : ""
Dhcp6 ClientId (DUID): 00030001000010101212
Dhcp6 IAID           : 0
Dhcp6 IAID Type      : non-temporary
Dhcp6 Client Ip      : fe80:db8:200:10ff:fe10:1212
Primary-Dns          : N/A
Secondary-Dns        : N/A
Pool Name            : ""
Dhcp6 Server Addr    : ::10
Dhcp6 ServerId (DUID): 00030001d854ff000000
Dhcp6 InterfaceId    : test
Dhcp6 RemoteId       : N/A
Radius sub-if prefix : N/A
Router adv. policy   : ra-policy-01
Lease Info origin    : DHCP
ServerLeaseStart     : 02/13/2017 22:04:24
ServerLastRenew      : 02/13/2017 22:04:24
ServerLeaseEnd       : 02/14/2017 22:04:24
Session-Timeout      : N/A
IPoE|PPP session     : No
Radius User-Name     : "00:00:10:10:12:12"

-------------------------------------------------------------------------------
Overrides
-------------------------------------------------------------------------------
Dir Type           Id         PIR        CIR        CBS        MBS        WRR
    Class-Weight
-------------------------------------------------------------------------------
Egr Queue          1          1234       N/A        350000     350000     N/A
    N/A
-------------------------------------------------------------------------------
No. of Overrides: 1
-------------------------------------------------------------------------------
SLA Profile Instance Session Limit Overrides
ipoe                : 2
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-A#show service id 13 dhcp6 lease-state router-advertisement-policy ra-policy-01
===============================================================================
DHCP lease state table, service 13
===============================================================================
IP Address      Mac Address       Sap/Sdp Id          Remaining  Lease    MC
                                                     LeaseTime  Origin   Stdby
-------------------------------------------------------------------------------
2013:bad:beaf::1/128
                00:00:00:00:00:13 1/1/1:13            23h47m34s  DHCP
2013:bad:beaf::2/128
                00:00:00:00:00:14 1/1/1:13            23h52m36s  DHCP
2013:bad:beaf::3/128
                00:00:00:00:00:15 1/1/1:13            23h54m17s  DHCP
-------------------------------------------------------------------------------
Number of lease states : 3
===============================================================================
*A:Dut-A#
```

Table 275: Output fields: DHCPv6 lease state router advertisement describes DHCPv6 lease state router advertisement policy output fields.

Table 275: Output fields: DHCPv6 lease state router advertisement

Field	Description
Service ID	The service ID provided by the access node to which this subnet is bound
IP Address	The IP address of the service
Client HW Address	The MAC address of the client
Subscriber-Interface	The subscriber interface for the service
Group-interface	The group interface for the service
Sap/Sdp ID	The service SAP and SDP IDs
Termination Type	The PPP session type
Up Time	The value of the up time at the time of the last modification of an entry
Remaining Lease Time	The time left before the DHCPv6 lease expires. The client should renew its lease before this timer expires. (Lease Split) indicates that DHCPv6 lease split is active.
Remaining SessionTime	The time left for this session
Persistence Key	The persistence key
Sub-Ident	The subscriber identification policy name
Sub-Profile-String	The subscriber profile policy name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
App-Profile-String	The application profile policy name
Lease ANCP-String	The ANCP string
Category-Map-Name	The category map name
Dhcp6 ClientID (DUID)	The DHCP client ID
Dhcp6 IAID	The DHCPv6 Identity Association Identifier (IAID) assigned by the client
Dhcp6 IAID Type	The DHCPv6 Identity Association type of this lease (non-temporary or prefix)
Dhcp6 Client Ip	The DHCPv6 IP address of the client
Primary-Dns	The primary DNS, if configured
Secondary-Dns	The secondary DNS, if configured
Pool Name	The pool name
Dhcp6 Server Addr	The DHCPv6 server address
Dhcp6 ServerID (DUID)	The DHCPv6 server ID
Dhcp6 InterfaceId	The DHCPv6 interface ID
Dhcp6 RemoteId	The DHCPv6 remote ID
Radius sub-if prefix	The RADIUS subscriber interface prefix
Router adv. policy	The router advertisement policy
Lease Info origin	The lease info origin
ServerLeaseStart	The date and time the lease was created
ServerLastRenew	The last renew was done for this lease
ServerLeaseEnd	The time left for this lease
Session-Timeout	The session timeout interval
IPoE|PPP	IPoE or PPP
Radius User-Name	The RADIUS user name
Overrides: (only shown when overrides are active)	
Dir Type	The direction type
Id	The ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
PIR	The PIR value
CIR	The CIR value
CBS	The CBS value
MBS	The MBS value
WRR	The WRR value
Class-Weight	The class weight
No. of Overrides	The total number of overrides
Subscriber Host Limit Overrides and SLA Profile Instance Host Limit Overrides: (only shown when overrides are active)	
ipv4-arp	The total number of IPv4 ARP hosts limit
ipv4-dhcp	The total number of IPv4 DHCP hosts limit
ipv4-ppp	The total number of IPv4 PPP hosts limit
ipv4-overall	The total number of IPv4 hosts limit
ipv6-pd-ipoe-dhcp	The total number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-ppp-dhcp	The total number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-overall	The total number of IPv6 DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-wan-ipoe-dhcp	The total number of IPv6 IPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ipoe-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-ppp-dhcp	The total number of IPv6 PPPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ppp-slaac	The total number of IPv6 PPPoE SLAAC WAN hosts limit
ipv6-wan-overall	The total number of IPv6 WAN hosts limit
ipv6-overall	The total number of IPv6 hosts limit
lac-overall	The total number of L2TP LAC hosts limit
overall	The total number of subscriber hosts limit
Subscriber Session Limit Overrides and SLA Profile Instance Session Limit Overrides:	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
(only shown when overrides are active)	
ipoe	The total number of IPoE sessions limit
ppoe-local	The total number of PPPoE local terminated sessions (PTA) limit
ppoe-lac	The total number of PPPoE L2TP LAC sessions limit
ppoe-overall	The total number of PPPoE sessions limit
l2tp-lns	The total number of L2TP LNS sessions limit
l2tp-lts	The total number of L2TP LTS sessions limit
l2tp-overall	The total number of L2TP sessions limit
overall	The total number of subscriber sessions limit
Number of lease states	The total number of lease states

lease-state

Syntax

lease-state all [**no-dhcp-release**]

lease-state [**port** *port-id*] **inter-dest-id** *intermediate-destination-id* [**no-dhcp-release**]

lease-state [**port** *port-id*] **no-inter-dest-id** [**no-dhcp-release**]

lease-state ip-address *ip-address* [*/mask*] [**no-dhcp-release**]

lease-state mac *ieee-address* [**no-dhcp-release**]

lease-state port *port-id* [**no-dhcp-release**]

lease-state sap *sap-id* [**no-dhcp-release**]

lease-state sdp *sdp-id:vc-id* [**no-dhcp-release**]

Context

[Tree] (clear>service>id>dhcp lease-state)

Full Context

clear service id dhcp lease-state

Description

This command removes the DHCPv4 lease state information from the system and sends a DHCP release message on behalf of the client to the DHCP server. A DHCP release is not sent when the remaining lease-time is less than 5 minutes or when the **no-dhcp-release** parameter is specified.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

all

Clears all lease state statistics.

port-id

Displays information about the specified port ID.

intermediate-destination-id

Displays information about the specified intermediate destination ID, up to 32 characters.

no-inter-dest-id

Displays the information about no intermediate destination ID.

ip-address[/mask]

The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that is used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

Values a.b.c.d.

mask: 1 to 32

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

sap-id

Specifies the physical port identifier portion of the SAP definition.

sdp-id

The SDP ID to be cleared.

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID to be cleared.

Values 1 to 4294967295

no-dhcp-release

Specifies that the node clears the state without sending the DHCP release message.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lease-state

Syntax

lease-state all [**no-dhcp-release**]

lease-state ipv6-address *ipv6-prefix*[*/prefix-length*] [**no-dhcp-release**]

lease-state mac *ieee-address* [**no-dhcp-release**]

lease-state sap *sap-id* [**no-dhcp-release**]

Context

[Tree] (clear>service>id>dhcp6 lease-state)

Full Context

clear service id dhcp6 lease-state

Description

This command removes the DHCPv6 lease state information from the system and sends a DHCP release message on behalf of the client to the DHCP server. A DHCP release is not sent when the remaining lease-time is less than 5 minutes or when the no-dhcp-release parameter is specified.

Parameters

all

Clears all lease-states.

no-dhcp-release

Specifies that the node clears the state without sending the DHCP release message.

ipv6-prefix[/prefix-length]

Clears routes only matching the specified IP address and length and only applies to the 7750 SR.

Values	ipv6	ipv6-prefix[/pref*:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
			x:x:x:x:x:x:d.d.d.d
			x: [0 to FFFF]H
			d: [0 to 255]D
		prefix-length:	1 to 128

ieee-address

Clears DHCP6 MAC address lease state information. The 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sap-id

Clears the specified lease state SAP information.

Platforms

All

14.30 leases

leases

Syntax

leases [**detail**]

leases *ip-address*[/*mask*] **address-from-user-db** [**detail**]

leases *ip-address*[/*mask*] **dhcp-host** *dhcp-host-name* [**detail**]

leases *ip-address*[/*mask*] **ppp-host** *ppp-host-name* [**detail**]

leases *ip-address*[/*mask*] [**detail**]

Context

[Tree] (show>router>dhcp>local-dhcp-server leases)

Full Context

show router dhcp local-dhcp-server leases

Description

This command displays the DHCP leases.

Parameters

ip-address

Specifies the base IP address of the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

mask

The subnet mask in dotted decimal notation.

Values 0 to 32

address-from-user-db

Displays only leases that have IP addresses from the local-user-db.

dhcp-host-name

Shows the leases that match a certain DHCP host from the local-user-db.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ppp-host-name

Displays the leases that match a certain PPPoE host from the local-user-db.

detail

Displays detailed information of all leases that fall into the indicated subnet.

The command with no parameters shows all leases from the local-user-db.

Platforms

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

Output

The following output is an example of lease information

Output Example

```
*A:ALA-48>show>router>dhcp>local-dhcp-server# leases ip-address 10.0.0.4
===============================================================================
Leases for DHCP server test router Base
===============================================================================
IP Address      Lease State       Mac Address       Remaining Clnt
  PPPoE user name/Opt82 Circuit Id                  LifeTime  Type
-------------------------------------------------------------------------------
No leases found
*A:ALA-48>show>router>dhcp>local-dhcp-server#
```

Table 276: Output fields: leases describes leases output fields.

Table 276: Output fields: leases

Field	Description
IP Address	The IP address for the specified lease
Lease State	The lease state of the IP address
Mac Address	The MAC address of the lease
Remaining Lifetime	The remaining lifetime of the lease
Clnt Type	The address type
PPPoE user name	The PPPoE user name
Opt82	The option number that the DHCP server uses to send the identification strings to the PPPoE client
Circuit ID	The circuit ID from Option 82

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

leases

Syntax

leases [*ipv6-address/prefix-length*] [*type*] [*state*] [**detail**]

Context

[Tree] (show>router>dhcp6>local-dhcp-server leases)

Full Context

show router dhcp6 local-dhcp-server leases

Description

This command displays the DHCP6 leases.

Parameters

ipv6-address

Specifies the base IP address of the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

mask

The subnet mask in dotted decimal notation.

Values 0 to 32

type

Displays the lease type.

Values pd, wan-host

state

Displays the state of the lease.

Values advertised, remove-pending, held

detail

Displays detailed information of all leases that fall into the indicated subnet.

The command with no parameters shows all leases from the local user database.

Platforms

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

Output

The following output is an example of lease information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show router 600 dhcp6 local-dhcp-server "d6" leases
===============================================================================
Leases for DHCPv6 server d6
===============================================================================
IP Address/Prefix                          Lease State       Remaining   Fail
  Link-local Address                                         LifeTime    Ctrl
-------------------------------------------------------------------------------
2001:AAAA::1/128
  FE80::220:FCFF:FE1E:CD52                 stable            23h58m52s   local
-------------------------------------------------------------------------------
1 leases found
===============================================================================
```

Table 277: Output fields: DHCP6 lease describes DHCP6 lease fields.

Table 277: Output fields: DHCP6 lease

Field	Description
IP Address/Prefix	The IP address and prefix of the lease
Link-local Address	The link local address of the lease
Lease State	The lease state of the lease
Remaining Lifetime	The remaining lifetime of the lease
Fail Ctrl	The type of failover control
No. leases found	The total number of leases

leases

Syntax

leases *ip-address*[*/mask*] [*state*]

leases all [*state*]

Context

[Tree] (clear>router>dhcp>server leases)

Full Context

clear router dhcp local-dhcp-server leases

Description

This command clears DHCP leases.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-address[/mask]

Clears the specified IP address and mask.

state

Clears the state of the lease to be removed.

Values offered, stable, force-renew-pending, remove-pending, held, internal, internal-orphan, internal-held, sticky

Platforms

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

leases

Syntax

leases [*ipv6-address/prefix-length*] [*type*] [*state*]

leases all [*type*] [*state*]

Context

[Tree] (clear>router>dhcp6>server leases)

Full Context

clear router dhcp6 local-dhcp-server leases

Description

This command removes the specified leases in the specified local DHCPv6 server.

Parameters

ipv6-address/prefix-length

Specifies the prefix of the leases to be removed.

type

Specifies the type of the lease to be removed.

Values pd, slaac, wan-host

state

Specifies the state of the lease to be removed.

Values advertised, remove-pending, held, internal, internal-orphan, internal-offered

all

Removes all leases of specified type or state.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

14.31 lfa-coverage

lfa-coverage

Syntax

lfa-coverage

Context

[Tree] (show>router>isis lfa-coverage)

Full Context

show router isis lfa-coverage

Description

This command displays IS-IS LFA coverage information. This information corresponds to the backup next hops for prefixes and nodes written in RTM by the base LFA feature.

Platforms

All

Output

The following output is an example of LFA coverage information.

Output Example

```
*A:SR# show router isis lfa-coverage
===============================================================================
Rtr Base ISIS Instance 0 LFA Coverage
===============================================================================
Topology     Level    Node    IPv4
-------------------------------------------------------------------------------
IPV4 Unicast  L1    4/4(100%) 826/826(100%)
IPV4 Unicast  L2    2/2(100%) 826/826(100%)
IPV6 Unicast  L1    3/3(100%) 0/0(0%)
IPV6 Unicast  L2    0/0(0%)   0/0(0%)
===============================================================================
*A:SR#

*A:SRR>config>router>isis# show router isis lfa-coverage
===============================================================================
LFA Coverage
===============================================================================
Topology         Level   Node           IPv4                IPv6
-------------------------------------------------------------------------------
IPV4 Unicast     L1      3/4(75%)       1484/1975(75%)      0/0(0%)
IPV4 Unicast     L2      3/3(100%)      1484/1975(75%)      0/0(0%)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:SRR>config>router>isis#
```

lfa-coverage

Syntax

lfa-coverage

Context

[Tree] (show>router>ospf3 lfa-coverage)

[Tree] (show>router>ospf lfa-coverage)

Full Context

show router ospf3 lfa-coverage

show router ospf lfa-coverage

Description

This command displays OSPFv2 or OSPFv3 Loop-Free Alternate (LFA) next-hop information. This information corresponds to the backup next hops for prefixes and nodes written in RTM by the base LFA feature.

Platforms

All

Output

Output Example

```
*A:Dut-A# show router ospf 1 lfa-coverage
===============================================================================
Rtr Base OSPFv2 Instance 1 LFA Coverage
===============================================================================
Area                    Node                    Prefix
-------------------------------------------------------------------------------
0.0.0.0                 4/4(100%)               8/8(100%)
===============================================================================
*A:Dut-A#
```

```
*A:Dut-C>config>router>ospf3# show router ospf3 0 lfa-coverage
===============================================================================
Rtr Base OSPFv3 Instance 0 LFA Coverage
===============================================================================
Area                    Node                    Prefix
-------------------------------------------------------------------------------
0.0.0.1                 1/3(33%)                9/27(33%)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.32 lfa-info

lfa-info

Syntax

lfa-info [**mt** *mt-id-number*] [**prefix** *ipv6-prefix*[/*prefix-length*]] [**algo** *algo-id*] [**detail**]

lfa-info adjacency [**assign-type** {**static** | **dynamic**}] [**mt** *mt-id-number*] [**id** *ip-int-name* | *ip-address* | *nbr-system-id*] [**algo** *algo-id*] [**locator** *locator-name*] [**sid** *ipv6-address*] [**detail**]

Context

[Tree] (show>router>isis>srv6 lfa-info)

Full Context

show router isis segment-routing-v6 lfa-info

Description

This command displays LFA information for a SRv6-ISIS remote locator tunnel .

Parameters

mt-id-number

Filters information based on the specific MT ID value.

Values 0 | 2 | 3 | 4

ipv6-prefix/prefix-length

Displays the LFA information for the SRv6-ISIS tunnel of the specified IPv6 prefix.

Values *ipv6-prefix* — x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x — 0 to FFFF (hexadecimal)
d — 0 to 255 (decimal)
prefix-length — 0 to 128

algo-id

Filters information based on the specific SR algorithm value.

Values 0 | 128 to 255

detail

Keyword to display detailed information.

adjacency

Keyword to display adjacency SID LFA information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-int-name | *ip-address* | *nbr-system-id*

Displays the LFA information for the SRv6-ISIS local adjacency identified as either an IP interface, IP address, or neighbor system ID.

Values *ip-int-name* — 32 characters max

ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x [0 to FFFF]H

d [0 to 255]D

nbr-system-id — xxxx.xxxx.xxxx

assign-type

Filters information based on the specific SID assignment type.

Values **static** — Displays only the statically configured adjacency SIDs per IS-IS interface.

dynamic — Displays only the dynamically assigned adjacency SIDs per IS-IS interface.

locator-name

Displays the SRv6-ISIS local adjacency LFA information for the specified locator name, up to 64 characters.

ipv6-address

Displays the SRv6-ISIS local adjacency LFA information for the specified SID IPv6 address.

Values *ipv6-address* — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x [0 to FFFF]H

d [0 to 255]D

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

Output

The following outputs are examples of TI-LFA backup path information, and the associated tables describe the output fields:

The following outputs are examples of TI-FLA backup path information, and the associated tables describe the output fields:

- SRv6 remote locator tunnel
  - Output example (classic SRv6), Table 278: Output fields: IS-IS SRv6 LFA locator information
  - Output example (classic SRv6 detail), Table 279: Output fields: IS-IS SRv6 LFA locator detailed information

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

  - Output example (micro-segment SRv6), Table 280: Output fields: IS-IS SRv6 LFA locator micro-segment classic and detailed information
  - Output example (micro-segment SRv6 detail), Table 280: Output fields: IS-IS SRv6 LFA locator micro-segment classic and detailed information
- SRv6 local adjacency SID tunnel
  - Output example (classic SRv6 adjacency SID with LFA backup using a parallel interface), Output example (adjacency SID without parallel interface), Table 281: Output fields: IS-IS SRv6 LFA adjacency SID information
  - Output example (classic SRv6 adjacency SID with LFA backup using a parallel interface), Output example (adjacency SID without parallel interface detail), Table 282: Output fields: IS-IS SRv6 LFA adjacency SID detailed information
  - Output example (micro-segment SRv6 adjacency SID with parallel interface), Output example (micro-segment adjacency SID without parallel interface), Table 281: Output fields: IS-IS SRv6 LFA adjacency SID information
  - Output example (micro-segment SRv6 adjacency SID with parallel interface detail), Output example (micro-segment adjacency SID without parallel interface detail), Table 282: Output fields: IS-IS SRv6 LFA adjacency SID detailed information

Output example (classic SRv6)

```
show router isis segment-routing-v6 lfa-info prefix  2001:1:1::/96 algo 0
===============================================================================
Rtr Base ISIS Instance 0 SR LFA Info
===============================================================================
Locator                          Algo    MT
  NextHop
  LFA-NextHop                                              LfaType (Pr-
  Backup-Node                    NodeTyp SID               Type)
                                                           SID-Type (srh)
-------------------------------------------------------------------------------
2001:1:1::/96                    0       0
  fe80::a20f:ffff:fe00:0-"to_Dut-A"
  fe80::a223:ffff:fe00:0-"to_Dut-F"(L)                     TI-LFA (Link)
  1920.0000.2006                 P-Node  2001:1:6::3:0     End.X (usp)
  1920.0000.2004                 TR-Node 2001:1:4::2:0     End.X (usp)
  1920.0000.2002                 TR-Node 2001:1:2::3:0     End.X (usp)
  1920.0000.2001                 Q-Node  -                 -
-------------------------------------------------------------------------------
No. of Entries: 1
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```

Table 278: Output fields: IS-IS SRv6 LFA locator information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info	
Locator	Displays the locator IP address
Algo	Displays the algorithm ID
MT	Displays the Multi-Topology value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
NextHop	Displays the next-hop IP address
LFA-NextHop	Displays the LFA next-hop IP address
LfaType (Pr-Type)	Displays the LFA type and protection type
Backup-Node	Displays the backup node system ID
NodeTyp	Displays the node type
SID	Displays the SID value
SID-Type (srh)	Displays the SID type
No. of Entries	Displays the total number of entries

Output example (classic SRv6 LFA locator detail)

```
show router isis segment-routing-v6 lfa-info prefix  2001:1:1::/96 algo 0 detail

Rtr Base ISIS Instance 0 SR LFA Info (detail)
===============================================================================
-------------------------------------------------------------------------------
SRv6 Locator     : 2001:1:1::/96
-------------------------------------------------------------------------------
Algorithm        : 0
NextHop          : fe80::a20f:ffff:fe00:0-"to_Dut-A"
LFA-NextHop      : fe80::a223:ffff:fe00:0-"to_Dut-F"
LFA-Type         : TI-LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 4
   Node-SysID       : 1920.0000.2006
    Node-Type        : P-Node
    SID              : 2001:1:6::3:0
    SID-Type         : End.X
    SRH-Mode         : usp
    Protection-Mode  : protected
    Endpoint Behavior: N.A.
   Node-SysID       : 1920.0000.2004
    Node-Type        : TR-Node
    SID              : 2001:1:4::2:0
    SID-Type         : End.X
    SRH-Mode         : usp
    Protection-Mode  : protected
    Endpoint Behavior: N.A.
   Node-SysID       : 1920.0000.2002
    Node-Type        : TR-Node
    SID              : 2001:1:2::3:0
    SID-Type         : End.X
    SRH-Mode         : usp
    Protection-Mode  : protected
    Endpoint Behavior: N.A.
   Node-SysID       : 1920.0000.2001
    Node-Type        : Q-Node
    SID              : -
    SID-Type         : -
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    SRH-Mode         : -
    Protection-Mode  : -
    Endpoint Behavior: -
-------------------------------------------------------------------------------
No. of Entries: 1
===============================================================================
```

Table 279: Output fields: IS-IS SRv6 LFA locator detailed information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info	
SRv6 Locator	Displays the locator IP address
Algorithm	Displays the algorithm ID
NextHop	Displays the next-hop IP address
LFA-NextHop	Displays the LFA next-hop IP address
Lfa-Type	Displays the LFA type
Node-Type	Displays the node type
LFA-protection	Displays the LFA protection type
Node-Count	Displays the number of nodes
Node-SysID	Displays the system ID of the node
SRH-Mode	Displays the SRH mode
Protection-Mode	Displays the protection mode
Endpoint Behavior	Displays the endpoint behavior
SID	Displays the SID value
SID-Type (srh)	Displays the SID type
No. of Entries	Displays the total number of entries

Output example (micro-segment SRv6)

```
show router isis segment-routing-v6 lfa-info prefix 3001:0:0:1::/64  algo 0

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info
===============================================================================
Locator                           Algo     MT
  NextHop
  LFA-NextHop                                                 LfaType (Pr-
  Backup-Node                     NodeTyp  SID               Type)
                                                              SID-Type (srh)
-------------------------------------------------------------------------------
3001:0:0:1::/64                   0        0
  fe80::201:feff:fe00:0-"to_Dut-A"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  fe80::206:feff:fe00:0-"to_Dut-F"(L)                             TI-LFA (Link)
  1920.0000.2006                    P-Node   3001:0:0:6:4001::   uA (usp)
  1920.0000.2004                    TR-Node  3001:0:0:4:4001::   uA (usp)
  1920.0000.2002                    TR-Node  3001:0:0:2:4001::   uA (usp)
  1920.0000.2001                    Q-Node   -                   -
-------------------------------------------------------------------------------
No. of Entries: 1
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```

Output example (micro-segment SRv6 detail)

```
show router isis segment-routing-v6 lfa-info prefix 3001:0:0:1::/64  algo 0 detail

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info (detail)
===============================================================================
-------------------------------------------------------------------------------
SRv6 Locator     : 3001:0:0:1::/64
-------------------------------------------------------------------------------
Algorithm        : 0
MT               : 0
NextHop          : fe80::201:feff:fe00:0-"to_Dut-A"
LFA-NextHop      : fe80::206:feff:fe00:0-"to_Dut-F"
LFA-Type         : TI-LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 4
   Node-SysID       : 1920.0000.2006
    Node-Type        : P-Node
    SID              : 3001:0:0:6:4001::
    SID-Type         : uA
    SRH-Mode         : usp
    Protection-Mode  : protected
    Endpoint Behavior: End.X-NXT-CSID-USP
   Node-SysID       : 1920.0000.2004
    Node-Type        : TR-Node
    SID              : 3001:0:0:4:4001::
    SID-Type         : uA
    SRH-Mode         : usp
    Protection-Mode  : protected
    Endpoint Behavior: End.X-NXT-CSID-USP
   Node-SysID       : 1920.0000.2002
    Node-Type        : TR-Node
    SID              : 3001:0:0:2:4001::
    SID-Type         : uA
    SRH-Mode         : usp
    Protection-Mode  : protected
    Endpoint Behavior: End.X-NXT-CSID-USP
   Node-SysID       : 1920.0000.2001
    Node-Type        : Q-Node
    SID              : -
    SID-Type         : -
    SRH-Mode         : -
    Protection-Mode  : -
    Endpoint Behavior: not supported
Compressed SID Stack: 3001::4001:4001:4001:0:0
-------------------------------------------------------------------------------
No. of Entries: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 280: Output fields: IS-IS SRv6 LFA locator micro-segment classic and detailed information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info (detail)	
SRv6 Locator	Displays the SRv6 locator IP address
Algorithm	Displays the algorithm ID
NextHop	Displays the next-hop IP address
LFA-NextHop	Displays the LFA next-hop IP address
LFA-Type	Displays the LFA type
LFA-Protection	Displays the LFA protection type
Displaying Backup-Node-Info	
Node-count	Displays the number of nodes
Node-SysID	Displays the node system ID
Node-Type	Displays the node type
SID	Displays the SID value
SID-Type	Displays the SID type
SRH-Mode	Displays the SRH mode
Protection-Mode	Displays the protection mode
Endpoint Behavior	Displays the endpoint behavior
Compressed SID	Displays the compressed SID value. This is only displayed for micro-segment SRv6.
No. of Entries	Displays the total number of entries

Output example (classic SRv6 adjacency SID with LFA backup using a parallel interface)

```
show router isis segment-routing-v6 lfa-info adjacency id "to_Dut-E" algo 0

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Static)
===============================================================================
Interface                         Algo                        MT
  AdjSID                                  AdjSID-Type         Assign-Type
  LFA-NextHop                                                 LfaType (Pr-
  Backup-Node                     NodeType SID                Type)
                                                              SID-Type (srh)
-------------------------------------------------------------------------------
No Matching Entries
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Dynamic)
===============================================================================
Interface                         Algo     NbrSysId           MT
NbrIp
  AdjSID                                   AdjSID-Type        Assign-Type
  LFA-NextHop                                                 LfaType (Pr-
  Backup-Node                     NodeType SID                Type)
                                                              SID-Type (srh)
-------------------------------------------------------------------------------
to_Dut-E                          0        Dut-E              0
fe80::205:feff:fe00:0
  2001:1:3::2000                           End.X              Dynamic
  fe80::205:feff:fe00:0-"to_Dut-E1"(L)                        LFA (Link)
-------------------------------------------------------------------------------
No. of Entries: 1
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```

Output example (classic SRv6 adjacency SID with LFA backup not using a parallel interface)

```
show router isis segment-routing-v6 lfa-info adjacency id "to_Dut-E" algo 0

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Static)
===============================================================================
Interface                         Algo                       MT
  AdjSID                                   AdjSID-Type        Assign-Type
  LFA-NextHop                                                 LfaType (Pr-
  Backup-Node                     NodeType SID                Type)
                                                              SID-Type (srh)
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Dynamic)
===============================================================================
Interface                         Algo     NbrSysId           MT
NbrIp
  AdjSID                                   AdjSID-Type        Assign-Type
  LFA-NextHop                                                 LfaType (Pr-
  Backup-Node                     NodeType SID                Type)
                                                              SID-Type (srh)
-------------------------------------------------------------------------------
to_Dut-E                          0        Dut-E              0
fe80::205:feff:fe00:0
  2001:1:3::2000                           End.X              Dynamic
  fe80::202:feff:fe00:0-"to_Dut-B"(L)                         LFA (Link)
  1920.0000.2004                  PQ-Node  2001:1:4::4000     End (psp)
-------------------------------------------------------------------------------
No. of Entries: 1
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 281: Output fields: IS-IS SRv6 LFA adjacency SID information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info Adjacency	
Interface	Displays the interface
Algo	Displays the algorithm
NbrSysId	Displays the neighbor system ID
MT	Displays the MT value
NbrIp	Displays the neighbor IP address
AdjSID	Displays the adjacency SID
AdjSID-Type	Displays the adjacency SID type
Assign-type	Displays the assign type
LFA-NextHop	Displays the LFA next hop
LfaType (Pr-Type)	Displays the LFA type and protection type
Backup-Node	Displays the backup node
NodeType	Displays the node type
SID	Displays the SID
SID-Type (srh)	Displays the SID type
No matching entries	Displays the total number of entries

Output example (classic SRv6 adjacency SID with LFA backup using a parallel interface detail)

```
show router isis segment-routing-v6 lfa-info adjacency id "to_Dut-E" algo 0 detail

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Static) (detail)
===============================================================================
No Matching Entries
===============================================================================

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Dynamic) (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface        : to_Dut-E          Neighbor IP: fe80::205:feff:fe00:0
-------------------------------------------------------------------------------
Neighbor         : Dut-E
MT               : 0
AdjSID           : 2001:1:3::2000
AdjSID-Type      : End.X
Assign-Type      : Dynamic
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Locator          : baseLocator
Algorithm        : 0
LFA-NextHop      : fe80::205:feff:fe00:0-"to_Dut-E1"
LFA-Type         : LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 0
Compressed SID Stack: -
-------------------------------------------------------------------------------
No. of Entries: 1
===============================================================================
```

Output example (classic SRv6 adjacency SID with LFA backup not using a parallel interface detail)

```
/show router isis segment-routing-v6 lfa-info adjacency id "to_Dut-E" algo 0 detail

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Static) (detail)
===============================================================================
No Matching Entries
===============================================================================

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Dynamic) (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface        : to_Dut-E          Neighbor IP: fe80::205:feff:fe00:0
-------------------------------------------------------------------------------
Neighbor         : Dut-E
MT               : 0
AdjSID           : 2001:1:3::2000
AdjSID-Type      : End.X
Assign-Type      : Dynamic
Locator          : baseLocator
Algorithm        : 0
LFA-NextHop      : fe80::202:feff:fe00:0-"to_Dut-B"
LFA-Type         : LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 1
   Node-SysID       : 1920.0000.2004
    Node-Type        : PQ-Node
    SID              : 2001:1:4::4000
    SID-Type         : End
    SRH-Mode         : psp
    Protection-Mode  :  -
    Endpoint Behavior: End-PSP
Compressed SID Stack: -
-------------------------------------------------------------------------------
No. of Entries: 1
===============================================================================
```

Table 282: Output fields: IS-IS SRv6 LFA adjacency SID detailed information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info Adjacency	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Interface	Displays the interface
Neighbor IP	Displays the neighbor IP address
MT	Displays the MT value
AdjSID	Displays the adjacency SID
Assign-type	Displays the assign type
Locator	Displays the locator name
Algorithm	Displays the algorithm
LFA-NextHop	Displays the LFA next hop
LFA-Type	Displays the LFA type
LFA-protection	Displays the LFA protection type
Displaying Backup-Node-Info	
Node-count	Displays the number of nodes
Node-SysID	Displays the node system ID
Node-Type	Displays the node type
SID	Displays the SID value
SID-Type	Displays the SID type
SRH-Mode	Displays the SRH mode
Protection-Mode	Displays the protection mode
Endpoint Behavior	Displays the endpoint behavior
Compressed SID Stack	Displays the compressed SID value. This is only displayed for micro-segment SRv6.
No. of Entries	Displays the total number of entries

Output example (micro-segment SRv6 adjacency SID with LFA backup using a parallel interface)

```
show router isis segment-routing-v6 lfa-info adjacency id "to_Dut-E" algo 0

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Static)
===============================================================================
Interface                          Algo                          MT
  AdjSID                                   AdjSID-Type         Assign-Type
  LFA-NextHop                                                  LfaType (Pr-
  Backup-Node                      NodeType SID                Type)
                                                               SID-Type (srh)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Dynamic)
===============================================================================
Interface                         Algo     NbrSysId            MT
NbrIp
  AdjSID                                   AdjSID-Type         Assign-Type
  LFA-NextHop                                                  LfaType (Pr-
  Backup-Node                     NodeType SID                 Type)
                                                               SID-Type (srh)
-------------------------------------------------------------------------------
to_Dut-E                          0        Dut-E               0
fe80::205:feff:fe00:0
  3001:0:0:4003::                          uA                  Dynamic
  fe80::205:feff:fe00:0-"to_Dut-E1"(L)                         LFA (Link)
-------------------------------------------------------------------------------
No. of Entries: 1
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```

Output example (micro-segment SRv6 adjacency SID with LFA backup not using a parallel interface)

```
*A:Dut-C# /show router isis segment-routing-v6 lfa-info adjacency id "to_Dut-E" algo 0

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency
===============================================================================
Interface                         Algo     NbrSysId            MT
NbrIp
  AdjSID                                   AdjSID-Type         Assign-Type
  LFA-NextHop                                                  LfaType(Pr-
  Backup-Node                     NodeTyp  SID                 Type)
                                                               SID-Type(srh)
-------------------------------------------------------------------------------
to_Dut-E                          0        Dut-E               0
fe80::205:feff:fe00:0
  3001:0:0:4003::                          uA                  Dynamic
  fe80::202:feff:fe00:0-"to_Dut-B"(L)                          LFA (Link)
  1920.0000.2004                  PQ-Node  3001:0:0:4::        uN (psp)
  1920.0000.2005                  Nbr-Node 3001:0:0:5::        uN (psp)
-------------------------------------------------------------------------------
No. of Entries: 1
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```

Output example (micro-segment SRv6 adjacency SID with LFA backup using a parallel interface detail)

```
A:Dut-C /show router isis segment-routing-v6 lfa-info adjacency id "to_Dut-E" algo 0 detail

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Static) (detail)
===============================================================================
No Matching Entries
===============================================================================

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (Dynamic) (detail)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
-------------------------------------------------------------------------------
Interface        : to_Dut-E          Neighbor IP: fe80::205:feff:fe00:0
-------------------------------------------------------------------------------
Neighbor         : Dut-E
MT               : 0
AdjSID           : 3001:0:0:4003::
AdjSID-Type      : uA
Assign-Type      : Dynamic
Locator          : baseUsidLocator
Algorithm        : 0
LFA-NextHop      : fe80::205:feff:fe00:0-"to_Dut-E1"
LFA-Type         : LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 0
Compressed SID Stack: -
-------------------------------------------------------------------------------
No. of Entries: 1
===============================================================================
```

Output example (micro-segment SRv6 adjacency SID with LFA backup not using a parallel interface detail)

```
show router isis segment-routing-v6 lfa-info adjacency id "to_Dut-E" algo 0 detail

===============================================================================
Rtr Base ISIS Instance 0 SRv6 LFA Info Adjacency (detail)
===============================================================================
Assign-Type      : Dynamic           Locator: baseUsidLocator
-------------------------------------------------------------------------------
Interface        : to_Dut-E          Neighbor IP: fe80::205:feff:fe00:0
-------------------------------------------------------------------------------
Neighbor         : Dut-E
MT               : 0
AdjSID           : 3001:0:0:4003::
Algorithm        : 0
LFA-NextHop      : fe80::202:feff:fe00:0-"to_Dut-B"
LFA-Type         : LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 2
   Node-SysID       : 1920.0000.2004
    Node-Type        : PQ-Node
    SID              : 3001:0:0:4::
    SID-Type         : uN
    SRH-Mode         : psp
    Protection-Mode  :  -
    Endpoint Behavior: End-NXT-CSID-PSP
   Node-SysID       : 1920.0000.2005
    Node-Type        : Nbr-Node
    SID              : 3001:0:0:5::
    SID-Type         : uN
    SRH-Mode         : psp
    Protection-Mode  :  -
    Endpoint Behavior: End-NXT-CSID-PSP
Compressed SID Stack : 3001:0:0:4:5::
-------------------------------------------------------------------------------
No. of Entries: 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

14.33 li

```
li
```

Syntax

li

Context

[Tree] (show li)

Full Context

show li

Description

This command displays Lawful Intercept (LI) information.

Platforms

All

```
li
```

Syntax

li

Context

[Tree] (clear li)

Full Context

clear li

Description

This command clears Lawful Intercept (LI) information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.34 li-ip

li-ip

Syntax

li-ip [*li-filter-name*]

li-ip *li-filter-name* {**counters** | **associations**}

li-ip *li-filter-name* **entry** *entry-id* [**counters**]

Context

[Tree] (show>li>filter li-ip)

Full Context

show li filter li-ip

Description

This command displays LI mirror IPv4 address filter configuration and operation information.

Parameters

li-filter-name

Specifies the LI filter name, up to 32 characters.

entry-id

Specifies the LI filter entry.

Values 1 to 65535

counters

Specifies LI filter counter information.

associations

Specifies LI filter association information.

Platforms

All

li-ip

Syntax

li-ip *li-filter-name* [**entry** *entry-id*] [{ **ingress** | **egress**}]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>li>filter li-ip)

Full Context

clear li filter li-ip

Description

This command clears LI mirror IPv4 address filter configuration and operation information.

Parameters

li-filter-name

Clears the LI filter name, up to 32 characters.

entry-id

Clears the LI filter entry.

Values 1 to 65535

Platforms

All

14.35 li-ipv6

li-ipv6

Syntax

li-ipv6 [*li-filter-name*]

li-ipv6 *li-filter-name* {**counters** | **associations**}

li-ipv6 *li-filter-name* **entry** *entry-id* [**counters**]

Context

[Tree] (show>li>filter li-ipv6)

Full Context

show li filter li-ipv6

Description

This command displays LI mirror IPv6 address filter configuration and operation information.

Parameters

li-filter-name

Specifies the LI filter name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

entry-id

Specifies the LI filter entry.

Values 1 to 65535

counters

Specifies LI filter counter information.

associations

Specifies LI filter association information.

Platforms

All

li-ipv6

Syntax

li-ipv6 *li-filter-name* [**entry** *entry-id*] [{ **ingress** | **egress**}]

Context

[Tree] (clear>li>filter li-ipv6)

Full Context

clear li filter li-ipv6

Description

This command clears LI mirror IPv6 address filter configuration and operation information.

Parameters

li-filter-name

Clears the LI filter name, up to 32 characters.

entry-id

Clears the LI filter entry.

Values 1 to 65535

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.36 li-mac

li-mac

Syntax

li-mac [*li-filter-name*]

li-mac *li-filter-name* {**counters** | **associations**}

li-mac *li-filter-name* **entry** *entry-id* [**counters**]

Context

[Tree] (show>li>filter li-mac)

Full Context

show li filter li-mac

Description

This command displays LI mirror MAC address filter configuration and operation information.

Parameters

li-filter-name

Specifies the LI filter name, up to 32 characters.

entry-id

Specifies the LI filter entry.

Values 1 to 65535

counters

Specifies LI filter counter information.

associations

Specifies LI filter association information.

Platforms

All

li-mac

Syntax

li-mac *li-filter-name* [**entry** *entry-id*] [{ **ingress** | **egress**}]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>li>filter li-mac)

Full Context

clear li filter li-mac

Description

This command clears LI mirror MAC address filter configuration and operation information.

Parameters

li-filter-name

Clears the LI filter name, up to 32 characters.

entry-id

Clears the LI filter entry.

Values 1 to 65535

Platforms

All

14.37 li-source

li-source

Syntax

li-source *service-id* [**acct-session-id** *session-id*]

Context

[Tree] (show>li li-source)

Full Context

show li li-source

Description

This command displays LI mirror configuration and operation information.

Parameters

service-id

Specifies the service ID.

Values 1 to 2147483647

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session-id

Specifies the session ID, up to 22 characters.

Platforms

All

Output

The following output is an example of LI source information.

Output Example

```
*A:sim138# show li li-source 2
===============================================================================
Mirror Service
===============================================================================
Service Id       : 2                    Type          : Ether
Admin State      : Up                   Oper State    : Up
Forwarding Class : be                   Remote Sources: No
Slice            : 0
Destination SDP  : 1000 (100.1.1.2)     Egress Label  : 4000
Signaling:       : None

-------------------------------------------------------------------------------
Local Sources
-------------------------------------------------------------------------------
Admin State      : Up

 - IP Filter       1          Entry 1
===============================================================================
*A:sim138#
```

14.38 license

license

Syntax

license available-licenses

Context

[Tree] (show>system license)

Full Context

show system license

Description

Displays information related to the active license(s) within the system. This includes the license name, target UUID, target product, target SR OS release, and the start, end, and issue date of the license.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

If the **available-licenses** attribute is included, then the information for each active license shall be displayed. The usual case for more than one license in a system is during an upgrade procedures when there needs to be both the originating and destination release licenses available in the system.

Parameters

available-licenses

Includes information for all licenses active in the system.

Platforms

All

Output

The following output is an example of license information.

Output Example

```
*A:ExitLeaf-35# show system license
===============================================================================
Current License
===============================================================================
License status : monitoring, valid license record
Time remaining : 131 days 9 hours
-------------------------------------------------------------------------------
License name   : sr-regress@list.nokia.com
License uuid   : ab516e50-2413-44aa-9f7c-34b4e5b64d19
Machine uuid   : ab516e50-2413-44aa-9f7c-34b4e5b64d19
License desc   : 7xxx Platform
License prod   : 7xxx Platform
License sros   : TiMOS-[BC]-16.0.*
Current date   : FRI NOV 03 15:53:54 UTC 2017
Issue   date   : FRI SEP 22 20:55:14 UTC 2017
Start   date   : FRI SEP 15 00:00:00 UTC 2017
End     date   : THU MAR 15 00:00:00 UTC 2018
-------------------------------------------------------------------------------
                                                                    Entitlement
IOM Upgrades   : !cr-er                                                       1
               : !er-he                                                       1
               : !cr400g-cr1200g+                                             1
               : !er400g-er1200g+                                             1
               : !he400g-he1200g+                                             1
               : !cr-er1200g+                                                 1
               : !er-he1200g+                                                 1
MDA Upgrades   :  cr1200g-cr1600g                                             1
               :  cr1600g-cr2400g                                             1
               :  er1200g-er1600g                                             1
               :  er1600g-er2400g                                             1
               :  he1200g-he1600g                                             1
               :  he1600g-he2400g                                             1
               :  cr1200g-er1200g                                             1
               :  er1200g-he1200g                                             1
               :  cr1600g-er1600g                                             1
               :  er1600g-he1600g                                             1
               :  cr2400g-er2400g                                             1
               :  er2400g-he2400g                                             1
               : !any2400g-2400g+                                             1
               : !cr3600g-cr4800g                                             1
               : !er3600g-er4800g                                             1
               : !he3600g-he4800g                                             1
               : !cr3600g-er3600g                                             1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
               : !er3600g-he3600g                                                1
               : !cr4800g-er4800g                                                1
               : !er4800g-he4800g                                                1
               : !any3600g-3600gdd                                               1
               : !any4800g-4800g+                                                1
-------------------------------------------------------------------------------

  ! - indicates license not applicable to system
```

14.39 license-statistics

license-statistics

Syntax

license-statistics

Context

[Tree] (show>system license-statistics)

Full Context

show system license-statistics

Description

Commands in this context display application license statistics.

Platforms

VSR

14.40 licensing

licensing

Syntax

licensing *port-id*

licensing audit [**monitored**]

licensing entitlements

Context

[Tree] (show licensing)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show licensing

Description

This command displays information related to the active application licenses on the system. The licenses are either monitored RTUs or entitlement ASLs, both of which cover features and scale in use in the SR OS system.

For monitored RTUs, there is a legal requirement to purchase the RTU parts to cover the administrative enabling of the related features and scale; however, the SR OS does not block the activation or scale of the feature.

For entitlement ASLs, feature activation on the SR OS system requires the installation of the ASL via the license-file mechanism before the related feature can be enabled. See the *7750 SR and 7950 XRS Pay-as-You-Grow Licensing Reference Guide* for more information.

When the **audit** keyword is used, the display shows all the monitored RTUs and entitlement ASLs of the node. Using the optional **monitored** keyword together with **audit** restricts the display to only the monitored RTUs.

When the **entitlements** keyword is used, the display shows all the entitlements in the active licenses in the system, the type of license, the quantity of POOL licenses, and the number of each that is in use or available for use.

Parameters

audit

Specifies that the state of all features covered by licenses is displayed.

monitored

Specifies that only the monitored RTUs are included in the audit display.

entitlements

Specifies that the number of instances allowed by the active license is displayed.

port-id

Specifies the port identifier in the format *slot*[/*mda*[/*connector*[/*port*]]].

slot	1 to 10
mda	1 to 2
connector	c1 to c36
port	1 to 10

Platforms

All

Output

The following outputs are examples of the **show licensing** command output and the corresponding tables describe the output fields:

- Output Example: show licensing; Output Fields Table 283: Output fields: licensing

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output Example: show licensing audit; Output Fields Table 284: Output fields: licensing audit
- Output Example: show licensing entitlements; Output Fields Table 285: Output fields: licensing entitlement

Output Example: show licensing

```
# show licensing 2/1
===============================================================================
Connector           MAC  Licensed  Restrictions
-------------------------------------------------------------------------------
2/1/c1              1    Yes       400 Gbps per MAC Chip
2/1/c2              1    Yes       400 Gbps per MAC Chip
2/1/c3              1    Yes       400 Gbps per MAC Chip
2/1/c4              2    Yes       400 Gbps per MAC Chip
2/1/c5              2    Yes       400 Gbps per MAC Chip
2/1/c6              2    Yes       400 Gbps per MAC Chip
2/1/c7              3    Yes       400 Gbps per MAC Chip
2/1/c8              3    Yes       400 Gbps per MAC Chip
2/1/c9              3    Yes       400 Gbps per MAC Chip
2/1/c10             4    Yes       400 Gbps per MAC Chip
2/1/c11             4    Yes       400 Gbps per MAC Chip
2/1/c12             4    Yes       400 Gbps per MAC Chip
2/1/c13             5    Yes       400 Gbps per MAC Chip
2/1/c14             5    Yes       400 Gbps per MAC Chip
2/1/c15             5    Yes       400 Gbps per MAC Chip
2/1/c16             6    Yes       400 Gbps per MAC Chip
2/1/c17             6    Yes       400 Gbps per MAC Chip
2/1/c18             6    Yes       400 Gbps per MAC Chip
2/1/c19             7    Yes       400 Gbps per MAC Chip
2/1/c20             7    Yes       400 Gbps per MAC Chip
2/1/c21             7    Yes       400 Gbps per MAC Chip
2/1/c22             8    Yes       400 Gbps per MAC Chip
2/1/c23             8    Yes       400 Gbps per MAC Chip
2/1/c24             8    Yes       400 Gbps per MAC Chip
2/1/c25             9    Yes       400 Gbps per MAC Chip
2/1/c26             9    Yes       400 Gbps per MAC Chip
2/1/c27             9    Yes       400 Gbps per MAC Chip
2/1/c28             10   Yes       400 Gbps per MAC Chip
2/1/c29             10   Yes       400 Gbps per MAC Chip
2/1/c30             10   Yes       400 Gbps per MAC Chip
2/1/c31             11   Yes       400 Gbps per MAC Chip
2/1/c32             11   Yes       400 Gbps per MAC Chip
2/1/c33             11   Yes       400 Gbps per MAC Chip
```

Output Fields

Table 283: Output fields: licensing describes the output fields for the **show licensing** command.

Table 283: Output fields: licensing

Label	Description
Connector	The identity of connector for the license limits.
MAC	The index of the MAC on the card or MDA to which the connector is attached.
Licensed	Whether or not the connector is licensed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Yes — the connector is included in the licensed level of the card or MDA and may be configured for a breakout. Other rules may apply as described in the restrictions field. No — this connector is not included in the licensed level of the card or MDA and it cannot be configured for breakout.
Restrictions	Additional license rules that may apply to the use of the connector, for example, bandwidth limits to the set of connectors on the same MAC.

Output Example: show licensing audit

```
# show licensing audit
===============================================================================
                                Current     Current     Previous
License                         Allocated   Max         24 Hr Max
-------------------------------------------------------------------------------
IOM Upgrades
  cr-er400g+                            0           0           0
  cr-er800g+                            0           0           0
  er-he400g+                            0           0           0
  er-he800g+                            0           0           0
  cr-er1200g+                           0           0           0
  er-he1200g+                           0           0           0
  cr400g-cr800g+                        0           0           0
  er400g-er800g+                        0           0           0
  he400g-he800g+                        0           0           0
  cr400g-cr1200g+                       0           0           0
  cr800g-cr1200g+                       0           0           0
  er400g-er1200g+                       0           0           0
  er800g-er1200g+                       0           0           0
  he400g-he1200g+                       0           0           0
  he800g-he1200g+                       0           0           0
Port Licenses
  7x50 SR/XRS Port 1GE                  6           6           6
  7x50 SR/XRS Port 10GE                12          12          12
  7x50 SR/XRS Port 25GE                 0           0           0
  7x50 SR/XRS Port 40GE                 0           0           0
  7x50 SR/XRS Port 50GE                 0           0           0
  7x50 SR/XRS Port 100GE                4           4           4
  7x50 SR/XRS Port 400GE                0           0           0
===============================================================================
Last 24 Hr Interval Ended: 09/24/2020 18:14:03
```

Output Fields

Table 284: Output fields: licensing audit describes the output fields for the **show licensing audit** command.

Table 284: Output fields: licensing audit

Label	Description
License	The name of the entitlement ASL or the monitored RTU, grouped by category

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Current Allocated	The number of instances of the license that are currently in use
Current Max	The maximum number of instances of the license that were recorded as in use within the current 24-hour monitoring period
Previous 24 Hr Max	The maximum number of instances of the license that were recorded in the previous full 24-hour monitoring period; shows as "n/a" if it has been less than 24 hours since startup
Last 24 Hr Interval Ended	Indicates the end time of the last 24-hour monitoring period; not displayed if it is less than 24 hours since startup

Output Example: show licensing entitlements

```
# show licensing entitlements
===============================================================================
License                              Available      In-Use       State
-------------------------------------------------------------------------------
MDA Upgrades
  cr1200g-cr1600g                          1           0        VALID
  cr1200g-er1200g                          2           0        VALID
  cr1600g-cr2400g                          1           0        VALID
  cr1600g-er1600g                          0           2        VALID
  cr2400g-er2400g                          1           0        VALID
  er1200g-er1600g                          1           0        VALID
  er1200g-he1200g                          1           0        VALID
  er1600g-er2400g                          4           0        VALID
  er1600g-he1600g                          1           0        VALID
  er2400g-he2400g                          1           0        VALID
  he1200g-he1600g                          1           0        VALID
  he1600g-he2400g                          1           0        VALID
===============================================================================
*
```

Output Fields

Table 285: Output fields: licensing entitlement describes the output fields for the **show licensing entitlement** command.

Table 285: Output fields: licensing entitlement

Label	Description
License	The description of the license
Available	The number of instances that are not currently being used. "License err" if in use is greater than the number of the allowed entitlements.
In-Use	The number of instances that are currently being used.
State	Indicates the state of the license as: • VALID — license can be used in the node.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• VIOLATION — license is in use but not covered by the currently activated license key file.

14.41 link

link

Syntax

link

Context

[Tree] (show>router>bgp>routes>bgp-ls link)

Full Context

show router bgp routes bgp-ls link

Description

This command displays BGP-LS NLRIs for link types.

Platforms

All

14.42 link-check

link-check

Syntax

link-check

Context

[Tree] (tools>perform>chassis link-check)

Full Context

tools perform chassis link-check

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command checks the connection between an XCM and XMA cards on a SR-2/7/14s chassis. The function checks the connection between all XCM and XMA cards present in the system and outputs one of the following for each XMA:

- OK — the connection is good and no action is required
- NOK — the connection is suspect, re-seat the XMA to determine if this corrects the issue. If this issue persists, contact Nokia support.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

14.43 link-group-member-status

link-group-member-status

Syntax

link-group-member-status *name* [**level** *level*]

Context

[Tree] (show>router>isis link-group-member-status)

Full Context

show router isis link-group-member-status

Description

This command displays IS-IS link-group-member status.

Parameters

name

Up to 32 characters.

level

Specifies the interface level (1, 2, or 1 and 2).

Platforms

All

Output

The following output is an example of link group member status information.

Output Example

```
A:cses-V94# show router isis link-group-member-status
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  - link-group-member-status <name> [level <level>]

 <name>               : [32 chars max]
 <level>              : 1|2


A:cses-V94# show router isis link-group-member-status "toDutB"

===============================================================================
Rtr Base ISIS Instance 0 Link-Group Member
===============================================================================
Link-group            I/F name               Level      State
-------------------------------------------------------------------------------
toDutB                ip-10.10.12.3          L1         Up
toDutB                ip-10.10.3.3           L1         Up
toDutB                ip-10.10.12.3          L2         Up
toDutB                ip-10.10.3.3           L2         Up
-------------------------------------------------------------------------------
Legend: BER = bitErrorRate
===============================================================================
A:cses-V94#
```

14.44 link-group-status

link-group-status

Syntax

link-group-status *name* [**level** *level*]

Context

[Tree] (show>router>isis link-group-status)

Full Context

show router isis link-group-status

Description

This command displays IS-IS link-group status.

Parameters

name

Specifies the link-group name.

level

Specifies the interface level (1, 2, or 1 and 2).

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of link group status.

Output Example

```
A:cses-V94# show router isis link-group-status

===============================================================================
Rtr Base ISIS Instance 0 Link-Group Status
===============================================================================
Link-group              Mbrs   Oper   Revert Active Level   State
                               Mbr     Mbr    Mbr
-------------------------------------------------------------------------------
toDutB                  2      2      2      2      L1      normal
toDutB                  2      2      2      2      L2      normal
toDutE                  2      2      2      2      L1      normal
toDutE                  2      2      2      2      L2      normal
===============================================================================
A:cses-V94#
```

14.45 link-map-profile

link-map-profile

Syntax

link-map-profile *link-map-profile*

Context

[Tree] (show>lag link-map-profile)

Full Context

show lag link-map-profile

Description

This command displays LAG link map profile information.

Parameters

link-map-profile

Displays information about a specified LAG link map profile.

Values 1 to 32 (VSR)
1 to 64 (all other platforms)

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.46 link-measurement

link-measurement

Syntax

link-measurement

Context

[Tree] (show>test-oam link-measurement)

Full Context

show test-oam link-measurement

Description

Commands in this context display link measurement template information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

14.47 listen

listen

Syntax

listen

Context

[Tree] (clear>system>management-interface>netconf listen)

Full Context

clear system management-interface netconf listen

Description

Commands in this context reset NETCONF listen server statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.48 lldp

lldp

Syntax

lldp

lldp neighbor

Context

[Tree] (show>system lldp)

Full Context

show system lldp

Description

This command displays local Link Layer Discovery Protocol (LLDP) information at the system level.

Parameters

neighbor

Displays LLDP neighbor information.

Platforms

All

Output

The following output is an example of local LLDP information.

Output Example: show system lldp

```
show system lldp
===============================================================================
LLDP Configuration
===============================================================================
Transmit Interval      : 30
Hold Multiplier        : 4
Reinit Delay           : 2
Notification Interval  : 5
Tx Credit Max          : 5
Message Fast Tx        : 1
Message Fast Tx Init   : 4
Admin Enabled          : True

-------------------------------------------------------------------------------
LLDP System Information
-------------------------------------------------------------------------------
Chassis Id Subtype     : 4
Chassis Id             : d8:1f:ff:00:00:00
System Name            : cses-V31
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
System Description     : TiMOS-B-0.0.I4269 both/i386 Nokia 7750 SR Copyright
                         (c) 2000-2016 Nokia.
                         All rights reserved. All use subject to applicable
                         license agreements.
                         Built on Wed Dec 3 19:14:27 PST 2014 by builder in /
                         rel0.0/I4269/panos/main
Capabilities Supported : bridge router
Capabilities Enabled   : bridge router

-------------------------------------------------------------------------------
LLDP Destination Addresses
-------------------------------------------------------------------------------
Index 1                : 01:80:c2:00:00:0e
Index 2                : 01:80:c2:00:00:03
Index 3                : 01:80:c2:00:00:00

-------------------------------------------------------------------------------
LLDP Remote Statistics
-------------------------------------------------------------------------------
Last Change Time       : 12/08/2014 21:34:48
Rem Table Inserts      : 10
Rem Table Deletes      : 1
Rem Table Drops        : 0
Rem Table Ageouts      : 3

-------------------------------------------------------------------------------
LLDP System Management Addresses
-------------------------------------------------------------------------------
Address SubType        : 1 (IPv4)
Address                : 10.1.1.31
Address If SubType     : 2
Address If Id          : 1
Address OID            : .1.3.6.1.4.1.6527.1.3.3
Address SubType        : 2 (IPv6)
Address                : 2001:db8:dead:beef::31
Address If SubType     : 2
Address If Id          : 1
Address OID            : .1.3.6.1.4.1.6527.1.3.3

===============================================================================

show system lldp neighbor

Link Layer Discovery Protocol (LLDP) System Information
===============================================================================
NB = nearest-bridge   NTPMR = nearest-non-tpmr   NC = nearest-customer
===============================================================================
Lcl Port  Scope  Remote Chassis ID   Index  Remote Port     Remote System Name
-------------------------------------------------------------------------------
1/1/4     NB     D8:1D:FF:00:00:00   1      1/1/5           cses-v29
1/1/6     NB     D8:1D:FF:00:00:00   2      1/1/7           cses-v29
1/2/2     NB     D8:1F:FF:00:00:00   3      1/1/1           cses-v31
1/2/1     NB     D8:1E:FF:00:00:00   4      1/1/1           cses-v30
1/2/3     NB     D8:20:FF:00:00:00   5      1/1/1           cses-v32
1/2/4     NB     D8:21:FF:00:00:00   6      1/1/1           cses-V33
===============================================================================
Number of neighbors : 6
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lldp

Syntax

lldp bridge-mac] [**remote-info**] [**detail**]

Context

[Tree] (show>port>ethernet lldp)

Full Context

show port ethernet lldp

Description

This command displays LLDP information.

Parameters

bridge-mac

Specifies a keyword to filter the output.

remote-info

Displays remote information on the bridge MAC.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example LLDP port information, and Table 286: Output fields: LLDP port information describes the output fields.

Output example

```
show port 5/1/1 ethernet lldp detail
===============================================================================
Link Layer Discovery Protocol (LLDP) Port Information
===============================================================================

Port 5/1/1 Bridge nearest-bridge
-------------------------------------------------------------------------------
Admin State           : disabled       Notifications         : Disabled
Tunnel Nearest Bridge : Disabled
Transmit TLVs         : None
PortID TLV Subtype    : tx-local

Management Address Transmit Configuration:
Index 0 (OOB)         : Disabled       Address               : 192.168.135.32
Index 1 (system)      : Disabled       Address               : 0.0.0.0
Index 2 (IPv6 system) : Disabled       Address               : ::
Index 3 (IPv6 OOB)    : Disabled       Address               : 3000::c0a8:8720
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Port LLDP Stats:
Tx Frames             : 0             Tx Length Err Frames  : 0
Rx Frames             : 0             Rx Frame Discard      : 0
Rx Frame Errors       : 0             Rx TLV Discard        : 0
Rx TLV Unknown        : 0             Rx Ageouts            : 0


Port 5/1/1 Bridge nearest-non-tpmr
-------------------------------------------------------------------------------
Admin State           : disabled      Notifications         : Disabled
Transmit TLVs         : None
PortID TLV Subtype    : tx-local

Management Address Transmit Configuration:
Index 0 (OOB)         : Disabled      Address               : 192.168.135.32
Index 1 (system)      : Disabled      Address               : 0.0.0.0
Index 2 (IPv6 system) : Disabled      Address               : ::
Index 3 (IPv6 OOB)    : Disabled      Address               : 3000::c0a8:8720

Port LLDP Stats:
Tx Frames             : 0             Tx Length Err Frames  : 0
Rx Frames             : 0             Rx Frame Discard      : 0
Rx Frame Errors       : 0             Rx TLV Discard        : 0
Rx TLV Unknown        : 0             Rx Ageouts            : 0


Port 5/1/1 Bridge nearest-customer
-------------------------------------------------------------------------------
Admin State           : disabled      Notifications         : Disabled
Transmit TLVs         : None
PortID TLV Subtype    : tx-local

Management Address Transmit Configuration:
Index 0 (OOB)         : Disabled      Address               : 192.168.135.32
Index 1 (system)      : Disabled      Address               : 0.0.0.0
Index 2 (IPv6 system) : Disabled      Address               : ::
Index 3 (IPv6 OOB)    : Disabled      Address               : 3000::c0a8:8720

Port LLDP Stats:
Tx Frames             : 0             Tx Length Err Frames  : 0
Rx Frames             : 0             Rx Frame Discard      : 0
Rx Frame Errors       : 0             Rx TLV Discard        : 0
Rx TLV Unknown        : 0             Rx Ageouts            : 0

===============================================================================
```

Table 286: Output fields: LLDP port information

Label	Description
Admin State	Indicates LLDP transmission or reception handling on the port
Notifications	Enabled – LLDP notifications are enabled Disabled – LLDP notifications are disabled
Tunnel Nearest Bridge	Enabled – the nearest bridge tunneling frames are enabled Disabled – the nearest bridge tunneling frames are disabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Transmit TLVs	port-desc – this LLDP TLV is transmitted sys-name – this LLDP TLV is transmitted sys-desc – this LLDP TLV is transmitted sys-cap – this LLDP TLV is transmitted none – no LLDP TLVs are transmitted
PortID TLV Subtype	tx-if-alias – this port identifier TLV is transmitted to the peer tx-ifname – this port identifier TLV is transmitted to the peer tx-local – this port identifier TLV is transmitted to the peer
Index 0 (OOB)	Uses the IPv4 out-of-band management IP address
Index 1 (system)	Uses the IPv4 system IP address
Index 2 (IPv6 system)	Uses the IPv6 system IP address
Index 3 (IPv6 OOB)	Uses the IPv6 out-of-band management IP address
Address	The IP address associated with the index
Tx Frames	The number of LLDP frames transmitted from the port
Rx Frames	The number of LLDP frames received on the port
Rx Frame Errors	The number of LLDP frames received with errors on the port
Rx TLV Unknown	The number of LLDP frames received on the port with a properly formatted TLV that was not supported on the receiving port
Tx Length Err Frames	The number of LLDP frames transmitted with length errors from the port
Rx Frame Discard	The number of LLDP frames received but discarded on the port
Rx TLV Discard	The number of LLDP frames received on the port discarded because of the TLV
Rx Ageouts	The number of LLDP frames received on the port with a properly formatted TLV that was not supported on the receiving port

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.49 lldp-member-template

lldp-member-template

Syntax

lldp-member-template [**dest-mac** *dest-mac-type*]

Context

[Tree] (show>lag lldp-member-template)

Full Context

show lag lldp-member-template

Description

This command displays LLDP member port information.

Parameters

dest-mac-type

Specifies the destination MAC address type.

Values nearest-bridge – the nearest bridge is used

nearest-non-tpmr – the nearest non-TPMR is used

nearest-customer – the nearest customer is used

Platforms

All

Output

The following output is an example of LLDP member port information, and Table 287: Output fields: LLDP member port information describes the output fields.

Output example

```
show lag lag-1 lldp-member-template
===============================================================================
LAG Link Layer Discovery Protocol member template information
===============================================================================
nearest-bridge
-------------------------------------------------------------------------------
Administrative state        : disabled
Notifications               : disabled
Port-id subtype             : tx-local
Transmit TLVs               : (Not Specified)
Tunnel-nearest-bridge       : disabled
Management address transmit : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
nearest-non-tpmr
-------------------------------------------------------------------------------
Administrative state        : disabled
Notifications               : disabled
Port-id subtype             : tx-local
Transmit TLVs               : (Not Specified)
Management address transmit : (Not Specified)

nearest-customer
-------------------------------------------------------------------------------
Administrative state        : disabled
Notifications               : disabled
Port-id subtype             : tx-local
Transmit TLVs               : (Not Specified)
Management address transmit : (Not Specified)

===============================================================================
```

Table 287: Output fields: LLDP member port information

Label	Description
Administrative state	Indicates LLDP transmission or reception handling on the port
Notifications	Enabled – LLDP notifications are enabled Disabled – LLDP notifications are disabled
Port-id subtype	tx-if-alias – this port identifier TLV is transmitted to the peer tx-ifname – this port identifier TLV is transmitted to the peer tx-local – this port identifier TLV is transmitted to the peer
Transmit TLVs	port-desc – this LLDP TLV is transmitted sys-name – this LLDP TLV is transmitted sys-desc – this LLDP TLV is transmitted sys-cap – this LLDP TLV is transmitted none – no LLDP TLVs are transmitted
Tunnel-nearest-bridge	Enabled – the nearest bridge tunneling frames are enabled Disabled – the nearest bridge tunneling frames are disabled
Management address transmit	The management address transmitted

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.50 lmm

lmm

Syntax

lmm [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>oam-pm>session lmm)

Full Context

monitor oam-pm session lmm

Description

This command monitors the Ethernet Loss Measurement Message (LMM) statistics for the specified test's raw measurement interval.

Parameters

seconds

Specifies the time interval, in seconds.

Values 3 to 60

Default 10

repeat

Specifies the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Specifies that the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

Specifies that the rate-per-second is displayed.

Default delta

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lmm

Syntax

lmm

Context

[Tree] (show>oam-pm>stats>session lmm)

Full Context

show oam-pm statistics session lmm

Description

This command selects the session's Ethernet LMM test for the statistical display.

Platforms

All

14.51 lns-group

lns-group

Syntax

lns-group *lns-group-id* [**associations**]

lns-group *lns-group-id* **statistics esa-vm** *vapp-id*

lns-group [*lns-group-id*] **esa-vm**

lns-group *lns-group-id* **mda** *mda-id* **statistics**

lns-group [*lns-group-id*] **mda**

lns-group

Context

[Tree] (show>isa lns-group)

Full Context

show isa lns-group

Description

This command shows information such as the number of ESAs provisioned and in service, the LNS group operational status, and the number of L2TP sessions and ESA VM associated to the LNS group, as well as the detailed statistics of the ESA VM in relation to the LNS group.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

lns-group-id

Specifies the LNS group identifier.

Values 1 to 4

associations

Displays information associated with the LNS group in the ISA context.

statistics

Displays statistics information.

mda-id

Specifies the ESA and VM identifying an LNS group.

Values			
	mda-id:	*slot*/*mda*	
		slot	1 to 10
		mda	1 to 2

vapp-id

Specifies the ESA and VM identifying an LNS group.

Values			
	vapp-id:	*esa-id*/*vm-id*	
		esa-id	1 to 16
		vm-id	1 to 4

Platforms

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

Output

The following outputs are examples of the number of ESAs provisioned, the LNS group information status, and the statistics of the ESA VM in relation to the LNS group.

Output Example

```
*A:LNS# show isa lns-group esa-vm
===============================================================================
ISA LNS group ESA-VM's
===============================================================================
Group ESA-VM   State        Sessions
-------------------------------------------------------------------------------
1     1/1      inService    15290
2     2/1      inService    15761
3     1/2      inService    14413
4     2/2      inService    14533
-------------------------------------------------------------------------------
No. of ESA-VM's: 4
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-C# show isa lns-group 1 esa-vm
===============================================================================
ISA LNS Group 1 ESA-VM's
===============================================================================
Group ESA-VM   State        Sessions
-------------------------------------------------------------------------------
1     1/1      inService    15290
-------------------------------------------------------------------------------
No. of ESA-VM's: 1
===============================================================================
```

Output Example

```
*A:Dut-C# show isa lns-group 1 esa-vm  1/1 statistics
===============================================================================
ISA LNS Group 1 ESA-VM 1/1 statistics
===============================================================================
upstream PPP control forwarded to CPM                  : 49147
upstream PPP forwarded to PPPoX                        : 2176118
upstream LCP Echo Rep                                  : 2176113
downstream forwarded to L2TP                           : 62444564
downstream LCP Echo Req                                : 2210467
===============================================================================
```

lns-group

Syntax

lns-group *lns-group-id* **statistics esa-vm** *vapp-id*

lns-group *lns-group-id* **mda** *mda-id* **statistics**

Context

[Tree] (clear>isa lns-group)

Full Context

clear isa lns-group

Description

This command clears the statistics for the identified VM within the specified LNS group.

Parameters

lns-group-id

Specifies the LNS group identifier.

Values 1 to 4

statistics

Displays statistics information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mda-id

Specifies the ESA and VM identifying an LNS group.

Values

mda-id:	*slot*/*mda*	
	slot	1 to 10
	mda	1 to 2

vapp-id

Specifies the ESA and VM identifying an LNS group.

Values

vapp-id:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

14.52 load-balance

load-balance

Syntax

load-balance lag-id *lag-id* [**class** {**1** | **2** | **3**}]

Context

[Tree] (tools>perform>lag load-balance)

Full Context

tools perform lag load-balance

Description

Load balance specified LAG's links when per-link-hash weighted is deployed. Load balancing can be per specified class or on all classes if no class is specified.

Parameters

lag-id

Specifies the LAG ID.

Values 1 to 800

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

class

Specifies the class.

Values 1, 2, 3

Platforms

All

load-balance

Syntax

load-balance [**service** *service-id*]

Context

[Tree] (tools>perform>app-assure>group load-balance)

Full Context

tools perform application-assurance group load-balance

Description

This command rebalances AA subscribers between ISAs within a group, in case imbalance occurs such as with the addition of new cards.

Parameters

service *service-id*

Specifies the service

Values 1 to 2147483648

Platforms

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

14.53 load-balancing-alg

load-balancing-alg

Syntax

load-balancing-alg [**detail**]

Context

[Tree] (show>system load-balancing-alg)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show system load-balancing-alg

Description

This command displays system load balancing settings.

Parameters

detail

Keyword to display port settings.

Platforms

All

Output

The following output is an example of load balancing information.

Output Example

```
*A:bkvm15# show system load-balancing-alg
===============================================================================
System-wide Load Balancing Algorithms
===============================================================================
L4 Load Balancing                     : exclude-L4
LSR Load Balancing                    : lbl-ip-l4-teid
eLER Enhanced Load Balancing          : disabled
System IP Load Balancing              : disabled
Multicast Enhanced Load Balancing     : disabled
Service ID LAG Hashing                : disabled
===============================================================================
*A:bkvm15#
```

14.54 local-bfd-discrim

local-bfd-discrim

Syntax

local-bfd-discrim *bfd-discriminator*

Context

[Tree] (tools>dump>router>lsp-bfd local-bfd-discrim)

Full Context

tools dump router lsp-bfd local-bfd-discrim

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information for the BFD-on-LSP session with a specified local discriminator.

Parameters

bfd-discriminator

Specifies the BFD discriminator.

Values to 4294967295

Platforms

All

14.55 local-dhcp-db

local-dhcp-db

Syntax

local-user-db *local-user-db-name*

Context

[Tree] (tools>perform>subscr-mgmt>local-user-db local-dhcp-db)

Full Context

tools perform subscriber-mgmt local-user-db local-dhcp-db

Description

This command enables tools to control the local user database.

Parameters

local-user-db-name

Specifies the name of a local user database.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.56 local-dhcp-server

local-dhcp-server

Syntax

local-dhcp-server *server-name*

Context

[Tree] (show>router>dhcp local-dhcp-server)

[Tree] (show>router>dhcp6 local-dhcp-server)

Full Context

show router dhcp local-dhcp-server

show router dhcp6 local-dhcp-server

Description

This command displays local DHCP or DHCP6 server information.

Parameters

server-name

Specifies information about the local DHCP server.

Platforms

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

local-dhcp-server

Syntax

local-dhcp-server *server-name*

Context

[Tree] (clear>router>dhcp local-dhcp-server)

[Tree] (clear>router>dhcp6 local-dhcp-server)

Full Context

clear router dhcp local-dhcp-server

clear router dhcp6 local-dhcp-server

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears DHCP server data.

Parameters

server-name

Clears data for the specified local DHCP server.

Platforms

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

local-dhcp-server

Syntax

local-dhcp-server *server-name*

Context

[Tree] (tools>perform>router>dhcp local-dhcp-server)

[Tree] (tools>perform>router>dhcp6 local-dhcp-server)

Full Context

tools perform router dhcp local-dhcp-server

tools perform router dhcp6 local-dhcp-server

Description

This command enables tools to control the local DHCP server.

Parameters

server-name

Specifies the name of the local DHCP server.

Platforms

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

14.57 local-forward

local-forward

Syntax

local-forward [*local-forward-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>system>satellite local-forward)

Full Context

show system satellite local-forward

Description

This command displays satellite local forward services information.

Parameters

local-forward-id

Specifies the local forward ID.

Values 1 to 10240

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

local-forward

Syntax

local-forward

Context

[Tree] (show>system>satellite>eth-sat local-forward)

Full Context

show system satellite eth-sat local-forward

Description

This command displays information for Ethernet satellite local forward services.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.58 local-sid

local-sid

Syntax

local-sid [*ipv6-address] [/prefix-length*]] [**locator** *locator-name*] [**longer**] [**end**] [**end-x**] [**end-dt**4] [**end-dt6**] [**end-dt46**] [**end-dx2**] [**context** *context*] [**end-dt2u**] [**end-dt2m**]

Context

[Tree] (show>router>srv6 local-sid)

Full Context

show router segment-routing-v6 local-sid

Description

This command displays SRv6 local-SID information.

Parameters

ipv6-address

Specifies the IPv6 address.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0 to FFFF]H
d - [0 to 255]D

locator-name

Specifies the locator name, up to 64 characters.

longer

Displays the specified route and subsets of the route.

end

Displays the End SID function of a locator.

end-x

Displays the End.X SID function associated with a P2P interface.

end-dt4

Displays the End.DT4 function associated with the Base routing instance.

end-dt6

Displays the End.DT6 function associated with the Base routing instance.

end-dt46

Displays the End.DT46 function associated with the Base routing instance.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

end-dx2

Displays the End.DX2 function associated with the SRv6 instance in the service.

context

Specifies the router context.

Values *vprn-svc-name* | 'Base' | *vprn-svc-id*

end-dt2u

Displays the End.DT2U function associated with the SRv6 instance in the service.

end-dt2m

Displays the End.DT2M function associated with the SRv6 instance in the service.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of local SID information.

Output Example

```
*A:Dut-B# show router segment-routing-v6 local-sid

===============================================================================
Segment Routing v6 Local SIDs
===============================================================================
SID                                                 Type           Function
  Locator
  Context
-------------------------------------------------------------------------------
2222:2:2:2:0:1::                                    End.DT2M       1
  dutB_L1
  SvcId: 1 Name: VPLS1
2222:2:2:2:0:2::                                    End.DT2M       2
  dutB_L1
  SvcId: 2 Name: VPLS2
2222:2:2:2:0:3::                                    End.DX2        3
  dutB_L1
  SvcId: 3 Name: EPIPE3
2222:2:2:2:0:4::                                    End.DX2        4
  dutB_L1
  SvcId: 4 Name: EPIPE4
2222:2:2:2:0:c351::                                 End.DT2U       50001
  dutB_L1
  SvcId: 1 Name: VPLS1
2222:2:2:2:0:c352::                                 End.DT2U       50002
  dutB_L1
  SvcId: 2 Name: VPLS2
2222:2:2:2:1:86a0::                                 End            100000
  dutB_L1
  Base
-------------------------------------------------------------------------------
SIDs : 7
-------------------------------------------------------------------------------
===============================================================================
```

Table 288: Output fields: local SID describes local SID output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 288: Output fields: local SID

Field	Description
SID	The segment ID
Locator	The locator name
Context	The context of the SID
Type	The type of SRv6 behavior
Function	The function value
SIDs	The total number of SIDs

14.59 local-tx-pdu

local-tx-pdu

Syntax

local-tx-pdu [**domain** {*md-index* | *md-admin-name*}] [**association** {*ma-index* | *ma-admin-name*}] [**mep** *mep-id*]

Context

[Tree] (show>eth-cfm local-tx-pdu)

Full Context

show eth-cfm local-tx-pdu

Description

This command displays the transmission for ETH-CC, ETH-AIS, and ETH-CFM Grace (ETH-VSM or ETH-ED) using a character representation for each protocol per MEP. ETH-CC is expanded to include columns for RDI, Port Status TLV, and Interface Status TLV. The additional ETH-CC columns represent the actual transmitting value of the TLV, or "Absent” if not present in the ETH-CC PDU. These additional ETH-CC columns are represented with a series of dashes if the ETH-CC column under the TxPDU is a dash ("-”) or "c”.

The optional parameters are treated as independent and cumulative filters that are combined to refine the output. Rows in the output are populated for matches against all specified filters. Omitting all optional parameters produces output that includes all MEPs.

Parameters

md-index

Specifies the MD index.

© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 4294967295

md-admin-name

Specifies the MD name, up to 64 characters.

ma-index

Specifies the MA index.

Values 1 to 4294967295

ma-admin-name

Specifies the MD name, up to 64 characters.

mep-id

Specifies the local MEP ID.

Values 1 to 8191

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of local PDU transmission information, and Table 289: Output fields: ETH-CFM local PDU transmission describes the output fields.

Output example

```
show eth-cfm local-tx-pdu
===============================================================================
Transmission PDU Type Legend:
C = CCM, c = CCM tx suppressed,  A = AIS, a = AIS pending,
G = ETH-VSM Grace, E = ETH-ED

===============================================================================
Eth-CFM Local Transmit PDU Information
===============================================================================
MdIndex    MaIndex    MepId SrcMacAddress     TxRdi PortTLV IfTLV  TxPdu
    md-admin-name
    ma-admin-name
-------------------------------------------------------------------------------
10         11400115   2     00:00:00:00:00:28 False Absent  Absent C--
    10
    11400115

10         11600117   2     00:00:00:00:00:28 False Absent  Absent C--
    10
    11600117

12         1000       928   00:00:01:01:09:28 False Up      Up     C--
    12
    vpls-100-1

12         1000       1028  00:00:01:01:10:28 False Up      Up     C--
    12
    vpls-100-1

13         13         1001  b6:1c:01:01:00:04 ----- ------  ------ ---
    13
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    13

13         13         1002  b6:1c:01:01:00:04 ----- ------  ------ ---
    13
    13
===============================================================================
```

Table 289: Output fields: ETH-CFM local PDU transmission

Label	Description
MdIndex	The local MEP domain index
MaIndex	The local MEP association index
MepId	The local MEP identifier
SrcMacAddress	The local MEP source MAC address
TxRdi	The RDI value
PortTLV	The Port Status TLV value
IfTLV	The Interface Status TLV value
TxPDU	The transmission, summarized in three single-character columns. The left column displays ETH-CC, the middle column displays ETH-AIS, and the right column displays ETH-CFM Grace (ETH-VSM or ETH-ED). For ETH-AIS, "A” is displayed when a facility MEP has determined that the AIS state is active, regardless of interaction, linkages, or active transmission of associated MEPs.
md-admin-name	Displays the administrative MD name.
ma-admin-name	Displays the administrative MA name.

14.60 local-user-db

local-user-db

Syntax

local-user-db *local-user-db-name* **association** [**dhcp**] [**ppp**] [**l2tp**] [**radius**] [**pppoe**] [**dhcp6**] [**capture-sap**] [**rtr-solicit**] [**wpp**] [**ipoe**] [**gtp**]

local-user-db *local-user-db-name* **ipoe-all-hosts**

local-user-db *local-user-db-name* **ipoe-host** *ipoe-host-name*

local-user-db *local-user-db-name* **ipoe-unmatched-hosts**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

local-user-db [*local-user-db-name*]

local-user-db *local-user-db-name* **ppp-all-hosts**

local-user-db *local-user-db-name* **ppp-host** *pppoe-host-name*

local-user-db *local-user-db-name* **ppp-unmatched-hosts**

Context

[Tree] (show>subscr-mgmt local-user-db)

Full Context

show subscriber-mgmt local-user-db

Description

This command displays local user database information.

Parameters

local-user-db-name

Specifies the name of a local user database up, to 32 characters.

association

Displays entities associated with the specified local user database.

dhcp

Displays entities associated with the specified local user database for DHCP clients or server.

ppp

Displays entities associated with the specified local user database for PPP sessions.

l2tp

Displays entities associated with the specified local user database for L2TP sessions.

radius

Displays entities associated with the specified local user database for RADIUS fallback.

pppoe

Displays entities associated with the specified local user database for PPPoE sessions.

dhcp6

Displays entities associated with the specified local user database for DHCPv6 clients.

capture-sap

Displays capture-saps associated with the specified local user database.

rt-solicit

Displays entities associated with the specified local user database for rtr-solicit session.

wpp

Displays entities associated with the specified local user database for WPP.

ipoe

Displays entities associated with the specified local user database for IPoE sessions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

gtp

Displays GTP APN policies associated with the specified local user database.

ipoe-all-hosts

Displays a summary overview of all IPoE hosts .

ipoe-host-name

Displays detailed information about the specified IPoE host.

ipoe-unmatched-hosts

Displays unmatched IPoE hosts and the reason why they cannot be matched in the specified local user database.

ppp-all-hosts

Displays a summary overview of all PPP hosts.

ppp-hosts

Displays detailed information about the specified PPP host.

ppp-unmatched-hosts

Displays unmatched PPP hosts and the reason why they cannot be matched in the specified local user database.

Platforms

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

Output

The following commands display local user database information and Table 290: Output fields: local user database describes the output fields.

Output Example

```
show subscriber-mgmt local-user-db
```

```
===============================================================================
Local User Databases
===============================================================================
Name                            Admin Host   Description
                                State Count
-------------------------------------------------------------------------------
ludb-1                          Up    5
ludb-2                          Up    2
-------------------------------------------------------------------------------
Number of Local User Databases : 2     Number of Hosts : 7
===============================================================================
```

```
show subscriber-mgmt local-user-db "ludb-1"
```

```
===============================================================================
Local User Database "ludb-1"
===============================================================================
Description             : local user database 1
Admin State             : Up
Last Mgmt Change        : 02/22/2023 13:04:36
Host Count              : 5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Creation Origin         : manual
IPoE Match Types        : mac sap-id encap-tag-range
PPP Match Types         : userName sap-id encap-tag-range
===============================================================================
```

```
show subscriber-mgmt local-user-db "ludb-1" association dhcp
```

```
No DHCP Server associations found.

===============================================================================
DHCP client interface associations for ludb-1
===============================================================================
Interface-Name                           Svc-Id     Type
-------------------------------------------------------------------------------
group-int-5-1                            1000       IES
-------------------------------------------------------------------------------
No. of Interface(s): 1
===============================================================================

===============================================================================
Capture SAP associations for ludb-1
===============================================================================
SAP                            Svc-Id     Type   PPPoE PPP IPoE DHCP DHCP6 RS
-------------------------------------------------------------------------------
1/1/c1/1:2413.*                10         VPLS   y         y    y    y
1/1/c1/1:2422.*                10         VPLS              y    y    y
1/1/c1/4:2111.*                10         VPLS   y         y    y    y
lag-1:2212.*                   10         VPLS   y         y    y    y
-------------------------------------------------------------------------------
No. of SAP(s): 4
===============================================================================
```

```
show subscriber-mgmt local-user-db "ludb-1" ipoe-all-hosts
```

```
===============================================================================
Local User Database "ludb-1" IPoE hosts
===============================================================================
Name                           Admin     Matched objects
                               State
-------------------------------------------------------------------------------
host-1                         Up        mac -      -
host-2                         Up        -   -      -
default                        Up        -   -      -
-------------------------------------------------------------------------------
Number of IPoE Hosts : 3
===============================================================================
```

```
show subscriber-mgmt local-user-db "ludb-1" ipoe-unmatched-hosts
```

```
===============================================================================
Local User Database "ludb-1" IPoE unmatched hosts
===============================================================================
Name                            Reason      Duplicate Host
-------------------------------------------------------------------------------
host-2                          No match    N/A
-------------------------------------------------------------------------------
Number of IPoE Unmatched Hosts : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

```
show subscriber-mgmt local-user-db "ludb-1" ipoe-host "host-1"
```

```
===============================================================================
IPoE Host "host-1"
===============================================================================
Admin State          : Up
Last Mgmt Change     : 02/22/2023 12:54:12

Host Identification
 Circuit Id          : N/A
 Mac Address         : 00:00:00:00:00:01
 Remote Id           : N/A
 Sap Id              : N/A
 Service Id          : N/A
 String              : N/A
 Option 60           : N/A
 System Id           : N/A
 Encap Tag Range     : N/A
 Encap Tag Sep Range : N/A
 Derived Id          : N/A
 IP prefix           : N/A

Matched Objects      : mac

Address              : pool "ipv4-pool-1"
Auth Policy          : radius-auth-1
Acct Policy          : N/A
Dupl Acct Policy     : N/A
Auth Domain Name     : N/A
Diameter app policy  : (Not Specified)
Diameter auth policy : (Not Specified)
Rip Policy           : N/A
Router Advert Policy : N/A
IPv6 Address         : N/A
IPv6 Del Pfx         : N/A
IPv6 Slaac Pfx       : N/A
IPv6 Address Pool    : ipv6-iana-pool-1
IPv6 Del Pfx Pool    : ipv6-iapd-pool-1
IPv6 Slaac Pfx Pool  : ipv6-slaac-pool-1
IPv6 Del Pfx Length  : N/A

DHCPv6 lease times
 Renew timer         : > 9999 days
 Rebind timer        : > 9999 days
 Preferred lifetime  : 0d 00:00:00
 Valid lifetime      : 0d 00:00:00

DHCP Relay overrides for Subscriber Management
 Server Address      : N/A
 Server IPv6 address : N/A
 gi-address          : N/A
 link-address        : N/A

Identification Strings (option 254)
 Subscriber Id       : N/A
 SLA Profile String  : sla-profile-1
 SPI Sharing Group Id: N/A
 Sub Profile String  : sub-profile-1
 App Profile String  : N/A
 ANCP String         : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Inter Destination Id: N/A
 Category Map Name   : N/A

 Retailer Svc Id     : N/A
Service              : N/A
Interface            : N/A

MSAP defaults
 Policy              : msap-policy-1
 Service             : 1000
 Group Interface     : group-int-1-1
 Group Interface Pfx : none
 Group Interface Sfx : none

Filter Overrules
 Ing Ipv4 Fltr       : N/A
 Egr Ipv4 Fltr       : N/A
 Ing Ipv6 Fltr       : N/A
 Egr Ipv6 Fltr       : N/A
===============================================================================
```

```
show subscriber-mgmt local-user-db "ludb-1" ppp-host "user-1@best.net"
```

```
===============================================================================
PPP Host "user-1@best.net"
===============================================================================
Admin State          : Down
Last Mgmt Change     : 02/22/2023 13:03:21

Host Identification
 Mac Address         : N/A
 Circuit Id          : N/A
 Remote Id           : N/A
 Sap Id              : N/A
 Service Name        : N/A
 User Name           : user-1@best.net
 Encap Tag Range     : N/A
 Encap Tag Sep Range : N/A
 Derived Id          : N/A

Matched Objects      : userName

Address              : 10.1.1.1/24
Password Type        : N/A
PADO Delay           : 0msec
Pre Auth Policy      : N/A
Auth Policy          : radius-auth-1
Padi Auth Policy     : N/A
Diameter app policy  : (Not Specified)
Diameter auth policy : (Not Specified)
Acct Policy          : N/A
Dupl Acct Policy     : N/A
User DB              : N/A
Rip Policy           : N/A
Router Advert Policy : N/A
Retailer Svc Id      : 2000
Service              : N/A
Interface            : N/A
Force IPv6CP         : Disabled
IPv6 Address         : N/A
IPv6 Del Pfx         : N/A
IPv6 Slaac Pfx       : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPv6 Address Pool    : ipv6-iana-pool-1
IPv6 Del Pfx Pool    : N/A
IPv6 Slaac Pfx Pool  : N/A
IPv6 Del Pfx Length  : N/A
Ignore DF Bit        : Disabled

DHCPv6 lease times
 Renew timer         : > 9999 days
 Rebind timer        : > 9999 days
 Preferred lifetime  : 0d 00:00:00
 Valid lifetime      : 0d 00:00:00

Identification Strings (option 254)
 Subscriber Id       : N/A
 SLA Profile String  : sls-profile-1
 SPI Sharing Group Id: N/A
 Sub Profile String  : sub-profile-1
 App Profile String  : N/A
 ANCP String         : N/A
 Inter Destination Id: N/A
 Category Map Name   : N/A

L2TP
 Service             : N/A
 Tunnel Group        : N/A
 LAC Steering Profile: N/A

MSAP defaults
 Policy              : N/A
 Service             : N/A
 Group Interface     : N/A
 Group Interface Pfx : none
 Group Interface Sfx : none

Filter Overrules
 Ing Ipv4 Fltr       : N/A
 Egr Ipv4 Fltr       : N/A
 Ing Ipv6 Fltr       : N/A
 Egr Ipv6 Fltr       : N/A

Access loop info
 Circuit ID format   : none
 Circuit ID          : N/A
 Remote ID format    : none
 Remote ID           : N/A

PPP policy parameters
 Max sessions per mac: N/A
 Keepalive           :
  Interval           : 15
  Hold-up-multiplier : 2
===============================================================================
```

Table 290: Output fields: local user database

Field	Description
Name	The local user database name
Admin State	The administrative state of the local user database

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Host Count	The number of hosts associated with the local user database
Description	The user-provided description of the local user database
Number of Local User Databases	The number of local user databases configured on the node
Number of Hosts	The number of hosts configured on the node
Last Mgmt Change	The sysUpTime at the time of the last modification
DHCP Match Types	The DHCP match type
DHCP CircId Mask Pfx	The DHCP circuit ID mask prefix
DHCP CircId Mask Sfx	The DHCP circuit ID mask suffix
PPPoE Match Types	The PPPoE match types; circuit-id, derived-id, dual-stack-remote-id, encap-tag-range, ip, mac, option60, remote-id, sap-id, service-id, string, system-id
PPPoE CircId Mask Pfx	The PPPoE circuit ID mask prefix
PPPoE CircId Mask Sfx	The PPPoE circuit ID mask suffix
Circuit Id	The circuit ID to match during host identification
Mac Address	The MAC address to matching during host identification
Remote Id	The remote ID from option 82 to match against
Sap Id	The SAP ID from the Nokia vendor specific sub-option in option 82 to match against
Service Id	The service ID to match during host identification
String	The string from the Nokia vendor specific sub-option in option 82 to match against
Option 60	The Vendor-Identifying Vendor Option to match against
System Id	The system ID from the Nokia vendor specific sub-option in option 82 to match against
Subscriber Id	The subscriber ID which is encoded in the identification strings
SLA Profile String	The SLA profile string which is encoded in the identification strings
Sub Profile String	The subscriber profile string which is encoded in the identification strings

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
App Profile String	The application profile string which is encoded in the identification strings
ANCP String	The ANCP string which is encoded in the identification strings
Inter Destination Id	The intermediate destination identifier which is encoded in the identification strings
Name	The unmatched host name
Reason	Indicates why this host is not matched
Duplicate Host	The name of the host that is already matched and that has the same values, configured for the objects that correspond with the match types, as this unmatched host
Server-Name	The service name of the unmatched host
Router-Name	The router name of the unmatched host
Interface-Name	The interface name of the unmatched host
Service-Id	The service ID that matches the host identification the Nokia vendor specific sub-option in option 82, or the service where the IPoE session is established
Interface-Name	The interface name associated with the local user database
Svc-Id Svc-Id	The service ID associated with the local user database
Type	The service type
SAP	The capture SAP associated with the local user database
PPPoE	PPPoE associated with the capture SAP; Y or N
PPP	PPPoE associated with the capture SAP; Y or N
IpoE	IPoE associated with the capture SAP; Y or N
DHCP	DHCP associated with the capture SAP; Y or N
DHCP6	DHCP6 associated with the capture SAP; Y or N
RS	RS associated with the capture SAP; Y or N
No. of SAP(s)	The total number of SAPs
Keepalive	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Interval	The LCP keepalive interval override value configured for this PPP host. N/A means no override is configured
Hold up multiplier	The LCP keepalive hold up multiplier override value configured for this PPP host. N/A means no override is configured

local-user-db

Syntax

local-user-db *local-user-db-name*

Context

[Tree] (tools>perform>subscr-mgmt local-user-db)

Full Context

tools perform subscriber-mgmt local-user-db

Description

This command provides tools to control the local user database.

Parameters

local-user-db-name

Specifies the name of a local user database up to 32 characters.

Platforms

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

14.61 locator

locator

Syntax

locator [**mt** {**0** | **2**}] [**prefix** *ipv6-prefix*[/*prefix-length*]] [**adv-router** *system-id* | *hostname*] [**algo** *algo-id*]

Context

[Tree] (show>router>isis>srv6 locator)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router isis segment-routing-v6 locator

Description

This command displays IS-IS SRv6 locators.

Parameters

ipv6-prefix[/prefix-length]

Displays routes only matching the specified *ip-address* and length.

Values *ipv6-prefix*[/*prefix*]: x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D
prefix-length: 1 to 128

system-id* | *hostname

Displays information for the specific IS-IS advertising router. The host name can be up to 38 characters.

algo-id

Displays information for the specified algorithm.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

locator

Syntax

locator [*locator-name*]

Context

[Tree] (show>router>srv6 locator)

Full Context

show router segment-routing-v6 locator

Description

This command displays the SRv6 locator status.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

locator-name

Specifies the locator name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

14.62 lockout

lockout

Syntax

lockout *aps-id*

Context

[Tree] (tools>perform>aps lockout)

Full Context

tools perform aps lockout

Description

This command locks out the protection circuit.

Parameters

aps-id

Specifies the APS ID.

Values

aps-id	aps-*group-id*	
	aps	keyword
	group-id	1 to 128

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

lockout

Syntax

lockout id *tunnel-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lockout *lsp-name*

Context

[Tree] (tools>perform>router>mpls>tp-tunnel lockout)

Full Context

tools perform router mpls tp-tunnel lockout

Description

This command performs a lockout of protection for an MPLS-TP LSP. This prevents a switchover to the protect path.

Parameters

tunnel-id

Specifies the tunnel number of the MPLS-TP LSP.

Values 0 to 42949667295

lsp-name

Specifies the name of the MPLS-TP LSP, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lockout

Syntax

lockout router *router-id* **local-gateway-address** *local-gateway-address* **mda** *mda*

lockout router *router-id* **local-gateway-address** *local-gateway-address* **esa-vm** *esa-id/vm-id*

lockout router *router-id* **local-gateway-address** *local-gateway-address* **remote** *ip-address*[**:***port*]

lockout router *router-id* **mda** *mda*

Context

[Tree] (show>ipsec lockout)

Full Context

show ipsec lockout

Description

This command displays the lockout status for the specified IPsec clients. If remote address information is not specified, the system displays a list of clients that have been locked out on the specified ISA, along with the IPsec gateway if *local-gateway-address* is specified.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

router-id

Specifies the ID of the router where the IPsec gateway is configured.

local-gateway-address

Specifies the IP address of the local IPsec gateway.

mda

Specifies the MDA ID of the ISA.

ip-address

Specifies the IP address of the remote client.

port

Specifies the port of the remote client.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values	esa-vm:	*esa-id*/*vm-id*	
		esa-id	1 to 16
		vm-id	1 to 4

Platforms

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

Output

The following output is an example of lockout information.

Output Example

```
show ipsec lockout router 300 local-gateway-address 172.16.100.1 remote
192.168.61.100:500
===============================================================================
IPsec Lockout Client
===============================================================================
Lockout               : True
Router ID             : 300
Local Gateway Address : 172.16.100.1
Lockout Client Address: 192.168.61.100
Lockout Client Port   : 500
No. of Failed Attempts: 2
No. of Dropped Packets: 2
Remaining Block Time  : 289 seconds
===============================================================================
```

lockout

Syntax

lockout router *router-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lockout router *router-id* **local-gateway-address** *local-gateway-address*

lockout router *router-id* **local-gateway-address** *local-gateway-address* **remote** *ip-address*[**:***port*]

Context

[Tree] (clear>ipsec lockout)

Full Context

clear ipsec lockout

Description

This command clears the lockout state for the specified clients. If remote address information is not specified, the system clears the lockout state for all clients within the specified routing instance, along with all clients within the specified IPsec gateway if *local-gateway-address* is specified.

Parameters

router-id

Specifies the ID of the router where the IPsec gateway is configured.

local-gateway-address

Specifies the IP address of the local IPsec gateway.

ip-address

Specifies the IP address of the remote client.

port

Specifies the port of the remote client.

Platforms

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

14.63 lockout-annexb

lockout-annexb

Syntax

lockout-annexb *aps-id*

Context

[Tree] (tools>perform>aps lockout-annexb)

Full Context

tools perform aps lockout-annexb

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command locks out the Annex B APS group.

Parameters

aps-id

Specifies the APS ID.

Values

aps-id	aps-*group-id*	
	aps	keyword
	group-id	1 to 128

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

14.64 log

log

Syntax

log

Context

[Tree] (show log)

Full Context

show log

Description

Commands in this context display event and accounting policy log information.

Platforms

All

log

Syntax

log

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id log)

Full Context

show service id log

Description

This command displays event and accounting policy log information.

Platforms

All

log

Syntax

log

Context

[Tree] (show>li log)

Full Context

show li log

Description

This command displays LI event log information.

Platforms

All

log

Syntax

log *log-id*

Context

[Tree] (clear>li log)

Full Context

clear li log

Description

This command clears LI event log information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

log-id

Specifies the log ID.

Values 1 to 100

Platforms

All

log

Syntax

log [**bindings**]

log *log-id* [**match** *string*]

Context

[Tree] (show>filter log)

Full Context

show filter log

Description

This command shows the contents of a memory-based or a file-based filter log.

If the optional keyword **match** and *string* parameter are given, the command displays the given filter log from the first occurrence of the given string.

Parameters

bindings

Displays the number of filter logs currently instantiated.

log-id

Specifies the filter log ID destination expressed as a decimal integer.

Values 101 to 199

string

Specifies to start displaying the filter log entries from the first occurrence of *string*.

Platforms

All

Output

The following output is an example of filter log entry information, and Table 291: Output fields: filter log describes the fields. If log summary is active, the filter log mini-tables contain the information described in Table 292: Output fields: filter log summary (mini-tables).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
2007/04/13 16:23:09  Filter: 100:100  Desc: Entry-100
Interface: to-ser1  Action: Forward
Src MAC: 04-5b-01-01-00-02  Dst MAC: 04-5d-01-01-00-02  EtherType: 0800
Src IP: 10.10.0.1:646  Dst IP: 10.10.0.4:49509  Flags:   TOS: c0
Protocol: TCP  Flags: ACK

2007/04/13 16:23:10  Filter: 100:100  Desc: Entry-100
Interface: to-ser1  Action: Forward
Src MAC: 04-5b-01-01-00-02  Dst MAC: 04-5d-01-01-00-02  EtherType: 0800
Src IP: 10.10.0.1:646  Dst IP: 10.10.0.3:646  Flags:   TOS: c0
Protocol: UDP

2007/04/13 16:23:12  Filter: 100:100  Desc: Entry-100
Interface: to-ser1  Action: Forward
Src MAC: 04-5b-01-01-00-02  Dst MAC: 01-00-5e-00-00-05  EtherType: 0800
Src IP: 10.10.13.1  Dst IP: 224.0.0.5  Flags:   TOS: c0
Protocol: 89
Hex: 02 01 00 30 0a 0a 00 01 00 00 00 00 ba 90 00 00
     00 00 00 00 00 00 00 00 ff ff ff 00 00 03 02 01

A:ALA-A>config# show filter log bindings
===============================================================================
Filter Log Bindings
===============================================================================
Total Log Instances (Allowed)          : 2046
Total Log Instances (In Use)           : 0
Total Log Bindings                     : 0
-------------------------------------------------------------------------------
Type  FilterId EntryId   Log    Instantiated
-------------------------------------------------------------------------------
No Instances found
===============================================================================
A:ALA-A>config#
```

A summary log is printed only in case TotCnt is different from 0. Only the address types with at least 1 entry in the mini-table are printed.

```
A:ALA-A>config# show filter log 190
===============================================================================
Summary Log[190] Crit1: SrcAddr TotCnt:       723 ArpCnt:     83
 Mac          8  06-06-06-06-06-06
 Mac          8  06-06-06-06-06-05
 Mac          8  06-06-06-06-06-04
 Mac          8  06-06-06-06-06-03
 Mac          8  06-06-06-06-06-02
  Ip         16  10.6.6.1
  Ip         16  10.6.6.2
  Ip         16  10.6.6.3
  Ip         16  10.6.6.4
  Ip          8  10.6.6.5
Ipv6          8  3ffe:1616:1616:1616:1616:1616::
Ipv6          8  3ffe:1616:1616:1616:1616:1616:ffff:ffff
Ipv6          8  3ffe:1616:1616:1616:1616:1616:ffff:fffe
Ipv6          8  3ffe:1616:1616:1616:1616:1616:ffff:fffd
Ipv6          8  3ffe:1616:1616:1616:1616:1616:ffff:fffc
===============================================================================
A:ALA-A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Log Message Formatting — Each filter log entry contains the following information in case summary log feature is not active (as appropriate).

Table 291: Output fields: filter log

Label	Description
yyyy/*mm*/*dd hh*:*mm*:*ss*	The date and timestamp for the log filter entry where *yyyy* is the year, *mm* is the month, *dd* is the day, *hh* is the hour, *mm* is the minute and *ss* is the second
Filter	The filter ID and the entry ID which generated the filter log entry in the form *Filter_ID*:*Entry_ID*
Desc	The description of the filter entry ID which generated the filter log entry
Interface	The IP interface on which the filter ID and entry ID was associated which generated the filter log entry
Action	The action of the filter entry on the logged packet
Src MAC	The source MAC address of the logged packet
Dst MAC	The destination MAC of the logged packet
EtherType	The Ethernet type of the logged Ethernet type II packet
Src IP	The source IP address of the logged packet; the source port is displayed after the IP address as appropriate separated with a colon
Dst IP	The destination IP address of the logged packet; the source port is displayed after the IP address as appropriate separated with a colon
Flags (IP flags)	M — the more fragments IP flag is set in the logged packet DF — the do not fragment IP flag is set in the logged packet
TOS	The ToS byte value in the logged packet
Protocol	The IP protocol of the logged packet (TCP, UDP, ICMP or a protocol number in hex)
Flags (TCP flags)	URG — Urgent bit set ACK — Acknowledgment bit set RST — Reset bit set SYN — Synchronize bit set FIN — Finish bit set
HEX	If an IP protocol does not have a supported decode, the first 32 bytes following the IP header are printed in a hex dump

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Log entries for non-IP packets include the Ethernet frame information and a hex dump of the first 40 bytes of the frame after the Ethernet header
Total Log Instances (Allowed)	Specifies the maximum allowed instances of filter logs allowed on the system
Total Log Instances (In Use)	Specifies the instances of filter logs presently existing on the system
Total Log Bindings	Specifies the count of the filter log bindings presently existing on the system
Type	The type of service of the service ID
Filter ID	Uniquely identifies an IP filter as configured on the system
Entry ID	The identifier which uniquely identifies an entry in a filter table
Log	Specifies an entry in the filter log table
Instantiated	Specifies if the filter log for this filter entry has or has not been instantiated

If the packet being logged does not have a source or destination MAC address (that is, POS) then the MAC information output line is omitted from the log entry.

If log summary is active, the filter log mini-tables contain the information described in Table 292: Output fields: filter log summary (mini-tables).

Table 292: Output fields: filter log summary (mini-tables)

Label	Description
Summary Log LogID	Displays the log ID
Crit1	Summary criterion that is used as index into the mini-tables of the log
TotCnt	The total count of logs
ArpCnt	Displays the total number of ARP messages logged for this log ID
Src... Dst...	The address type indication of the key in the mini-table
count	The number of messages logged with the specified source/ destination address
address	The address for which count messages where received

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

log

Syntax

log *log-id*

Context

[Tree] (clear>filter log)

Full Context

clear filter log

Description

Clears the contents of a memory or file based filter log.

This command has no effect on a syslog based filter log.

Parameters

log-id

Specifies the filter log ID as a decimal integer.

Values 101 to 199

Platforms

All

log

Syntax

log *log-id*

Context

[Tree] (clear log)

Full Context

clear log

Description

The **clear log** *log-id* command has been deprecated and replaced by the **clear log log-id** *log-id* command. The **clear log** *log-id* command continues to be supported, but it is recommended to use the **clear log log-id** *log-id* command instead.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

log-id

Specifies the event log ID to be initialized or rolled over.

Values 1 to 100

Platforms

All

log

Syntax

log

Context

[Tree] (tools>dump log)

Full Context

tools dump log

Description

Commands in this context dump log information.

Platforms

All

log

Syntax

log

Context

[Tree] (tools>perform log)

Full Context

tools perform log

Description

This command enables tools for event logging.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.65 log-collector

log-collector

Syntax

log-collector

Context

[Tree] (show>log log-collector)

Full Context

show log log-collector

Description

This command shows log collector statistics for the main, security, change and debug log collectors.

Platforms

All

Output

The following output is an example of log collector information.

Table 293: Output fields: log collector describes log-collector output fields.

Output Example

```
A:ALA-1# show log log-collector
===============================================================================
Log Collectors
===============================================================================
Main                Logged   : 1224                    Dropped  : 0
  Dest Log Id: 99    Filter Id: 0      Status: enabled    Dest Type: memory
  Dest Log Id: 100   Filter Id: 1001   Status: enabled    Dest Type: memory

Security            Logged   : 3                       Dropped  : 0

Change              Logged   : 3896                    Dropped  : 0

Debug               Logged   : 0                       Dropped  : 0

===============================================================================
A:ALA-1#
```

Table 293: Output fields: log collector

Label	Description
<Collector Name>	Main — The main event stream contains the events that are not explicitly directed to any other event stream.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Security — The security stream contains all events that affect attempts to breach system security such as failed login attempts, attempts to access MIB tables to which the user is not granted access or attempts to enter a branch of the CLI to which access has not been granted. Change — The change event stream contains all events that directly affect the configuration or operation of this node. Debug — The debug-trace stream contains all messages in the debug stream.
Dest. Log ID	Specifies the event log stream destination.
Filter ID	The value is the index to the entry which defines the filter to be applied to this log's source event stream to limit the events output to this log's destination. If the value is 0, then all events in the source log are forwarded to the destination.
Status	Enabled — Logging is enabled. Disabled — Logging is disabled.
Dest. Type	Console — A log created with the console type destination displays events to the physical console device. Events are displayed to the console screen whether a user is logged in to the console or not. Session — A user logged in to the console device or connected to the CLI via a remote telnet or SSH session can also create a log with a destination type of 'session'. Events are displayed to the session device until the user logs off. Syslog — Log events are sent to a syslog receiver. SNMP traps — Events defined as SNMP traps are sent to the configured SNMP trap destinations and are logged in NOTIFICATION-LOG-MIB tables. File — All selected log events are directed to a file on one of the compact flash disks. Memory — All selected log events are directed to an in-memory storage area.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.66 log-events

log-events

Syntax

log-events repeating-events

Context

[Tree] (clear>log log-events)

Full Context

clear log log-events

Description

This command cancels all log events that are currently repeating. All repeating log events will stop repeating. See the **repeat** parameter of the **configure log event-control**.

Platforms

All

14.67 log-id

log-id

Syntax

log-id [*log-id*] [**severity** *severity-level*] [**application** *application*] [**sequence** *from-seq* [*to-seq*]] [**count** *count*] [**subject** *subject* [**regexp**]] [**ascending** | **descending**] [**message** *format* [**msg-regexp**]]

Context

[Tree] (show>service>id>log log-id)

Full Context

show service id log log-id

Description

This command displays an event log summary with settings and statistics or the contents of a specific log file, SNMP log, or memory log.

If the command is specified with no command line options, a summary of the defined system logs is displayed. The summary includes log settings and statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

If the log ID of a memory, SNMP, or file event log is specified, the command displays the contents of the log. Additional command line options control what and how the contents are displayed.

Contents of logs with console, session or syslog destinations cannot be displayed. The actual events can only be viewed on the receiving syslog or console device.

Parameters

log-id

Displays the contents of the specified file log or memory log ID. The log ID must have a destination of an SNMP or file log or a memory log for this parameter to be used.

Values 1 to 100

Default Displays the event log summary.

severity-level

Displays only events with the specified and higher severity.

Values cleared, indeterminate, critical, major, minor, warning

Default All severity levels.

application

Displays only events generated by the specified application.

Values anysec, application_assurance, aps, atm, bfd, bgp, calltrace, ccag, cflowd, chassis, cpmhwfilter, cpmhwqueue, debug, dhcp, dhcps, diameter, dot1x, dynsvc, efm_oam, elmi, ering, eth_cfm, etun, filter, fpe, gsmp, gtungrp, igh, igmp, igmp_snooping, ip, ipfix, ipsec, ipsec_cpm, isis, l2tp, lag, ldap, ldp, li, lldp, logger, mcac, mcpath, mc_redundancy, mirror, mld, mld_snooping, mpls, mpls_tp, mrp, msdp, nat, ntp, oam, open_flow, ospf, pcep, pim, pim_snooping, port, ppp, pppoe, pppoe_clnt, ptp, pxc, python, qos, radius, rip, rip_ng, route_next_hop, route_policy, rpki, rsvp, security, sflow, snmp, stp, subscr_mgmt, sub_host_trk, svcmgr, system, tip, tls, user, user_db, video, vrrp, vrtr, wlan_gw, wpp

Default All applications.

from-seq [to-seq]

Displays the log entry numbers from a particular entry sequence number (*from-seq*) to another sequence number (*to-seq*). The *to-seq* value must be larger than the *from-seq* value.

If the *to-seq* number is not provided, the log contents to the end of the log is displayed unless the **count** parameter is present in which case the number of entries displayed is limited by the **count**.

Values 1 **to** 4294967295

Default All sequence numbers.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

count

Limits the number of log entries displayed to the *number* specified.

Values 1 **to** 4294967295

Default All log entries.

subject

Displays only log entries matching the specified text *subject* string, up to 32 characters. The subject is the object affected by the event, for example the port-id would be the subject for a link-up or link-down event.

regexp

Specifies to use a regular expression as parameters with the specified **subject** string.

ascending* | *descending

Specifies sort direction. Logs are normally shown from the newest entry to the oldest in **descending** sequence number order on the screen. When using the **ascending** parameter, the log is shown from the oldest to the newest entry.

Default Descending.

format

Specifies a message string, up to 400 characters, to be used in the display criteria.

msg-regexp

Specifies to use a regular expression as parameters with the specified message string.

Platforms

All

Output

Table 294: Output fields: log ID describes the log ID field output.

Table 294: Output fields: log ID

Label	Description
Log Id	An event log destination.
Source	no — The event log filter is not currently in use by a log ID. yes — The event log filter is currently in use by a log ID.
Filter ID	The value is the index to the entry which defines the filter to be applied to this log's source event stream to limit the events output to this log's destination. If the value is 0, then all events in the source log are forwarded to the destination.
Admin State	Up — Indicates that the administrative state is up. Down — Indicates that the administrative state is down.
Oper State	Up — Indicates that the operational state is up.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Down — Indicates that the operational state is down.
Logged	The number of events that have been sent to the log source(s) that were forwarded to the log destination.
Dropped	The number of events that have been sent to the log source(s) that were not forwarded to the log destination because they were filtered out by the log filter.
Dest. Type	Console — All selected log events are directed to the system console. If the console is not connected, then all entries are dropped. Syslog — All selected log events are sent to the syslog address. SNMP traps — Events defined as SNMP traps are sent to the configured SNMP trap destinations and are logged in NOTIFICATION-LOG-MIB tables. File — All selected log events are directed to a file on one of the CPM's compact flash disks. (7750 SR and 7450 ESS only). Memory — All selected log events are directed to an in-memory storage area.
Dest ID	The event log stream destination.
Size	The allocated memory size for the log.
Time format	The time format specifies the type of timestamp format for events sent to logs where log ID destination is either syslog or file. When the time format is UTC, timestamps are written using the Coordinated Universal Time value. When the time format is local, timestamps are written in the system's local time.

log-id

Syntax

log-id [*log-id* | *log-name*] [**severity** *severity-level*] [**application** *application*] [**sequence** *from-seq* [*to-seq*]] [**count** *count*] [**router** *router-instance* [**expression**]] [**subject** *subject* [**regexp**]] [{ **ascending** | **descending**}] [**message** *message* [**msg-regexp**]]

Context

[Tree] (show>li>log log-id)

Full Context

show li log log-id

Description

This command displays information for specified log.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

log-id | log-name

Specifies the log ID or name.

Values 1 to 100

severity-level

Specifies the severity level.

Values cleared, indeterminate, critical, major, minor, warning

application

Specifies the application name.

Values anysec, application_assurance, aps, atm, auto_prov, bfd, bgp, bier, bmp, calltrace, ccag, cflowd, chassis, cpmhwfilter, cpmhwqueue, debug, dhcp, dhcps, diameter, dot1x, dynsvc, efm_oam, elmi, ering, eth_cfm, etun, filter, fpe, gsmp, gtp, gtungrp, icl, igh, igmp, igmp_snooping, ip, ipfix, ipsec, ipsec_cpm, isis, l2tp, lag, ldap, ldp, li, lldp, logger, macsec, mcac, mcpath, mc_redundancy, mgmt_core, mirror, mld, mld_snooping, mpls, mpls_tp, mpls_lmgr, mrp, msdp, nat, nge, ntp, oam, open_flow, ospf, pcap, pcep, pfcp, pim, pim_snooping, port, ppp, pppoe, pppoe_clnt, profile, ptp, pxc, python, qos, radius, rib_api, rip, rip_ng, route_next_hop, route_policy, rpki, rsvp, security, sflow, snmp, sr_policy, stp, subscr_mgmt, sub_host_trk, svcmgr, system, tip, tls, user, user_db, video, vrrp, vrtr, wlan_gw, wpp

from-seq [to-seq]

Specifies the sequence value.

Values 1 to 4294967295

count

Specifies the count.

Values 1 to 4294967295

router-instance

Specifies the router instance.

subject

Specifies a subject string to match.

regexp

Specifies to use a regular expression match.

ascending | descending

Specifies the sort direction.

message

Specifies the message, up to 400 characters.

msg-regexp

Specifies to use a message regular expression match.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

log-id

Syntax

log-id [*log-id* | *log-name*] [**severity** *severity-level*] [**application** *application*] [**sequence** *from-seq* [*to-seq*]] [**count** *count*] [**router** *router-instance* [**expression**]] [**subject** *subject* [**regexp**]] [**ascending** | **descending**] [**message** *message* [**msg-regexp**]]

Context

[Tree] (show>log log-id)

Full Context

show log log-id

Description

This command displays an event log summary with settings and statistics or the contents of a specific log file, SNMP log, or memory log.

If the command is specified with no command line options, a summary of the defined system logs is displayed. The summary includes log settings and statistics.

If the log ID of a memory, SNMP, or file event log is specified, the command displays the contents of the log. Additional command line options control what and how the contents are displayed.

Contents of logs with console, session or syslog destinations cannot be displayed. The actual events can only be viewed on the receiving syslog or console device.

Parameters

log-id* | *log-name

Displays the contents of the specified file log or memory log ID. The log ID, or optional log name (up to 64 characters), must have a destination of an SNMP or file log or a memory log for this parameter to be used.

Default Displays the event log summary

Values 1 to 101

severity-level

Displays only events with the specified and higher severity.

Default All severity levels

Values cleared, indeterminate, critical, major, minor, warning

application

Displays only events generated by the specified application.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default All applications

The following values are examples of applications:

Values bgp, cflowd, chassis, dhcp, debug, filter, igmp, ip, isis, lag, ldp, lldp, logger, mirror, mpls, oam, ospf, pim, port, ppp, rip, route_policy, rsvp, security, snmp, stp, svcmgr, system, user, vrrp, vrtr, ospf_ng, ntp

expression

Specifies to use a regular expression as match criteria for the router instance string.

from-seq [to-seq]

Displays the log entry numbers from a particular entry sequence number (*from-seq*) to another sequence number (*to-seq*). The *to-seq* value must be larger than the *from-seq* value.

If the *to-seq* number is not provided, the log contents to the end of the log is displayed unless the **count** parameter is present in which case the number of entries displayed is limited by the **count**.

Default All sequence numbers

Values 1 to 4294967295

count

Limits the number of log entries displayed to the *number* specified.

Default All log entries

Values 1 to 4294967295

router-instance

Specifies a router name up to 32 characters in length to be used in the display criteria.

message

Specifies a message string up to 400 characters in length to be used in the display criteria.

msg-regexp

Specifies to use a regular expression as parameters with the specified *message* string.

subject

Displays only log entries matching the specified text *subject* string. The subject is the object affected by the event, for example the port-id would be the subject for a link-up or link-down event.

regexp

Specifies to use a regular expression as parameters with the specified *subject* string.

ascending | descending

Specifies sort direction. Logs are normally shown from the newest entry to the oldest in **descending** sequence number order on the screen. When using the **ascending** parameter, the log is shown from the oldest to the newest entry.

Default Descending

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of log ID information.

Table 295: Output fields: log ID describes the log ID field output.

Output Example

```
A:bkvm30# show log log-id
===============================================================================
Event Logs
===============================================================================
Log Source    Filter Admin Oper       Logged     Dropped Dest       Dest Size
Name/         Id     State State                         Type       Id
Id
-------------------------------------------------------------------------------
1
1   none      none   up    down            0           0 none             N/A
5
5   D         none   up    up              0           0 cli             1024
15
15  M         none   up    up             24           0 cli              512
20
20  S         none   up    up             12           0 memory           256
21
21  C         none   up    up            258           0 memory           256
22
22  M S C     none   up    up            288           0 file       15    N/A
33
33  M S C     none   up    down            0           0 none             N/A
34
34  none      none   up    down            0           0 file       33    N/A
35
35  M S       none   up    up             36           0 memory           100
55
55  C         none   up    down            0           0 cli              500
77
77  S         none   up    up              0           0 cli              100
82
82  none      none   up    down            0           0 none             N/A
99
99  M         none   up    up            122           0 memory           500
100
100 M         1001   up    up             10         112 memory           500
===============================================================================
```

Output Example: Memory or File Event Log Contents

```
A:admin@Dut-A# show log log-id log-id 10
===============================================================================
Event Log 10
===============================================================================
Description : (Not Specified)
Memory Log contents  [size=100   next event=13  (not wrapped)]
12 2018/02/20 10:12:00.429 UTC MINOR: DEBUG #2001 Base GRPC
"GRPC: RPC-2: gNMI.Subscribe
 Client URI: ipv4:192.99.5.0:49648
 Username: admin
Received message of type gnmi.SubscribeRequest:
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 .request = subscribe:
  .encoding: 0 = JSON
  .mode: 0 = STREAM
  .prefix: /
  .subscription (1):
   .path: /state/router[router-instance=*]/interface[interface-name=*]/ipv4/oper-state
   .mode: 1 = ON_CHANGE
   .sample_interval: 10000000000
"
11 2018/02/20 10:12:00.422 UTC MINOR: DEBUG #2001 Base GRPC
"GRPC: RPC-2: gNMI.Subscribe
 Client URI: ipv4:192.99.5.0:49648
 Username: admin
Client called RPC.
Now waiting till first message arrive.
"

A:gal171# show log log-id 99
===============================================================================
Event Log 99
===============================================================================
Description : Default System Log
Memory Log contents  [size=500   next event=70  (not wrapped)]

69 2007/01/25 18:20:40.00 UTC CRITICAL: SYSTEM #2029 Base Redundancy
"The active CPM card A is operating in singleton mode.  There is no standby CPM card."

68 2007/01/25 17:48:38.16 UTC WARNING: SYSTEM #2006 Base LOGGER
"New event throttle interval 10, configuration modified"

67 2007/01/25 00:34:53.97 UTC CRITICAL: SYSTEM #2029 Base Redundancy
"The active CPM card A is operating in singleton mode.  There is no standby CPM card."

66 2007/01/24 22:59:22.00 UTC CRITICAL: SYSTEM #2029 Base Redundancy
"The active CPM card A is operating in singleton mode.  There is no standby CPM card."

65 2007/01/24 02:08:47.92 UTC CRITICAL: SYSTEM #2029 Base Redundancy
"The active CPM card A is operating in singleton mode.  There is no standby CPM card."
...
===============================================================================
A:gal171

A:NS061550532>config>log>snmp-trap-group# show log log-id 1
===============================================================================
Event Log 1
===============================================================================
SNMP Log contents  [size=100   next event=3  (not wrapped)]
Cannot send to SNMP target address 10.1.1.1.
Waiting to replay starting from event #2

14 2000/01/05 00:54:09.11 UTC WARNING: MPLS #2007 Base VR 1:
"Instance is in administrative state: inService, operational state: inService"

13 2000/01/05 00:54:09.11 UTC WARNING: MPLS #2008 Base VR 1:
"Interface linkToIxia is in administrative state: inService, operational state:
 inService"
....
===============================================================================
A:NS061550532>config>log>snmp-trap-group#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 295: Output fields: log ID

Label	Description
Log Name/Id	An event log destination.
Source	no — The event log filter is not currently in use by a log ID. yes — The event log filter is currently in use by a log ID.
Filter ID	The value is the index to the entry which defines the filter to be applied to this log's source event stream to limit the events output to this log's destination. If the value is 0, then all events in the source log are forwarded to the destination.
Admin State	Up — Indicates that the administrative state is up. Down — Indicates that the administrative state is down.
Oper State	Up — Indicates that the operational state is up. Down — Indicates that the operational state is down.
Logged	The number of events that have been sent to the log source(s) that were forwarded to the log destination.
Dropped	The number of events that have been sent to the log source(s) that were not forwarded to the log destination because they were filtered out by the log filter.
Dest. Type	Console — All selected log events are directed to the system console. If the console is not connected, then all entries are dropped. Syslog — All selected log events are sent to the syslog address. SNMP traps — Events defined as SNMP traps are sent to the configured SNMP trap destinations and are logged in NOTIFICATION-LOG-MIB tables. File — All selected log events are directed to a file on one of the CPM's compact flash disks. Memory — All selected log events are directed to an in-memory storage area.
Dest ID	The event log stream destination.
Size	The allocated memory size for the log.
Time format	The time format specifies the type of timestamp format for events sent to logs where log ID destination is either syslog or file. When the time format is UTC, timestamps are written using the Coordinated Universal Time value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	When the time format is local, timestamps are written in the system's local time.

log-id

Syntax

log-id *log-id*

Context

[Tree] (clear>log log-id)

Full Context

clear log log-id

Description

Reinitializes or rolls over the specified memory/file event log ID. Memory logs are reinitialized and cleared of contents. File logs are manually rolled over by this command.

This command is only applicable to event logs that are directed to file destinations and memory destinations.

SNMP, syslog, console, or session logs are not affected by this command.

Parameters

log-id

Specifies the event log ID to be initialized or rolled over.

Values 1 to 100

Platforms

All

14.68 logger-event-bundling

logger-event-bundling

Syntax

logger-event-bundling

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump>router>mpls logger-event-bundling)

Full Context

tools dump router mpls logger-event-bundling

Description

This command dumps logger event bundling information for MPLS.

Platforms

All

14.69 longer

longer

Syntax

longer

Context

[Tree] (show>router>bgp>routes longer)

Full Context

show router bgp routes longer

Description

This command displays the specified BGP route and subsets of the route.

Platforms

All

14.70 loopback

loopback

Syntax

loopback

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>perform>service>id loopback)

Full Context

tools perform service id loopback

Description

Tools for placing and removing SAPs and SDP bindings in data loopback. Overwrite occurs for any SAP or SDP binding when issuing a subsequent loopback command on the same SAP or SDP binding.

Interactions: Loopback functions are only applicable to Epipe, PBB Epipe, VPLS, I-VPLS and PBB core service contexts.

Platforms

All

loopback

Syntax

loopback

Context

[Tree] (tools>dump>service loopback)

Full Context

tools dump service loopback

Description

This command displays all configured Ethernet loopbacks.

Platforms

All

loopback

Syntax

loopback sap *sap-id*

loopback sdp *sdp-id*:*vc-id*

Context

[Tree] (tools>dump>service>id loopback)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump service id loopback

Description

This command displays configured service-specific Ethernet loopbacks.

Parameters

sap-id

Specifies the SAP ID.

Values

null	*port-id* | lag-*id*
dot1q	{*port-id* | lag-*id*}:{*qtag1* | cp-*conn-prof-id*
qinq	{*port-id* | lag-*id*}:{*qtag1* | cp-*conn-prof-id*}.{*qtag2* | cp-*conn-prof-id*}
	cp: keyword
	conn-prof-id: 1..8000
port-id	slot/mda/port [.channel]
	eth-sat-id: esat-id/slot/port
	esat: keyword
	id: 1 to 20
	pxc-id: pxc-id.sub-port
	pxc pxc-id.sub-port
	pxc: keyword
	id: 1 to 64
	sub-port: a, b
lag-id	lag-*id*
	lag*:* keyword
	id: 1..800
qtag1	0..4094
qtag2	* | null | 0..4094

sdp-id:vc-id

Specifies the SDP ID and VC-ID.

Values *sdp-id*: 1 to 17407
vc-id: 1 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

14.71 low-power-fabric

low-power-fabric

Syntax

low-power-fabric capacity *percentage*

Context

[Tree] (tools>perform>system>power-management>power-save low-power-fabric)

Full Context

tools perform system power-management power-save low-power-fabric

Description

This command operationally enables low-power switch fabric mode to reduce SFM power consumption. Setting the capacity to a percentage less than 100.00 puts the corresponding number of SFMs into power save mode. Setting the capacity to 100.00 operationally disables low-power fabric mode.

Parameters

percentage

Specifies the switch fabric capacity percentage.

Values 7750 SR-2s: 50.00, 100.00
7750 SR-2se: 50.00, 75.00, 100.00
7750 SR-7s: 25.00, 50.00, 75.00, 100.00
7750 SR-14s: 12.50, 25.00, 37.50, 50.00, 62.50, 75.00, 87.50, 100.00

Default 100.00

Platforms

7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.72 lsn

lsn

Syntax

lsn create router *router-instance* [**b4** *ipv6-address*] [**aftr** *ipv6-address*] **ip** *ip-address* **protocol** {**tcp** | **udp**} [**port** *port*] **lifetime** *lifetime* [**outside-ip** *ipv4-address*] [**outside-port** *port*] [**nat-policy** *nat-policy-name*] [*force*]

lsn delete router *router-instance* [**b4** *ipv6-address*] **ip** *ip-address* **protocol** {**tcp** | **udp**} **port** *port* [**nat-policy** *nat-policy-name*]

lsn modify router *router-instance* [**b4** *ipv6-address*] **ip** *ip-address* **protocol** {**tcp** | **udp**} **port** *port* **lifetime** *lifetime* [**nat-policy** *nat-policy-name*] [**firewall-policy** *firewall-policy-name*]

Context

[Tree] (tools>perform>nat>port-forwarding-action lsn)

Full Context

tools perform nat port-forwarding-action lsn

Description

This command enables large-scale NAT port forwarding actions.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
*A:SR12_PPPOE# tools perform nat port-forwarding-action  lsn create router 100
ip 10.2.3.4 protocol tcp lifetime infinite outside-port 666
*A:SR12_PPPOE# tools perform nat port-forwarding-action  lsn create router 100
ip 10.2.3.4 protocol udp lifetime infinite outside-port 666
*A:SR12_PPPOE# configure system persistence nat-port-forwarding location cf3:
*A:SR12_PPPOE# tools dump persistence nat-port-forwarding
---------------------------------------
Persistence Info
---------------------------------------
Client                : nat-fwds
File Info :
 Filename             : cf3:\nat_fwds.002
 File State           : CLOSED (Not enough space on disk)
Subsystem Info :
 Nbr Of Registrations : 524288
 Registrations In Use : 2
 Subsystem State      : NOK
*A:SR12_PPPOE#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
show+service+nat
|   |   |   +---port-forwarding-entries
|   |   |   |   +---classic-lsn-sub
|   |   |   |   +---dslite-lsn-sub
|   |   |   |   +---l2-aware-sub
|   |   |   |   +---nat64-lsn-sub
```

14.73 lsn-blocks

lsn-blocks

Syntax

lsn-blocks [**inside-router** *router-instance*] [**inside-ip** *ip-address*] [**outside-ip-prefix** *ip-prefix/length*] [**outside-port** [*0..65535*]] [**pool** *pool-name*]

Context

[Tree] (show>router>nat lsn-blocks)

Full Context

show router nat lsn-blocks

Description

This command displays large scale NAT blocks.

Parameters

router-instance

Specifies the router instance name and service ID.

Values

router-name:	Base , management
service-id:	1 to 2147483647
svc-name:	A string up to 64 characters.

ip-address

Specifies the IP address in a.b.c.d format.

ip-prefix

Specifies the IP prefix.

Values a.b.c.d (host bits must be 0)

length

Specifies the IP prefix length.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 32

pool-name

Specifies the pool name, up to 32 characters.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
*A:SR12_PPPOE>show>router>nat# show router Base nat lsn-blocks
===============================================================================
Large-Scale NAT blocks for Base
===============================================================================
10.0.0.5 [1024..1527]
Pool                                : privpool
Policy                              : priv-nat-policy
Started                             : 2012/01/28 19:10:17
Inside router                       : vprn100
Inside IP address                   : 2001:db8:470:1F00:FFFF:189
-------------------------------------------------------------------------------
Number of blocks: 1
===============================================================================
A:SR12_PPPOE#
```

14.74 lsn-subscribers

lsn-subscribers

Syntax

lsn-subscribers subscriber *lsn_sub-id* [**detail**] [**outside-ip-address**]

lsn-subscribers subscriber [**nat-policy** *nat-policy-name*] [**nat-group** *nat-group-id*] [**member** [*1..255*] [**outside-router** *router-instance*] [**outside-ip** *outside-ip-address*] [**inside-router** *router-instance*] [**inside-ip** *lsn-subscriber-address*] [**detail**]

lsn-subscribers subscriber-string *subscriber-string* [**detail**]

Context

[Tree] (show>service>nat lsn-subscribers)

Full Context

show service nat lsn-subscribers

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays LSN subscriber information.

Parameters

subscriber

Keyword used to specify a LSN subscriber.

lsn-sub-id

Specifies the LSN subscriber ID.

Values 1 to 4294967295

detail

Keyword used to specify detailed information.

outside-ip-address

Keyword used to specify outside IP address information.

nat-policy

Keyword used to specify a NAT policy.

nat-policy-name

Specifies the NAT policy name, up to 32 characters.

nat-group

Keyword used to specify a NAT group.

nat-group-id

Specifies the NAT group ID.

Values 1 to 4

member

Keyword used to specify a member.

outside-router

Keyword used to specify an outside router.

router-instance

Specifies the router instance.

Values *router-name* | *vprn-svc-id*

router-name — "Base”

vprn-svc-id — 1 to 2147483647

outside-router

Keyword used to specify an outside IP address.

outside-ip-address

Specifies the outside IP address.

Values a.b.c.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

inside-router

Keyword used to specify an inside router.

lsn-sub-address

Specifies the LSN subscriber IP address.

Values		
	<ipv4-address>	a.b.c.d (host bits must be 0)
	<ipv6-prefix>	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0 to 255]D
	<ipv6-prefix-length>	[0 to 128]

type

Keyword used to specify the LSN subscriber type.

Values classic-lsn-sub, dslite-lsn-sub, nat64-lsn-sub, nat66-lsn-sub

subscriber-string

Keyword used to specify a subscriber string.

subscriber-string

Specifies the subscriber string, up to 64 characters.

Platforms

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

Output

The following output is an example of LSN subscriber information and Table 296: Output fields: LSN subscribers describes the output fields.

Output Example

```
# show service nat lsn-subscribers type nat66-lsn-sub firewall-policy <firewall-policy>

===============================================================================
Firewall hosts
===============================================================================
IP address                  : 2008:db8::1
Subscriber                  : 00:00:00:00:00:01
IP address prefix           : 2008:db8::/56    # from the domain
MAC address                 : 00:02:00:00:00:11
Firewall policy             : nat_firewall_300
Inside Router               : 300
Outside Router              : 400
ICMP Port usage (%)         : < 1
ICMP Port usage high        : false
UDP Port usage (%)          : < 1
UDP Port usage high         : false
TCP Port usage (%)          : < 1
TCP Port usage high         : false
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Session usage (%)           : < 1
Session usage high          : false
Number of sessions          : 0
Number of reserved sessions : 0
Sessions Peak               : 0
DMZ IPv6                    : false
Type                        : Large Scale IPv6
ISA NAT group               : 1
ISA NAT group member        : 1
Unknown protocols detected  : (Not Specified)
-------------------------------------------------------------------------------
No. of firewall hosts: 1
===============================================================================
```

Table 296: Output fields: LSN subscribers

Label	Description
IP address	Specifies the IP address
Subscriber	Specifies the subscriber
IP address prefix	Specifies the IP address prefix
MAC address	Specifies the MAC IP address
Firewall policy	Specifies the firewall policy name
Inside Router	Specifies the inside router ID
Outside Router	Specifies the outside router ID
ICMP Port usage (%)	Specifies the ICMP port usage percentage
ICMP Port usage high	Specifies the ICMP port usage high status
UDP Port usage (%)	Specifies the UDP port usage percentage
UDP Port usage high	Specifies the UDP port usage high status
TCP Port usage (%)	Specifies the TCP port usage percentage
TCP Port usage high	Specifies the TCP port usage high status
Session usage (%)	Specifies the session usage percentage
Session usage high	Specifies the session usage high status
Number of sessions	Specifies the number of sessions
Number of reserved sessions	Specifies the number of reserved sessions
Sessions Peak	Specifies the sessions peak value
Type	Specifies the type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
ISA NAT group	Specifies the ISA NAT group number
ISA NAT group member	Specifies the ISA NAT group member number
Unknown protocols detected	Specifies the unknown protocols
No. of firewall hosts	Specifies the number of firewall hosts

14.75 lsp

lsp

Syntax

lsp [*lsp-name*] [**status** {**up** | **down**}] [**from** *ip-address* | **to** *ip-address*] [**detail**] [**auto-lsp** {**all** | **mesh-p2p** | **one-hop-p2p** | **member-p2p**}]

lsp {**transit** | **terminate**} [**status** {**up** | **down**}] [**from** *ip-address* | **to** *ip-address* | **lsp-name** *name*] [**detail**]

lsp count

lsp [*lsp-name*] **activepath** [**auto-lsp** {**all** | **mesh-p2p** | **one-hop-p2p** | **member-p2p**}]

lsp [*lsp-name*] **path** [*path-name*] [**status** {**up** | **down**}] [**detail**] [**auto-lsp** {**all** | **mesh-p2p** | **one-hop-p2p** | **member-p2p**}]

lsp [*lsp-name*] **path** [*path-name*] **mbb** [**auto-lsp** {**all** | **mesh-p2p** | **one-hop-p2p** | **member-p2p**}]

lsp [*lsp-name*] **auto-bandwidth** [**auto-lsp** {**all** | **mesh-p2p** | **one-hop-p2p** | **member-p2p**}]

lsp [*lsp-name*] **path** [*path-name*] [**detail**] [**dns**]

Context

[Tree] (show>router>mpls lsp)

Full Context

show router mpls lsp

Description

This command displays LSP details.

Parameters

lsp-name

Specifies the name of the LSP used in the path, up to 64 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

status up

Keyword used to display an LSP that is operationally up.

status down

Keyword used to display an LSP that is operationally down.

from *ip-address*

Displays the IP address of the ingress router for the LSP.

to *ip-address*

Displays the IP address of the egress router for the LSP.

detail

Keyword used to display detailed information.

auto-lsp all

Keyword used to display all the auto-LSP types.

auto-lsp mesh-p2p

Keyword used to display the mesh-P2P auto-LSP types.

auto-lsp one-hop-p2p

Keyword used to display the one-hop P2P auto LSP types.

auto-lsp member-p2p

Keyword used to display the P2P auto-LSP types.

transit

Keyword used to display the number of static LSPs that transit through the router.

terminate

Keyword used to display the number of static LSPs that terminate at the router.

count

Keyword used to display the total number of LSPs.

activepath

Keyword used to display the present path being used to forward traffic.

path-name

Specifies the LSP path name.

mbb

Keyword used to display MBB information.

dns

Keyword used to display reverse DNS resolution of actual and explicit hop information.

Platforms

All

Output

The following outputs are examples of MPLS LSP information:

- Output example: LSP information, Table 297: Output fields: MPLS LSP information

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output example: specific LSP informationTable 297: Output fields: MPLS LSP information
- Output example: LSP detailed information, Table 298: Output fields: MPLS LSP detailed information
- Output example: LSP detailed information, Table 298: Output fields: MPLS LSP detailed information
- Output example: specific LSP detailed information, Table 298: Output fields: MPLS LSP detailed information
- Output example: LSP detailed information for the egress router for the LSP, Table 298: Output fields: MPLS LSP detailed information
- Output example: specific LSP detailed information, Table 298: Output fields: MPLS LSP detailed information
- Output example: specific LSP detailed information, Table 298: Output fields: MPLS LSP detailed information
- Output example: specific LSP detailed information, Table 298: Output fields: MPLS LSP detailed information
- Output example: CBF information, Table 298: Output fields: MPLS LSP detailed information
- Output example: MPLS LSP count information, Table 299: Output fields: MPLS count information
- Output example: MPLS LSP path information, Table 300: Output fields: MPLS LSP path information
- Output example: MPLS LSP path detailed informationTable 301: Output fields: MPLS LSP detailed path information
- Output example: MPLS LSP path detailed information, Table 301: Output fields: MPLS LSP detailed path information
- Output example: MPLS LSP path detailed information, Table 301: Output fields: MPLS LSP detailed path information
- Output example: MPLS LSP path detailed information, Table 301: Output fields: MPLS LSP detailed path information
- Output example: MPLS LSP path MBB information, Table 301: Output fields: MPLS LSP detailed path information
- Output example: MPLS LSP path DNS detailed information, Table 301: Output fields: MPLS LSP detailed path information
- Output example: MPLS specific LSP path information, Table 301: Output fields: MPLS LSP detailed path information
- Output example: MPLS specific LSP path detailed information, Table 301: Output fields: MPLS LSP detailed path information
- Output example: MPLS LSP transit information, Table 302: Output fields: MPLS LSP transit and terminate information
- Output example: MPLS LSP terminate detailed information, Table 302: Output fields: MPLS LSP transit and terminate information
- Output example: MPLS LSP terminate information, Table 302: Output fields: MPLS LSP transit and terminate information

Output example: LSP information

```
A:node-2# show router mpls lsp
===============================================================================
MPLS LSPs (Originating)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
LSP Name                            To              Fastfail     Adm   Opr
                                                    Config
-------------------------------------------------------------------------------
to_10_30_1_1_cspf                 10.30.1.1         No           Up    Up
to_10_30_1_2_cspf                 10.30.1.2         No           Up    Dwn
to_10_30_1_3_cspf                 10.30.1.3         No           Up    Up
to_10_30_1_4_cspf                 10.30.1.4         No           Up    Dwn
to_10_30_1_5_cspf                 10.30.1.5         No           Up    Up
to_10_30_1_6_cspf                 10.30.1.6         No           Up    Dwn
to_10_30_1_110_cspf               10.30.1.110       No           Up    Up
to_10_8_100_15_cspf               10.8.100.15       No           Up    Dwn
to_10_20_1_20_cspf                10.20.1.20        No           Up    Up
to_10_20_1_22_cspf                10.20.1.22        No           Up    Up
to_10_100_1_1_cspf                10.100.1.1        No           Up    Dwn
to_10_30_1_1_cspf_2               10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_3               10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_4               10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_5               10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_6               10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_7               10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_8               10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_9               10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_10              10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_11              10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_12              10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_13              10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_14              10.30.1.1         No           Up    Up
to_10_30_1_1_cspf_15              10.30.1.1         No           Up    Up
...
-------------------------------------------------------------------------------
LSPs : 201
===============================================================================
```

Output example: specific LSP information

```
A:node-2# show router mpls lsp "to_10_30_1_1_cspf"
===============================================================================
MPLS LSPs (Originating)
===============================================================================
LSP Name                            To                Fastfail     Adm   Opr
                                                      Config
-------------------------------------------------------------------------------
to_10_30_1_1_cspf                 10.30.1.1         No           Up    Up
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
```

Table 297: Output fields: MPLS LSP information

Label	Description
LSP Name	The name of the LSP used in the path.
To	The IP address of the egress router for the LSP
Fastfail Config	enabled — Fast Reroute is enabled. In the event of a failure, traffic is immediately rerouted on the pre-computed detour LSP, thus minimizing packet loss. disabled — There is no detour LSP from each node on the primary path

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Adm	Down — The path is administratively disabled Up — The path is administratively enabled
Opr	Down — The path is operationally down Up — The path is operationally up

Output example: LSP detailed information

```
A:node-2# show router mpls lsp detail
===============================================================================
MPLS LSPs (Originating) (Detail)
===============================================================================
Legend :
    + - Inherited
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name   : C_F_1
LSP Type        : RegularLsp                LSP Tunnel ID        : 1
LSP Index       : 1                         TTM Tunnel Id        : 1
From            : 10.20.1.3
To              : 10.20.1.6
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 00:07:27               LSP Down Time        : 0d 00:00:00
Transitions     : 3                         Path Changes         : 3
Retry Limit     : 0                         Retry Timer          : 20 sec
Signaling       : RSVP                      Resv. Style          : SE
Hop Limit       : 255                       Negotiated MTU       : 1500
Adaptive        : Enabled                   ClassType            : 0
FastReroute     : Disabled                  Oper FR              : Disabled
PathCompMethod  : pce                       ADSPEC               : Enabled
FallbkPathComp  : local-cspf
Metric          : N/A                       Metric Type          : igp
Load Bal Wt     : N/A                       ClassForwarding      : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
Least Fill      : Disabled
BFD Template    : None                      BFD Ping Intvl       : 60
BFD Enable      : False                     BFD Failure-action   : None
WaitForUpTimer  : 4

Revert Timer    : Disabled                  Next Revert In       : N/A
Entropy Label   : Enabled+                  Oper Entropy Label   : Enabled
Negotiated EL   : Disabled
Auto BW         : Disabled
LdpOverRsvp     : Enabled
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 100
Prop Adm Grp    : Disabled
PCE Report      : Enabled                   Binding SID          : 1234
PCE Control     : Enabled
Path Profile    : None
Admin Tags      : None
Lsp Self Ping   : Disabled+                 Self Ping Timeouts   : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
SelfPingOAMFail*: 0

Primary(a)      : C_F_1
                                          Up Time              : 0d 00:07:28
Bandwidth       : 0 Mbps
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example: LSP detailed information

```
A:node-2# show router mpls lsp "lspE" detail
===============================================================================
MPLS LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : lspE
LSP Type    : RegularLsp                        LSP Tunnel ID  : 1005
LSP Index   : 1005                              TTM Tunnel Id  : 1005
From        : 10.20.1.3                         To             : 10.20.1.5
Adm State   : Up                                Oper State     : Up
LSP Up Time : 0d 00:19:23                       LSP Down Time  : 0d 00:00:00
Transitions : 1                                 Path Changes   : 1
Retry Limit : 0                                 Retry Timer    : 20 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : 1500
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Disabled                          Oper FR        : Disabled
CSPF        : Disabled                          ADSPEC         : Disabled
Metric      : N/A
Load Bal Wt : N/A                               ClassForwarding: Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled
BFD Template: None                              BFD Ping Intvl : 60
BFD Enable  : FALSE                             BFD failure-ac*: down

Revert Timer: Disabled                          Next Revert In : N/A
EntropyLbl  : Inherited                         Oper EntropyLbl: Enabled
Auto BW     : Disabled
LdpOverRsvp : Enabled
VprnAutoBind: Enabled
IGP Shortcut: Enabled                           BGP Shortcut   : Enabled
IGP LFA     : Disabled                          IGP Rel Metric : Disabled
BGPTransTun : Enabled
Oper Metric : 16777215
Prop Adm Grp: Disabled

Primary(a)  : E1                                Up Time        : 0d 00:19:32
Bandwidth   : 0 Mbps
Standby     : E2                                Down Time      : 0d 00:19:46
Bandwidth   : 0 Mbps
===============================================================================
```

Output example: specific LSP detailed information

```
A:node-2# show router mpls lsp "to_10_30_1_1_cspf" detail
===============================================================================
MPLS LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
LSP Name    : to_10_30_1_1_cspf
LSP Type    : RegularLsp                        LSP Tunnel ID  : 1
From        : 10.30.1.4
Adm State   : Up                                Oper State     : Up
LSP Up Time : 0d 01:47:02                       LSP Down Time  : 0d 00:00:00
Transitions : 11                                Path Changes   : 11
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : 1500
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Disabled                          Oper FR        : Disabled
CSPF        : Enabled                           ADSPEC         : Disabled
Metric      : 0                                 Use TE metric  : Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled
LdpOverRsvp : Enabled                           VprnAutoBind   : Enabled
IGP Shortcut: Enabled
Oper Metric : 1001

Primary(a)  : to_10_30_1_1                     Up Time        : 0d 01:47:02
Bandwidth   : 0 Mbps
===============================================================================
```

Output example: LSP detailed information for the egress router for the LSP

```
A:node-2# show router mpls lsp detail to 10.30.1.2
===============================================================================
MPLS LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : 1
LSP Type    : RegularLsp                        LSP Tunnel ID  : 1
From        : 0.0.0.0
Adm State   : Down                              Oper State     : Down
LSP Up Time : 0d 00:00:00                       LSP Down Time  : 0d 00:00:07
Transitions : 0                                 Path Changes   : 0
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : 0
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Disabled                          Oper FR        : Disabled
CSPF        : Disabled                          ADSPEC         : Disabled
Metric      : 0
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled

Auto BW     : Enabled                           AB OpState     : Down
Auto BW Min : 0 Mbps                            Auto BW Max    : 100000 Mbps
AB Up Thresh: 5 percent                         AB Down Thresh : 5 percent
AB Up BW    : 0 Mbps                            AB Down BW     : 0 Mbps
AB Curr BW  : 0 Mbps                            AB Samp Intv   : 0
AB Adj Mul  : 288+                              AB Samp Mul    : 1+
AB Adj Time : 0 Mins                            AB Samp Time   : 0 Mins
AB Adj Cnt  : 0                                 AB Samp Cnt    : 0
AB Last Adj : n/a                               AB Next Adj    : 0 Mins
ABMaxAvgRt  : 0 Mbps                            AB Lst AvgRt   : 0 Mbps
AB Ovfl Lmt : 0                                 AB Ovfl Cnt    : 0
ABOvflThres : 0 percent                         AB Ovfl BW     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
AB Adj Cause: none                              AB Monitor BW  : False
LdpOverRsvp : Enabled                           VprnAutoBind   : Enabled
IGP Shortcut: Enabled
Oper Metric : 65535

+ indicates inherited values
===============================================================================
```

Output example: specific LSP detailed information

```
A:node-2# show router mpls lsp lsp1 detail

===============================================================================
MPLS LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name        : lsp1
LSP Type        : RegularLsp                LSP Tunnel ID        : 1
LSP Index       : 1                         TTM Tunnel Id        : 1
From            : 10.20.1.2                 To                   : 10.20.1.5
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 00:00:38               LSP Down Time        : 0d 00:00:00
Transitions     : 1                         Path Changes         : 1
Retry Limit     : 0                         Retry Timer          : 20 sec
Signaling       : RSVP                      Resv. Style          : SE
Hop Limit       : 255                       Negotiated MTU       : 1500
Adaptive        : Enabled                   ClassType            : 0
FastReroute     : Disabled                  Oper FR              : Disabled
CSPF            : Enabled                   ADSPEC               : Disabled
Metric          : N/A                       Use TE metric        : Disabled
Load Bal Wt     : N/A                       ClassForwarding      : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
Least Fill      : Disabled
BFD Template    : bfdTemp1                  BFD Ping Intvl       : 60
BFD Enable      : True                      BFD Failure-action   : Failover
Revert Timer    : Disabled                  Next Revert In       : N/A
Entropy Label   : Inherited                 Oper Entropy Label   : Enabled
Negotiated EL   : Disabled
Auto BW         : Disabled
LdpOverRsvp     : Enabled
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 2000
Prop Adm Grp    : Disabled
PCE Report      : Disabled+                 Binding SID          : 1234
PCE Compute     : Disabled                  PCE Control          : Disabled
Path Profile    : None

Primary(a)      : path1                     Up Time              : 0d 00:00:40
Bandwidth       : 0 Mbps
```

Output example: specific LSP detailed information

```
A:node-2# show router mpls lsp "N1.N2.3" detail

===============================================================================
MPLS LSPs (Originating) (Detail)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : N1.N2.3
LSP Type    : RegularLsp                        LSP Tunnel ID  : 132
From        : 192.168.0.1                       To             : 192.168.0.2
Adm State   : Up                                Oper State     : Up
LSP Up Time : 0d 00:01:07                       LSP Down Time  : 0d 00:00:00
Transitions : 1                                 Path Changes   : 2
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : 1500
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Disabled                          Oper FR        : Disabled
CSPF        : Enabled                           ADSPEC         : Disabled
Metric      : 9                                 Use TE metric  : Disabled
Load Balanc*: 100
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled

Revert Timer: Disabled                          Next Revert In : N/A
Auto BW     : Disabled
LdpOverRsvp : Enabled                           VprnAutoBind   : Enabled
IGP Shortcut: Enabled                           BGP Shortcut   : Enabled
IGP LFA     : Disabled                          IGP Rel Metric : Disabled
BGPTransTun : Enabled
Oper Metric : 9
Prop Adm Grp: Disabled

Primary(a)  : path.N1.N2.3                      Up Time        : 0d 00:01:04
Bandwidth   : 0 Mbps
Secondary   : path.N1.N2.4                      Down Time      : 0d 00:01:00
Bandwidth   : 0 Mbps
===============================================================================
```

Output example: specific LSP detailed information

```
A:node-2# show router mpls lsp "LSP-PE-2-PE-4" detail
===============================================================================
MPLS LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : LSP-PE-2-PE-4
LSP Type    : RegularLsp                        LSP Tunnel ID  : 4
LSP Index   : 4                                 TTM Tunnel Id  : 4
From        : 192.0.2.104                       To             : 192.0.2.102
Adm State   : Up                                Oper State     : Up
LSP Up Time : 17d 02:16:53                      LSP Down Time  : 0d 00:00:00
Transitions : 3                                 Path Changes   : 3
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : 8690
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Disabled                          Oper FR        : Disabled
CSPF        : Disabled                          ADSPEC         : Disabled
Metric      : N/A
Load Bal Wt : N/A                               ClassForwarding: Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
BFD Template: None                              BFD Ping Intvl : 60
BFD Enable  : False

Revert Timer: Disabled                          Next Revert In : N/A
EntropyLbl  : Inherited
Auto BW     : Enabled                           AB OpState     : Down
Auto BW Min : 0 Mbps                            Auto BW Max    : 100000 Mbps
AB Up Thresh: 5 percent                         AB Down Thresh : 5 percent
AB Up BW    : 0 Mbps                            AB Down BW     : 0 Mbps
AB Curr BW  : 0 Mbps                            AB Samp Intv   : 0 Mins
AB Adj Mul  : 288+                              AB Samp Mul    : 1+
AB Adj Time : 0 Mins                            AB Samp Time   : 0 Mins
AB Adj Cnt  : 0                                 AB Samp Cnt    : 0
AB Last Adj : n/a                               AB Next Adj    : 0 Mins
ABMaxAvgRt  : 0 Mbps                            AB Lst AvgRt   : 0 Mbps
AB Ovfl Lmt : 0                                 AB Ovfl Cnt    : 0
ABOvflThres : 0 percent                         AB Ovfl BW     : 0 Mbps
AB UndflLmt : 0                                 AB Undrfl Cnt  : 0
ABUndflThrs : 0 percent                         AB Undrfl BW   : 0 Mbps
ABMaxUndflBW: 0 Mbps
AB Adj Cause: none                              AB Monitor BW  : False
Be Weight   : 100 percent                       Af Weight      : 100 percent
L1 Weight   : 100 percent                       L2 Weight      : 100 percent
Nc Weight   : 100 percent                       Ef Weight      : 100 percent
H1 Weight   : 100 percent                       H2 Weight      : 100 percent
LdpOverRsvp : Enabled
VprnAutoBind: Enabled
IGP Shortcut: Enabled                           BGP Shortcut   : Enabled
IGP LFA     : Disabled                          IGP Rel Metric : Disabled
BGPTransTun : Enabled
Oper Metric : 1
Prop Adm Grp: Disabled

Primary(a)  : completely-loose-path             Up Time        : 17d 02:16:53
Bandwidth   : 0 Mbps
===============================================================================
```

Output example: CBF information

```
A:node-2# show router mpls lsp "11-4" detail
===============================================================================
MPLS LSPs (Originating) (Detail)
===============================================================================
Legend :
    + - Inherited
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name        : 11-4
LSP Type        : RegularLsp                LSP Tunnel ID        : 83
LSP Index       : 83                        TTM Tunnel Id        : 83
From            : 10.20.1.2                 To                   : 10.20.1.5
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 00:15:33               LSP Down Time        : 0d 00:00:00
Transitions     : 1                         Path Changes         : 1
Retry Limit     : 0                         Retry Timer          : 30 sec
Signaling       : RSVP                      Resv. Style          : SE
Hop Limit       : 255                       Negotiated MTU       : 1500
Adaptive        : Enabled                   ClassType            : 0
FastReroute     : Disabled                  Oper FR              : Disabled
Egress Stats    : Enabled                   Egress Oper State    : N/A
CSPF            : Enabled                   ADSPEC               : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Metric          : N/A                          Use TE metric        : Disabled
Load Bal Wt     : N/A                          ClassForwarding      : Enabled
CBF FC          : None                         CBF Default LSP      : No
CBF Fwding Plcy : policy1
CBF Fwding Set  : 4
Include Grps    :                              Exclude Grps         :
None                                              None
Least Fill      : Disabled
BFD Template    : None                         BFD Ping Intvl       : 60
BFD Enable      : False                        BFD Failure-action   : None
Revert Timer    : Disabled                     Next Revert In       : N/A
Entropy Label   : Enabled+                     Oper Entropy Label   : Enabled
Negotiated EL   : Disabled
Auto BW         : Disabled
LdpOverRsvp     : Enabled
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                      BGP Shortcut         : Enabled
IGP LFA         : Disabled                     IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 2000
Prop Adm Grp    : Disabled
PCE Report      : Disabled+                    Binding SID          : 1234
PCE Compute     : Disabled                     PCE Control          : Disabled
Path Profile    : None

Primary(a)      : 1                            Up Time              : 0d 00:15:33
Bandwidth       : 0 Mbps
===============================================================================
```

Table 298: Output fields: MPLS LSP detailed information

Label	Description
LSP Name	The name of the LSP used in the path
LSP Type	The LSP type
LSP Tunnel ID	The tunnel ID number for the LSP used in the interaction with PCC and PCE
LSP Index	The LSP index used for indexing the LSP in the MIB table shared with the RSVP-TE LSP
TTM Tunnel Id	The tunnel ID number for the tunnel representing the LSP in the TTM
From	The IP address of the ingress router for the LSP
To	The IP address of the egress router for the LSP
Adm State	Down — The path is administratively disabled Up — The path is administratively enabled
Oper State	Down — The path is operationally down Up — The path is operationally up
LSP Up Time	The length of time the LSP has been operationally up
LSP Down Time	The length of time the LSP has been operationally down

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Transitions	The number of transitions that have occurred for the LSP
Path Changes	The number of path changes for this LSP. For every path change (path down, path up, path change), a corresponding syslog or trap (if enabled) is generated.
Retry Limit	The number of attempts that the software should make to reestablish the LSP after it has failed
Retry Timer	The time in seconds, for LSP reestablishment attempts after an LSP failure
Signaling	The signaling style
Resv. Style	se — a shared reservation environment with a limited reservation scope. This reservation style creates a single reservation over a link that is shared by an explicit list of senders. ff — a shared reservation environment with an explicit reservation scope. Specifies an explicit list of senders and a distinct reservation for each .
Hop Limit	The maximum number of hops that an LSP can traverse, including the ingress and egress routers
Negotiated MTU	The size of the maximum transmission unit (MTU) that is negotiated during establishment of the LSP
Adaptive	The adaptive status: • Enabled – the adaptive is enabled • Disabled – the adaptive is disabled
ClassType	The class type
Fast Reroute	enabled – Fast Reroute is enabled. In the event of a failure, traffic is immediately rerouted on the pre-computed detour LSP, thus minimizing packet loss. disabled – there is no detour LSP from each node on the primary path
Oper FR	Indicates if the operational Fast Reroute in enabled
PathCompMethod	pce — PCE path computation method is configured local-cspf — local CSPF path computation method is configured
CSPF	The CSPF status: • Enabled – CSPF is enabled • Disabled – CSPF is disabled
ADSPEC Adspec	Enabled – the LSP includes advertising data (ADSPEC) objects in RSVP messages Disabled – the LSP does not include advertising data (ADSPEC) objects in RSVP messages
FallbkPathComp	none – no fallback method is configured

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	local-cspf – local CSPF fallback is configured
Metric	The metric
Use TE metric	The TE metric status: • Enabled – class forwarding is enabled • Disabled – class forwarding is disabled
Metric Type	The metric type
Load Bal Wt	The load balance weight value
Class Forwarding	The class forwarding status: • Enabled – class forwarding is enabled • Disabled – class forwarding is disabled
CBF FC	The CBF forwarding class
CBF Default LSP	Indicates if the CBF default LSP exists
CBF Fwding Plcy	The CBF forwarding policy name
CBF Fwding Set	The CBF forwarding set
Include Grps	The included groups. None indicates that no groups are included.
Exclude Grps	The excluded groups. None indicates that no groups are excluded.
Least Fill	The least fill status
BFD Template	The BFD template name
BFD Ping Intvl	The BFD ping interval
BFD Enable	The operational state of the BFD on the LSP
BFD Failure-action BFD failure-ac*	The failure action that is configured for the BFD LSP
Revert Timer	The length of time for a named LSP using the secondary path to revert to the primary path
Next Revert In	The next revert interval
Entropy Label EntropyLbl	The entropy label status: • Enabled – the entropy label is enabled • Disabled – the entropy label is disabled
Oper Entropy Label	Indicates if the entropy label is in use

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper EntropyLbl	
Negotiated EL	Indicates if the entropy label is negotiated for the LSP
Auto BW	The status of the auto-bandwidth adjustment: • Enabled – auto-bandwidth adjustment is configured on this LSP • Disabled – auto-bandwidth adjustment is not configured on this LSP
AB OpState	The auto-bandwith operational state: • Up – auto-bandwidth is operationally enabled on this LSP • Down – auto-bandwidth is operationally disabled on this LSP
Auto BW Min	The minimum bandwidth of the LSP that auto-bandwidth can request (in Mb/s)
Auto BW Max	The maximum bandwidth of the LSP that auto-bandwidth can request (in Mb/s)
AB Up Thres	The percent threshold for increasing LSP bandwidth
AB Down Thres	The percent threshold for decreasing LSP bandwidth
AB Up BW	The absolute bandwidth threshold for increasing LSP bandwidth (in Mb/s)
AB Down BW	The absolute bandwidth threshold for decreasing LSP bandwidth (in Mb/s)
AB Curr BW	The auto-bandwidth current bandwidth
AB Samp Intv	The auto-bandwidth sample interval
AB Adj Mul	The adjust-multiplier for this LSP (may be configured or inherited)
AB Samp Mul	The sample-multiplier for this LSP (may be configured or inherited)
AB Adj Time	The adjust-multiplier times for the collection interval (in minutes)
AB Samp Time	The sample-multiplier times for the collection interval (in minutes)
AB Adj Cnt	The adjust count (number of whole collection intervals since the start of the current adjust interval)
AB Samp Cnt	The sample count (number of whole collection intervals since the start of the current sample interval)
AB Last Adj	The system time of the last auto-bandwidth adjustment
AB Next Adj	The approximate remaining time in the current adjust interval (adjust multiplier – adjust count) times the collection interval (in minutes). This overstates the actual remaining time because the elapsed time in the current collection interval is not accounted for.
ABMaxAvgRt	The maximum average data rate in any sample interval of the current adjust interval
AB Lst AvgRt	The average data rate measured in the sample interval that ended most recently

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
AB Ovfl Lmt	The configured value of the auto-bandwidth overflow limit
AB Ovfl Cnt	The number of overflow samples since the last reset
ABOvflThres	The percent threshold for declaring an overflow sample
AB Ovfl BW	The absolute bandwidth threshold for declaring an overflow sample (in Mb/s)
AB Adj Cause	The cause of the last auto-bandwidth adjustment: • none – no adjustment has occurred • manual • adj-count • overflow
AB Monitor BW	True – monitor bandwidth is enabled on the LSP False – monitor bandwidth is not enabled on the LSP
LdpOverRsvp	The status of LDP over RSVP: • Enabled – LDP over RSVP is enabled • Disabled – LDP over RSVP is disabled
VprnAutoBind	The status of VPRN autobind: • Enabled – VRPN autobind is enabled • Disabled – VPRN autobind is disabled
IGP Shortcut	The status of IGP shortcut: • Enabled – IGP shortcut is enabled • Disabled – IGP shortcut is disabled
BGP Shortcut	The status of BGP shortcut: • Enabled – BGP shortcut is enabled • Disabled – BGP shortcut is disabled
IGP LFA	The status of IGP LFA: • Enabled – IGP LFA is enabled • Disabled – IGP LFA is disabled
IGP Rel Metric	The status of IGP relative metric: • Enabled – IGP relative metric is enabled • Disabled – IGP relative metric is disabled
BGPTransTun	The status of the BGP transport tunnels: • Enabled – BGP transport tunnels are enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• Disabled – BGP transport tunnels are disabled
Oper Metric	The status of the operational metric: • Enabled – the operational metric is enabled • Disabled – the operational metric is disabled
Prop Adm Grp	The status of the propagate admin group: • Enabled – the propagate admin group is enabled • Disabled – the propagate admin group is disabled
PCE Report	The status of the PCE report: • Enabled – the PCE report is enabled • Disabled – the PCE report is disabled
Binding SID	The binding SID
PCE Compute	The status of PCE compute: • Enabled – PCE compute is enabled • Disabled – PCE compute is disabled
PCE Control	The status of the PCE control: • Enabled – the PCE control is enabled • Disabled – the PCE control is disabled
Path Profile	The path profile value for the LSP
Admin Tags	The administrative tag names. None indicates that there are no tags.
Lsp Self Ping	Enabled – LSP self ping on this RSVP LSP or these RSVP LSPs (one-hop P2P or mesh P2P) using the LSP template is enabled Disabled – LSP self ping on this RSVP LSP or these RSVP LSPs (one-hop P2P or mesh P2P) using the LSP template is disabled Inherited – inherits the value configured under **configure router mpls lsp-self-ping rsvp-te**
Self Ping Timeouts	The LSP self ping timeout value
SelfPingOAMFail*	The self ping OAM failure value
Primary	The preferred path for the LSP
Up Time	The total time in increments that the LSP path has been operational
Bandwidth	The amount of bandwidth in Mb/s reserved for the LSP path.
Standby	The standby path for the LSP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Downtime	The time that the LSP has been down
LastResignal Attempt	The system up time when the last attempt to resignal this LSP was made

Output example: MPLS LSP count information

```
A:node-2# show router mpls lsp count

===============================================================================
MPLS LSP Count
===============================================================================
                          Originate        Transit          Terminate
-------------------------------------------------------------------------------
Static LSPs               0                0                0
Dynamic LSPs              155              0                171
P2P LSPs                  143              N/A              N/A
Detour LSPs               0                0                0
P2MP S2Ls                 0                0                0
MPLS-TP LSPs              0                0                0
Mesh-P2P LSPs             0                N/A              N/A
One Hop-P2P LSPs          0                N/A              N/A
SR-TE LSPs                400              N/A              N/A
Mesh-P2P SR-TE LSPs       0                N/A              N/A
One Hop-P2P SR-TE LSPs    0                N/A              N/A
PCE Init SR-TE LSPs       0                N/A              N/A
===============================================================================
```

Table 299: Output fields: MPLS count information

Label	Description
Static LSPs	The number of static LSPs
Dynamic LSPs	The number of dynamic RSVP LSPs
P2P LSPs	The number of P2P RSVP LSPs
Detour LSPs	The number of detour RSVP LSPs
P2MP S2Ls	The number of P2MP RSVP S2Ls
MPLS-TP LSPs	The number of MPLS-TP LSPs
Mesh-P2P LSPs	The number of Mesh-P2P RSVP LSPs
One Hop-P2P LSPs	The number of one hop P2P RSVP LSPs
SR-TE LSPs	The number of SR-TE LSPs
Mesh-P2P SR-TE LSPs	The number of Mesh-P2P SR-TE LSPs

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
One Hop-P2P SR-TE LSPs	The number of one hop SR-TE LSPs
PCE Init SR-TE LSPs	The number of PCE initiated SR-TE LSPs

Output example: MPLS LSP path information

```
A:node-2# show router mpls lsp path
===============================================================================
MPLS LSP  Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available              # - Detour In Use
    b - Bandwidth Protected           n - Node Protected
    s - Soft Preemption
    S - Strict                        L - loose
===============================================================================
ExplicitHops:
    10.20.1.3(L)       -> 10.20.1.4(S)
Actual Hops :
    10.10.1.1(10.20.1.1)                          Record Label    : N/A
 -> 10.10.1.2(10.20.1.2)                          Record Label    : 131071
 -> 10.10.5.3(10.20.1.3)                          Record Label    : 131071
 -> 10.10.7.4(10.20.1.4)                          Record Label    : 131071
 -> 10.10.8.5(10.20.1.5)                          Record Label    : 131071
ComputedHops:
    10.10.1.1(S)       -> 10.10.1.2(S)       -> 10.10.5.3(S)
 -> 10.20.1.4(S)       -> 10.20.1.5(L)
===============================================================================
```

Output example: MPLS LSP path information

```
A:node-2#  show router mpls lsp path
===============================================================================
MPLS LSP  Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available              # - Detour In Use
    b - Bandwidth Protected           n - Node Protected
    s - Soft Preemption
    S - Strict                        L - loose
===============================================================================
ExplicitHops:
    10.20.1.3(L)       -> 10.20.1.4(S)
Actual Hops :
    10.10.1.1(10.20.1.1)                          Record Label    : N/A
 -> 10.10.1.2(10.20.1.2)                          Record Label    : 131071
 -> 10.10.5.3(10.20.1.3)                          Record Label    : 131071
 -> 10.10.7.4(10.20.1.4)                          Record Label    : 131071
 -> 10.10.8.5(10.20.1.5)                          Record Label    : 131071
ComputedHops:
    10.10.1.1(S)       -> 10.10.1.2(S)       -> 10.10.5.3(S)
 -> 10.20.1.4(S)       -> 10.20.1.5(L)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 300: Output fields: MPLS LSP path information

Label	Description
ExplicitHops	The explicit hops
Actual Hops	The actual hops
Record Label	The record label
Computed Hops	The computed hops

Output example: MPLS LSP path detailed information

```
A:node-2# show router mpls lsp "lsp_1" path "500" detail
===============================================================================
MPLS LSP lsp_1 Path 500 (Detail)
===============================================================================
Legend :
    @ - Detour Available              # - Detour In Use
    b - Bandwidth Protected           n - Node Protected
    s - Soft Preemption
    S - Strict                        L - Loose
    A - ABR
===============================================================================
-------------------------------------------------------------------------------
LSP lsp_1 Path 500
-------------------------------------------------------------------------------
LSP Name          : lsp_1
Path LSP ID       : 38400
From              : 10.10.1.1           To                   : 10.10.1.2
Admin State       : Up                  Oper State           : Down
Path Name         : 500                 Path Type            : Primary
Path Admin        : Up                  Path Oper            : Down
Out Interface     : n/a                 Out Label            : n/a
Path Up Time      : 0d 00:00:00         Path Down Time       : 0d 00:00:43
Retry Limit       : 0                   Retry Timer          : 30 sec
Retry Attempt     : 2                   Next Retry In        : 19 sec
BFD Template      : None                BFD Ping Interval    : 60
BFD Enable        : FALSE               BFD failure-action   : down

Adspec            : Disabled            Oper Adspec          : N/A
CSPF              : Disabled            Oper CSPF            : N/A
Least Fill        : Disabled            Oper LeastFill       : N/A
FRR               : Disabled            Oper FRR             : N/A
Prop Adm Grp      : Disabled            Oper Prop AG         : N/A
Inter-area        : N/A

Neg MTU           : 0                   Oper MTU             : N/A
Bandwidth         : No Reservation      Oper Bw              : N/A
Hop Limit         : 255                 Oper HopLimit        : N/A
Record Route      : Record              Oper Rec Route       : N/A
Record Label      : No Record           Oper Rec Label       : N/A
Setup Priority    : 7                   Oper Setup Priority  : N/A
Hold Priority     : 7                   Oper Hold Priority   : N/A
Class Type        : 7                   Oper CT              : N/A
Backup CT         : 5
MainCT Retry      : 500
    Rem           :
MainCT Retry      : 500
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Limit        :
Include Grps     :                      Oper InclGrps        :
None                                           N/A
Exclude Grps     :                      Oper ExclGrps        :
None                                           N/A

Adaptive         : Enabled              Oper Metric          : N/A
Preference       : n/a
Path Trans       : 0                    CSPF Queries         : 0
Failure Code     : noResourcesAvailable
Failure Node     : 10.1.255.255
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    No Hops Specified
Resignal Eligible: False
Last Resignal    : n/a                  CSPF Metric          : N/A
===============================================================================
```

Output example: MPLS LSP path detailed information

```
A:node-2# show router mpls lsp "1" path detail
===============================================================================
MPLS LSP 1 Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available              # - Detour In Use
    b - Bandwidth Protected           n - Node Protected
    s - Soft Preemption
    S - Strict                        L - Loose
    A - ABR
===============================================================================
-------------------------------------------------------------------------------
LSP 1 Path 1
-------------------------------------------------------------------------------
LSP Name    : 1                                 Path LSP ID : 30208
From        : 10.20.1.1                         To          : 10.20.1.6
Adm State   : Up                                Oper State  : Up
Path Name   : 1                                 Path Type   : Primary
Path Admin  : Up                                Path Oper   : Up
OutInterface: 1/1/1                             Out Label   : 131071
Path Up Time: 0d 00:00:05                       Path Dn Time: 0d 00:00:00
Retry Limit : 0                                 Retry Timer : 30 sec
RetryAttempt: 0                                 NextRetryIn : 0 sec

Adspec      : Disabled                          Oper Adspec : Disabled
CSPF        : Enabled                           Oper CSPF   : Enabled
Least Fill  : Disabled                          Oper LeastF*: Disabled
FRR         : Enabled                           Oper FRR    : Enabled
FRR NodePro*: Enabled                           Oper FRR NP : Enabled
FR Hop Limit: 16                                Oper FRHopL*: 16
FR Prop Adm*: Disabled                          Oper FRProp*: Disabled
Prop Adm Grp: Disabled                          Oper PropAG : Disabled
Inter-area  : False

Neg MTU     : 1496                              Oper MTU    : 1496
Bandwidth   : No Reservation                    Oper Bw     : 0 Mbps
Hop Limit   : 255                               Oper HopLim*: 255
Record Route: Record                            Oper RecRou*: Record
Record Label: Record                            Oper RecLab*: Record
SetupPriori*: 7                                 Oper SetupP*: 7
Hold Priori*: 0                                 Oper HoldPr*: 0
Class Type  : 0                                 Oper CT     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Backup CT   : None
MainCT Retry: n/a
    Rem     :
MainCT Retry: 0
    Limit   :
Include Grps:                                  Oper InclGr*:
None                                          None
Exclude Grps:                                  Oper ExclGr*:
None                                          None

Adaptive    : Enabled                          Oper Metric : 3000
Preference  : n/a
Path Trans  : 1                                CSPF Queries: 1
Failure Code: noError                          Failure Node: n/a
ExplicitHops:
    No Hops Specified
Actual Hops :
    10.20.1.1, If Index : 2 @ n                Record Label        : N/A
-> 10.20.1.2, If Index : 2 @ n                Record Label        : 131071
-> 10.20.1.4, If Index : 2                    Record Label        : 131071
-> 10.20.1.6, If Index : 2                    Record Label        : 131071
ComputedHops:
    10.20.1.1, If Index : 2(S)
 -> 10.20.1.2, If Index : 2(S)
 -> 10.20.1.4, If Index : 2(S)
 -> 10.20.1.6, If Index : 2(S)
ResigEligib*: False
LastResignal: n/a                              CSPF Metric : 3000
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example: MPLS LSP path detailed information

```
A:node-2# show router mpls lsp "From Reno to Atlanta RSVP-TE" path detail
===============================================================================
MPLS LSP From Reno to Atlanta RSVP-TE Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available              # - Detour In Use
    b - Bandwidth Protected           n - Node Protected
    s - Soft Preemption
    S - Strict                        L - Loose
    A - ABR
===============================================================================
-------------------------------------------------------------------------------
LSP From Reno to Atlanta RSVP-TE Path primary_empty
-------------------------------------------------------------------------------
LSP Name         : From Reno to Atlanta RSVP-TE
Path LSP ID      : 14382
From             : 192.168.48.194       To                   : 192.168.48.224
Admin State      : Up                   Oper State           : Up
Path Name        : primary_empty        Path Type            : Primary
Path Admin       : Up                   Path Oper            : Up
Out Interface    : 1/1/1                Out Label            : 262094
Path Up Time     : 0d 00:00:22          Path Down Time       : 0d 00:00:00
Retry Limit      : 0                    Retry Timer          : 30 sec
Retry Attempt    : 0                    Next Retry In        : 0 sec
BFD Template     : None                 BFD Ping Interval    : 60
BFD Enable       : False
Adspec           : Disabled             Oper Adspec          : Disabled
CSPF             : Enabled              Oper CSPF            : Enabled
Least Fill       : Disabled             Oper LeastFill       : Disabled
FRR              : Enabled              Oper FRR             : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
FRR NodeProtect  : Disabled             Oper FRR NP          : Disabled
FR Hop Limit     : 16                   Oper FRHopLimit      : 16
FR Prop Admin Gr*: Disabled             Oper FRPropAdmGrp    : Disabled
Propagate Adm Grp: Disabled             Oper Prop Adm Grp    : Disabled
Inter-area       : False
PCE Updt ID      : 0
PCE Report       : Enabled              Oper PCE Report      : Enabled
PCE Control      : Enabled              Oper PCE Control     : Enabled
PCE Compute      : Enabled
Neg MTU          : 1496                 Oper MTU             : 1496
Bandwidth        : 10 Mbps              Oper Bandwidth       : 10 Mbps
Hop Limit        : 255                  Oper HopLimit        : 255
Record Route     : Record               Oper Record Route    : Record
Record Label     : Record               Oper Record Label    : Record
Setup Priority   : 7                    Oper Setup Priority  : 7
Hold Priority    : 0                    Oper Hold Priority   : 0
Class Type       : 0                    Oper CT              : 0
Backup CT        : None
MainCT Retry     : n/a
    Rem          :
MainCT Retry     : 0
    Limit        :
Include Groups   :                      Oper Include Groups  :
None                                           None
Exclude Groups   :                      Oper Exclude Groups  :
top                                            top
Adaptive         : Enabled              Oper Metric          : 40
Preference       : n/a
Path Trans       : 7                    CSPF Queries         : 7172
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    10.202.5.194 (192.168.48.194) @             Record Label        : N/A
 -> 10.202.5.199 (192.168.48.199) @             Record Label        : 262094
 -> 192.168.48.185 (192.168.48.185)             Record Label        : 262111
 -> 10.0.5.185                                  Record Label        : 262111
 -> 192.168.48.223 (192.168.48.223)             Record Label        : 262121
 -> 10.0.7.223                                  Record Label        : 262121
 -> 192.168.48.224 (192.168.48.224)             Record Label        : 262116
 -> 10.101.4.224                                Record Label        : 262116
Computed Hops    :
    10.202.5.199(S)
 -> 10.0.5.185(S)
 -> 10.0.7.223(S)
 -> 10.101.4.224(S)
Resignal Eligible: False
Last Resignal    : n/a                  CSPF Metric          : 40
-------------------------------------------------------------------------------
LSP From Reno to Atlanta RSVP-TE Path secondary_empty
-------------------------------------------------------------------------------
LSP Name         : From Reno to Atlanta RSVP-TE
Path LSP ID      : 14384
From             : 192.168.48.194       To                   : 192.168.48.224
Admin State      : Up                   Oper State           : Up
Path Name        : secondary_empty      Path Type            : Standby
Path Admin       : Up                   Path Oper            : Up
Out Interface    : 1/
```

Output example: MPLS LSP path detailed information

```
A:node-2# show router mpls lsp path detail tof1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
MPLS LSP tof1 Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available              # - Detour In Use
    b - Bandwidth Protected           n - Node Protected
    s - Soft Preemption
-------------------------------------------------------------------------------
LSP tof1 Path 1
-------------------------------------------------------------------------------
LSP Name    : tof1                              Path LSP ID : 4706
From        : 10.20.1.2                         To          : 10.20.1.4
Adm State   : Up                                Oper State  : Up
Path Name   : 1                                 Path Type   : Primary
Path Admin  : Up                                Path Oper   : Up
OutInterface: 1/1/2:5                           Out Label   : 124809
Path Up Time: 0d 00:01:16                       Path Dn Time: 0d 00:00:00
Retry Limit : 0                                 Retry Timer : 20 sec
RetryAttempt: 0                                 NextRetryIn : 0 sec
SetupPriori*: 4                                 Hold Priori*: 4
Bandwidth   : 1 Mbps                            Oper Bw     : 1 Mbps
Hop Limit   : 255                               Class Type  : 5
Record Route: Record                            Record Label: Record
Oper MTU    : 1492                              Neg MTU     : 1492
Adaptive    : Enabled                           Oper Metric : 1000
Include Grps:                                   Exclude Grps:
None                                           None
Path Trans  : 2                                 CSPF Queries: 1
Failure Code: noError                           Failure Node: n/a
ExplicitHops:
    10.20.1.4
Actual Hops :
    10.10.105.2(10.20.1.2) @ s                  Record Label    : N/A
 -> 10.10.105.4(10.20.1.4)                      Record Label    : 124809
ComputedHops:
    10.10.105.2     -> 10.10.105.4
ResigEligib*: False
LastResignal: n/a                               CSPF Metric : 1000
In Prog MBB :
 MBB Type   : SoftPreemption                    NextRetryIn : 19 sec
 Started At : 12/08/2008 22:21:11               RetryAttempt: 0
 FailureCode: noError                           Failure Node: n/a
===============================================================================
```

Output example: MPLS LSP path MBB information

```
A:node-2# show router mpls lsp path mbb
===============================================================================
MPLS LSP Paths
===============================================================================
-------------------------------------------------------------------------------
LSP to_10_30_1_1_cspf Path to_10_30_1_1
-------------------------------------------------------------------------------
LastResignal: n/a                               CSPF Metric : 1001
Last MBB    :
 MBB Type   : TimerBasedResignal                MBB State   : Fail
 Ended At   : 03/04/2010 09:23:58               Old Metric  : 0
-------------------------------------------------------------------------------
LSP to_10_30_1_2_cspf Path to_10_30_1_2
-------------------------------------------------------------------------------
LastResignal: 03/04/2010 09:23:58               CSPF Metric : 65535
-------------------------------------------------------------------------------
LSP to_10_30_1_3_cspf Path to_10_30_1_3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
LastResignal: n/a                               CSPF Metric : 1001
Last MBB    :
 MBB Type   : TimerBasedResignal                MBB State   : Fail
 Ended At   : 03/04/2010 09:23:58               Old Metric  : 0
-------------------------------------------------------------------------------
LSP to_10_30_1_4_cspf Path to_10_30_1_4
-------------------------------------------------------------------------------
LastResignal: n/a                               CSPF Metric : 0
-------------------------------------------------------------------------------
LSP to_10_30_1_5_cspf Path to_10_30_1_5
-------------------------------------------------------------------------------
...
-------------------------------------------------------------------------------
LastResignal: n/a                               CSPF Metric : 0
-------------------------------------------------------------------------------
LSP to_10_100_1_1_cspf_19 Path to_10_100_1_1
-------------------------------------------------------------------------------
LastResignal: n/a                               CSPF Metric : 0
-------------------------------------------------------------------------------
LSP to_10_100_1_1_cspf_20 Path to_10_100_1_1
-------------------------------------------------------------------------------
LastResignal: n/a                               CSPF Metric : 0
===============================================================================
```

Output example: MPLS LSP path DNS detailed information

```
A:node-2# show router mpls lsp "C_F_1" path detail dns

===============================================================================
MPLS LSP C_F_1 Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available             # - Detour In Use
    b - Bandwidth Protected          n - Node Protected
    s - Soft Preemption
    S - Strict                       L - Loose
    A - ABR                          + - Inherited
===============================================================================
-------------------------------------------------------------------------------
LSP C_F_1
Path C_F_1
-------------------------------------------------------------------------------
LSP Name    : C_F_1
From            : 10.20.1.3
To              : 10.20.1.6
Admin State     : Up                     Oper State        : Up
Path Name   : C_F_1
Path LSP ID     : 1536                   Path Type         : Primary
Path Admin      : Up                     Path Oper         : Up
Out Interface   : 1/1/1                  Out Label         : 524281
Path Up Time    : 0d 00:01:39            Path Down Time    : 0d 00:00:00
Retry Limit     : 0                      Retry Timer       : 600 sec
Retry Attempt   : 0                      Next Retry In     : 0 sec

BFD Configuration and State
Template        : None                   Ping Interval     : 60
Enable          : False                  State             : notApplicable
WaitForUpTimer  : 4 sec                  OperWaitForUpTimer: N/A
WaitForUpTmLeft : 0 sec

Adspec          : Enabled                Oper Adspec       : Enabled
PathCompMethod  : local-cspf             OperPathCompMethod: local-cspf
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MetricType       : te                       Oper MetricType   : te
Least Fill       : Disabled                 Oper LeastFill    : Disabled
FRR              : Enabled                  Oper FRR          : Enabled
FRR NodeProtect  : Enabled                  Oper FRR NP       : Enabled
FR Hop Limit     : 16                       Oper FRHopLimit   : 16
FR Prop Admin Gr*: Disabled                 Oper FRPropAdmGrp : Disabled
Propagate Adm Grp: Disabled                 Oper Prop Adm Grp : Disabled
Inter-area       : False

PCE Report       : Disabled+                Oper PCE Report   : Disabled
PCE Control      : Disabled                 Oper PCE Control  : Disabled
PCE Update ID    : 0

Neg MTU          : 1496                     Oper MTU          : 1496
Bandwidth        : No Reservation           Oper Bandwidth    : 0 Mbps
Hop Limit        : 255                      Oper HopLimit     : 255
Record Route     : Record                   Oper Record Route : Record
Record Label     : Record                   Oper Record Label : Record
Setup Priority   : 7                        Oper SetupPriority: 7
Hold Priority    : 0                        Oper HoldPriority : 0
Class Type       : 0                        Oper CT           : 0
Backup CT        : None
MainCT Retry     : n/a
    Rem          :
MainCT Retry     : 0
    Limit        :
Include Groups   :                          Oper IncludeGroups:
None                                            None
Exclude Groups   :                          Oper ExcludeGroups:
None                                            None

Adaptive         : Enabled                  Oper Metric       : 16777215
Preference       : n/a
Path Trans       : 1                        CSPF Queries      : 1
Degraded         : False
Failure Code     : noError
Failure Node : n/a
Explicit Hops    :
                   10.20.1.1(L)
                       Dut-A.nokia.com
                -> 10.20.1.2(L)
                       Dut-B.nokia.com
                -> 10.20.1.4(L)
                       Dut-D.nokia.com
                -> 10.20.1.5(L)
                       Dut-E.nokia.com
                -> 10.20.1.6(L)
                       Dut-F.nokia.com
Actual Hops      :
    10.10.2.3(10.20.1.3) @ n                    Record Label        : N/A
    toA.Dut-C.nokia.com
    (toC.system.nokia.com)
 -> 10.10.2.1(10.20.1.1) @ n                    Record Label        : 524281
    10.10.2.1
    (Dut-A.nokia.com)
 -> 10.10.1.2(10.20.1.2) @ n                    Record Label        : 524281
    toA.Dut-B.nokia.com
    (Dut-B.nokia.com)
 -> 10.10.4.4(10.20.1.4) @ n                    Record Label        : 524281
    toB.Dut-D.nokia.com
    (Dut-D.nokia.com)
 -> 10.10.6.5(10.20.1.5) @                      Record Label        : 524281
    toD.Dut-E.nokia.com
    (Dut-E.nokia.com)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 -> 10.10.10.6(10.20.1.6)                        Record Label        : 524281
    toE.Dut-F.nokia.com
    (Dut-F.nokia.com)
Computed Hops    :
    10.10.2.3(S)
 -> 10.10.2.1(S)
 -> 10.10.1.2(S)
 -> 10.10.4.4(S)
 -> 10.10.6.5(S)
 -> 10.10.10.6(S)
Resignal Eligible: False
Last Resignal    : n/a                     CSPF Metric       : 2003
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example: MPLS specific LSP path information

```
A:node-2# show router mpls lsp "1" path detail
===============================================================================
MPLS LSP 1 Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available              # - Detour In Use
    b - Bandwidth Protected           n - Node Protected
    s - Soft Preemption
    S - Strict                        L - Loose
    A - ABR
===============================================================================
-------------------------------------------------------------------------------
LSP 1 Path 1
-------------------------------------------------------------------------------
LSP Name    : 1                                 Path LSP ID : 30208
From        : 10.20.1.1                         To          : 10.20.1.6
Adm State   : Up                                Oper State  : Up
Path Name   : 1                                 Path Type   : Primary
Path Admin  : Up                                Path Oper   : Up
OutInterface: 1/1/1                             Out Label   : 131071
Path Up Time: 0d 00:00:05                       Path Dn Time: 0d 00:00:00
Retry Limit : 0                                 Retry Timer : 30 sec
RetryAttempt: 0                                 NextRetryIn : 0 sec

Adspec      : Disabled                          Oper Adspec : Disabled
CSPF        : Enabled                           Oper CSPF   : Enabled
Least Fill  : Disabled                          Oper LeastF*: Disabled
FRR         : Enabled                           Oper FRR    : Enabled
FRR NodePro*: Enabled                           Oper FRR NP : Enabled
FR Hop Limit: 16                                Oper FRHopL*: 16
FR Prop Adm*: Disabled                          Oper FRProp*: Disabled
Prop Adm Grp: Disabled                          Oper PropAG : Disabled
Inter-area  : False

Neg MTU     : 1496                              Oper MTU    : 1496
Bandwidth   : No Reservation                    Oper Bw     : 0 Mbps
Hop Limit   : 255                               Oper HopLim*: 255
Record Route: Record                            Oper RecRou*: Record
Record Label: Record                            Oper RecLab*: Record
SetupPriori*: 7                                 Oper SetupP*: 7
Hold Priori*: 0                                 Oper HoldPr*: 0
Class Type  : 0                                 Oper CT     : 0
Backup CT   : None
MainCT Retry: n/a
    Rem     :
MainCT Retry: 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Limit   :
Include Grps:                                  Oper InclGr*:
None                                          None
Exclude Grps:                                  Oper ExclGr*:
None                                          None

Adaptive    : Enabled                          Oper Metric : 3000
Preference  : n/a
Path Trans  : 1                                CSPF Queries: 1
Failure Code: noError                          Failure Node: n/a
ExplicitHops:
    No Hops Specified
Actual Hops :
    10.20.1.1, If Index : 2 @ n                Record Label        : N/A
-> 10.20.1.2, If Index : 2 @ n                Record Label        : 131071
-> 10.20.1.4, If Index : 2                    Record Label        : 131071
-> 10.20.1.6, If Index : 2                    Record Label        : 131071
ComputedHops:
    10.20.1.1, If Index : 2(S)
 -> 10.20.1.2, If Index : 2(S)
 -> 10.20.1.4, If Index : 2(S)
 -> 10.20.1.6, If Index : 2(S)
ResigEligib*: False
LastResignal: n/a                              CSPF Metric : 3000
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example: MPLS specific LSP path detailed information

```
A:node-2# show router mpls lsp path detail
===============================================================================
MPLS LSP  Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available             # - Detour In Use
    b - Bandwidth Protected          n - Node Protected
    s - Soft Preemption
    S - Strict                       L - Loose
    A - ABR                          + - Inherited
===============================================================================
-------------------------------------------------------------------------------
LSP C_F_1
Path C_F_1
-------------------------------------------------------------------------------
LSP Name    : C_F_1
From            : 10.20.1.3
To              : 10.20.1.6
Admin State     : Up                     Oper State        : Up
Path Name   : C_F_1
Path LSP ID     : 49666                  Path Type         : Primary
Path Admin      : Up                     Path Oper         : Up
Out Interface   : 1/1/1                  Out Label         : 524248
Path Up Time    : 0d 00:07:18            Path Down Time    : 0d 00:00:00
Retry Limit     : 0                      Retry Timer       : 20 sec
Retry Attempt   : 0                      Next Retry In     : 0 sec

BFD Configuration and State
Template        : None                   Ping Interval     : 60
Enable          : False                  State             : notApplicable
WaitForUpTimer  : 4 sec                  OperWaitForUpTimer: N/A
WaitForUpTmLeft : 0 sec

Adspec          : Enabled                Oper Adspec       : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PathCompMethod   : pce                     OperPathCompMethod: pce
MetricType       : igp                     Oper MetricType   : igp
Least Fill       : Disabled                Oper LeastFill    : Disabled
FRR              : Disabled                Oper FRR          : Disabled
Propagate Adm Grp: Disabled                Oper Prop Adm Grp : Disabled
Inter-area       : N/A

PCE Report       : Enabled                 Oper PCE Report   : Enabled
PCE Control      : Enabled                 Oper PCE Control  : Enabled
PCE Update ID    : 0

Neg MTU          : 1500                    Oper MTU          : 1500
Bandwidth        : No Reservation          Oper Bandwidth    : 0 Mbps
Hop Limit        : 255                     Oper HopLimit     : 255
Record Route     : Record                  Oper Record Route : Record
Record Label     : Record                  Oper Record Label : Record
Setup Priority   : 7                       Oper SetupPriority: 7
Hold Priority    : 0                       Oper HoldPriority : 0
Class Type       : 0                       Oper CT           : 0
Backup CT        : None
MainCT Retry     : n/a
    Rem          :
MainCT Retry     : 0
    Limit        :
Include Groups   :                         Oper IncludeGroups:
None                                           None
Exclude Groups   :                         Oper ExcludeGroups:
None                                           None

Adaptive         : Enabled                 Oper Metric       : 100
Preference       : n/a
Path Trans       : 3                       CSPF Queries      : 0
Failure Code     : noError
Failure Node : n/a
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    10.10.2.3(10.20.1.3)                         Record Label        : N/A
 -> 10.10.2.1(10.20.1.1)                         Record Label        : 524248
 -> 10.10.1.2(10.20.1.2)                         Record Label        : 524246
 -> 10.10.4.4(10.20.1.4)                         Record Label        : 524246
 -> 10.10.9.6(10.20.1.6)                         Record Label        : 524248
Computed Hops    :
    10.10.2.1(S)
 -> 10.10.1.2(S)
 -> 10.10.4.4(S)
 -> 10.10.9.6(S)
Resignal Eligible: False
Last Resignal    : n/a                     CSPF Metric       : 100
===============================================================================
```

Table 301: Output fields: MPLS LSP detailed path information

Label	Description
LSP Name	The name of the LSP used in the path
Path LSP ID	The path LSP ID
From	The IP address of the ingress router for the LSP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
To	The IP address of the egress router for the LSP
Admin State	Down — the path is administratively disabled Up — the path is administratively enabled
Oper State	Down — the path is operationally down Up — the path is operationally up
Path Name	The path name
Path Type	The path type
Path LSP ID	The path LSP ID
Path Admin	The path administrative state
Path Oper	The operational path state
Out Interface	The port of the out interface
Out Label	The out label value
Path Up Time	The duration of path up
Path Down Time	The duration of path down
Retry Limit	The retry limit value
Retry Timer	The retry timer value
Retry Attempt	The number of retries attempted
Next Retry In	The next retry in value
BFD Configuration and State	
BFD Template Template	The BFD template
BFD Ping Interval Ping Interval	The ping interval value
BFD Enable Enable	The BFD enable status
State	The BFD state
BFD failure-action	The BFD failure action
WaitForUpTimer	The wait for up timer value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
OperWaitFor UpTimer	The operational wait for up timer value
WaitForUpTmLeft	The wait for the up time left value
Adspec	The ADSPEC status
Oper Adspec	The operational ADSPEC status
CSPF	The CSPF
Oper CSPF	The operational CSPF
PathCompMethod	The path computation method
OperPathComp Method	The operational path computation method
MetricType	The metric type value
Oper MetricType	The operational metric type value
Least Fill	The least fill status
Oper LeastFill Oper LeastF*	The operational least fill status
FRR	The FRR status
Oper FRR	The operational FRR status
FRR NodeProtect FRR NodePro*	The FRR node protect status
Oper FRR NP	The operational FRR node protect status
FR Hop Limit	The FR hop limit value
Oper FRHopLimit Oper FRHopL*	The operational FR hop limit value
Prop Admin Grp FR Prop Adm* Propagate Adm Grp FR Prop Admin Gr*	The FR prop administrative group status
Oper Prop AG/ Oper FRProp*	The operational prop administrative group status

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper Prop Adm Grp Oper FRPropAdm Grp	
Propagate Adm Grp Propo Adm Grp	The prop administrative group status
Oper PropAdmGrp Oper PropAG	The operational prop administrative group status
Inter-area	The inter area status
PCE Report	The operational PCE report status
Oper PCE Report	The operational PCE report
PCE Control	The PCE control status
Oper PCE Control	The operational PCE control status
PCE Update ID PCE Updt ID	The PCE update ID
PCE Compute	The PCE compute status
Neg MTU	The negotiated MTU value
Oper MTU	The operational MTU value
Bandwidth	The bandwidth type
Oper Bandwidth Oper Bw	The operational bandwidth
Hop Limit	The hop limit
Oper HopLimit Oper HopLim*	The operational hop limit
Record Route	The record route value
Oper Rec Route Oper RecRou* Oper Record Route	The operational record route value
Record Label	The record label

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper Rec Label Oper RecLab* Oper Record Label	The operational record label
Setup Priority SetupPriori* Oper SetupPriority	The setup priority value
Oper Setup Priority Oper SetupP*	The operational setup priority value
Hold Priority Hold Priori*	The hold priority value
Oper Hold Priority Oper HoldPr*	The operational hold priority value
Bandwidth	The bandwidth
Oper Bw	The operating bandwidth
Class Type	The class type
Oper CT	The operational class type
Backup CT	The backup class type
MainCT Retry Rem	The main class type rem value
MainCT Retry Limit	The main class type retry limit
Include Groups	The include groups
Oper Include Groups	The operational include groups
Exclude Groups	The exclude groups
Oper Exclude Groups	The operational exclude groups
Adaptive	The adaptive status
Oper Metric	The operational metric
Preference	The preference
Path Trans	The path trans value
CSPF Queries	The number of CSPF queries

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Degraded	The degraded status
Failure Code	The failure code
Failure Node	The failure node
Explicit Hops	The explicit hops
Actual Hops	The actual hops
Record Label	The record label
Computed Hops	The computed hops
Resignal Eligible ResigEligib*	The resignal eligibility status
Last Resignal	The last resignal
CSPF Metric	The CSPF metric value
LastResignal	The system up time when the last attempt to resignal this LSP was made
CSPF Metric	The CSPF metric
MBB Type	The enumerated integer that specifies the type of MBB. If none displays, no MBB is in progress or no last MBB.
NextRetryIn	The amount of time (in seconds) remaining, before the next attempt is made to retry the in-progress MBB
Started At	The time when the action started
RetryAttempt	The number attempts for the MBB is in progress
FailureCode	The reason code for in-progress MBB failure. A value of **none** indicates that no failure has occurred. See "LSP Failure Codes" in the *7450 ESS, 7750 SR, 7950 XRS, and VSR MPLS Guide* for more information.
FailtureNode	The IP address of the node in the LSP path at which the in-progress MBB failed. When no failure has occurred, this value is none.
MBB State	The state of the most recent invocation of the MBB functionality
Ended At	The system up time when the last MBB ended
Old Metric	The cost of the traffic engineered path for the LSP path prior to MBB

Output example: MPLS LSP transit information

```
A:node-2# show router mpls lsp transit
===============================================================================
MPLS LSPs (Transit)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Legend :  @ - Active Detour
===============================================================================
From            To              In I/F   Out I/F  State LSP Name
-------------------------------------------------------------------------------
10.30.1.5      10.20.1.22      3/2/1    3/2/7    Up    to_10_20_1_22_cspf::to*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_3::*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_4::*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_2::*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_20:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_18:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_19:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_17:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_16:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_15:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_13:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_14:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_12:*
10.30.1.5      10.20.1.20      3/2/7    3/2/1    Up    to_10_20_1_20_cspf_10:*
...
10.30.1.3      10.20.1.22      aps-1    3/2/7    Up    to_10_20_1_22_cspf_6::*
10.30.1.3      10.20.1.22      aps-1    3/2/7    Up    to_10_20_1_22_cspf::to*
10.30.1.3      10.20.1.22      aps-1    3/2/7    Up    to_10_20_1_22_cspf_9::*
-------------------------------------------------------------------------------
LSPs : 520
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example: MPLS LSP terminate detailed information

```
A:node-2# show router mpls lsp terminate detail
===============================================================================
MPLS LSPs (Terminate) (Detail)
===============================================================================
-------------------------------------------------------------------------------
LSP b4-1::b4-1
-------------------------------------------------------------------------------
From                : 10.30.1.5             To            : 10.30.1.4
State               : Up
SetupPriority       : 7                     Hold Priority : 0
Class Type          : 0
In Interface        : 3/2/1                 In Label      : 131071
Previous Hop        : 10.100.30.20
-------------------------------------------------------------------------------
LSP gsr::gsr
-------------------------------------------------------------------------------
From                : 10.30.1.5             To            : 10.30.1.4
State               : Up
SetupPriority       : 7                     Hold Priority : 0
Class Type          : 0
In Interface        : 3/2/7                 In Label      : 128547
Previous Hop        : 192.168.60.2
-------------------------------------------------------------------------------
...
-------------------------------------------------------------------------------
From                : 10.30.1.3             To            : 10.30.1.4
State               : Up
SetupPriority       : 7                     Hold Priority : 0
Class Type          : 0
In Interface        : aps-1                 In Label      : 130409
Previous Hop        : 192.168.0.3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: MPLS LSP terminate information

```
# show router mpls lsp terminate
===============================================================================
MPLS LSPs (Terminate)
===============================================================================
Legend :  @ - Active Detour
===============================================================================
From            To              In I/F   Out I/F  State LSP Name
-------------------------------------------------------------------------------
10.30.1.5       10.30.1.4       3/2/1    n/a      Up    b4-1::b4-1
10.30.1.5       10.30.1.4       3/2/7    n/a      Up    gsr::gsr
10.20.1.22      10.30.1.4       3/2/7    n/a      Up    gsr2_t10
10.30.1.6       10.30.1.4       3/2/3:10 n/a      Up    1::2
10.30.1.6       10.30.1.4       3/2/3:3  n/a      Up    1::stby
10.30.1.6       10.30.1.4       3/2/3:10 n/a      Up    2::2
10.30.1.6       10.30.1.4       3/2/3:6  n/a      Up    2::stby
10.30.1.6       10.30.1.4       3/2/3:10 n/a      Up    3::2
10.30.1.6       10.30.1.4       3/2/3:6  n/a      Up    3::stby
...
10.30.1.3       10.30.1.4       aps-1    n/a      Up    to_10_30_1_4_cspf_20:*
10.30.1.3       10.30.1.4       aps-1    n/a      Up    to_10_30_1_4_cspf_4::*
-------------------------------------------------------------------------------
LSPs : 1603
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Table 302: Output fields: MPLS LSP transit and terminate information

Label	Description
From	The IP address of the ingress router for the LSP
To	The IP address of the egress router for the LSP
In I/F	The ingress interface
Out I/F	The egress interface
State	The state of the path
LSP Name	The name of the LSP used in the path

lsp

Syntax

lsp *lsp-name*

Context

[Tree] (clear>router>mpls lsp)

Full Context

clear router mpls lsp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command resets and restarts an LSP.

Parameters

lsp-name

Specifies the LSP to clear, up to 64 characters in length.

Platforms

All

lsp

Syntax

lsp [**plsp-id** *plsp-id*]

lsp lsp-type *lsp-type* [**tunnel-id** *tunnel-id*]

Context

[Tree] (tools>dump>router>pcep>pcc lsp)

Full Context

tools dump router pcep pcc lsp

Description

This command displays LSP information.

Parameters

plsp-id

Specifies the PLSP ID.

Values 1 to 1048575

lsp-type

Specifies the LSP type.

Values rsvp-p2p, rsvp-p2mp, seg-rt

tunnel-id

Specifies the tunnel ID.

Values 1 to 1048575

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.76 lsp-autobandwidth

lsp-autobandwidth

Syntax

lsp-autobandwidth [*lsp-name*]

Context

[Tree] (clear>router>mpls lsp-autobandwidth)

Full Context

clear router mpls lsp-autobandwidth

Description

This command clears the following counters/timers, as follows:

- The sample count is reset to zero, and the average data rate of the current sample interval is discarded.
- The adjust count is reset to zero.
- The maximum average data rate is zeroed.
- The overflow count is zeroed.

Parameters

lsp-name

Specifies the LSP to clear, up to 64 characters.

Platforms

All

14.77 lsp-bfd

lsp-bfd

Syntax

lsp-bfd [*prefix-list-name* [**prefixes**]]

Context

[Tree] (show>router>ldp lsp-bfd)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router ldp lsp-bfd

Description

This command displays information about prefixes that have LSP BFD configured.

Parameters

prefixes

Shows all FECs that the system has received a label mapping message for and which are also eligible for LSP BFD.

prefix-list-name

Specifies a prefix list for which to display prefix information, and whether BFD is active for each prefix.

Platforms

All

Output

The following output is an example of LSP BFD information for prefixes.

Output Example

```
A:b1# show router ldp lsp-bfd "prefixListName_12345678901234567"
===============================================================================
BFD on LDP LSP Configuration Detail
===============================================================================
Prefix List       : prefixListName_12345678901234567
Prefix Count      : 6
BFD Template      : bfdTemplateName
Source Address    : 2001:db8:f4f5:f6f7:f8f9:fafb:fcfd:feff
BFD Enable        : Yes                Failure Action    : none
LSP Ping Interval : 60 seconds         Priority          : 1
===============================================================================


A:b1# show router ldp lsp-bfd "prefixListName_12345678901234567" prefixes
=======================================================================
BFD on LDP LSP Prefix List "prefixListName_12345678901234567" (Enabled)
=======================================================================
Prefix                                      Operational State
-----------------------------------------------------------------------
10.2.3.4/32                                  BFD Disabled
10.2.3.5/32                                  Src Address Missing
10.2.3.6/32                                  Src Address Mismatch
10::2:0/128                                  Up
1::2:1/128                                   Down
2001:db8:1415:1617:1819:1a1b:1c1d:1e1f/128   Down (Trap Only)
-----------------------------------------------------------------------
No. of prefixes: 6
=======================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lsp-bfd

Syntax

lsp-bfd

Context

[Tree] (tools>dump>router lsp-bfd)

[Tree] (tools>dump>router>ldp lsp-bfd)

Full Context

tools dump router lsp-bfd

tools dump router ldp lsp-bfd

Description

Commands in this context dump LSP BFD template information.

Platforms

All

lsp-bfd

Syntax

lsp-bfd

lsp-bfd ldp prefix *ip-prefix/prefix-length*

lsp-bfd local-bfd-discrim *bfd-discriminator*

lsp-bfd lsp-name *lsp-name*

Context

[Tree] (show>test-oam lsp-bfd)

Full Context

show test-oam lsp-bfd

Description

This command displays information about Bidirectional Forwarding Detection (BFD) sessions on LSPs.

Parameters

ip-prefix/prefix-length

Specifies an IP prefix for which to display BFD session information, and the length of the prefix.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values *ipv4-prefix* — a.b.c.d

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

ipv6-prefix-length — 0 to 128

bfd-discriminator

Displays information about the unique local discriminator for this session.

lsp-name

Specifies information about the specified LSP name up to 64 characters in length.

Platforms

All

Output

The following output is an example of BFD LSP information.

Output Example

```
A:bkvm1# show test-oam lsp-bfd local-bfd-discrim 1
-------------------------------------------------------------------------------
LSP Ping Bootstrap and Periodic Verification Information for BFD on an LSP
-------------------------------------------------------------------------------
LSP Name : Z
LSP Path Status         : unknown
Replying Node           : (None)
Latest Return Code      : NoRtnCode (0)
Latest Return Subcode   : 3
Local BFD Discriminator : 1            Remote BFD Discriminator : 4111222333
Tx LSP Ping Requests    : 2123456789   Rx LSP Ping Requests     : 3123456789
-------------------------------------------------------------------------------
A:bkvm1#


A:bkvm1# show test-oam lsp-bfd local-bfd-discrim 1
-------------------------------------------------------------------------------
LSP Ping Bootstrap and Periodic Verification Information for BFD on an LSP
-------------------------------------------------------------------------------
LSP Name : Z
LSP Path Status         : active
Replying Node           : 192.168.242.243
Latest Return Code      : DSRtrMatchLabel (8)
Latest Return Subcode   : 4
Local BFD Discriminator : 1            Remote BFD Discriminator : 4111222333
Tx LSP Ping Requests    : 2123456789   Rx LSP Ping Requests     : 3123456789
-------------------------------------------------------------------------------
A:bkvm1#


A:bkvm1# show test-oam lsp-bfd local-bfd-discrim 1
-------------------------------------------------------------------------------
LSP Ping Bootstrap and Periodic Verification Information for BFD on an LSP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
LSP Name : Z
LSP Path Status         : inactive
Replying Node           : 2001:db8:f4f5:f6f7:f8f9:fafb:fcfd:feff
Latest Return Code      : DSRtrUnmatchLabel (10)
Latest Return Subcode   : 5
Local BFD Discriminator : 1            Remote BFD Discriminator : 4111222333
Tx LSP Ping Requests    : 2123456789   Rx LSP Ping Requests     : 3123456789
-------------------------------------------------------------------------------
A:bkvm1#


A:bkvm1# show test-oam lsp-bfd local-bfd-discrim 1
-------------------------------------------------------------------------------
LSP Ping Bootstrap and Periodic Verification Information for BFD on an LSP
-------------------------------------------------------------------------------
LSP Name : Z
LSP Path Status         : unknown
Replying Node           : (None)
Latest Return Code      : DSNoMac (16)
Latest Return Subcode   : 6
Local BFD Discriminator : 1            Remote BFD Discriminator : 4111222333
Tx LSP Ping Requests    : 2123456789   Rx LSP Ping Requests     : 3123456789
-------------------------------------------------------------------------------
A:bkvm1#


*B:Dut-B# show test-oam lsp-bfd ldp prefix 10.20.1.3/32
-------------------------------------------------------------------------------
LSP Ping Bootstrap and Periodic Verification Information for BFD on LSPs
-------------------------------------------------------------------------------
FEC Type                 : LDP
Prefix                   : 10.20.1.3/32
Source Address           : 10.20.1.2
Replying Node            : 10.20.1.3
Latest Return Code       : EgressRtr (3)
Latest Return Subcode    : 1
Local BFD Discriminator  : 1            Remote BFD Discriminator : 43
LSP Ping Tx Interval (s) : 60           Bootstrap Retry Count    : 0
Tx LSP Ping Requests     : 2            Rx LSP Ping Replies      : 2
-------------------------------------------------------------------------------
No. of matching BFD on LSP sessions: 1
-------------------------------------------------------------------------------
```

lsp-bfd

Syntax

lsp-bfd

Context

[Tree] (tools>dump>test-oam lsp-bfd)

Full Context

tools dump test-oam lsp-bfd

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context dump information about Bidirectional Forwarding Detection (BFD) sessions on LSPs.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

14.78 lsp-container

lsp-container

Syntax

lsp-container[*lsp-container-name*]

lsp-container[*lsp-container-name*] **detail**

Context

[Tree] (show>router>mpls lsp-container)

Full Context

show router mpls lsp-container

Description

This command displays LSP container information.

Parameters

lsp-container-name

Specifies the LSP container name.

detail

Keyword to display detailed LSP container information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following outputs are examples of LSP container information:

- LSP container information, Table 303: Output fields: LSP container information
- LSP detailed container information, Table 304: Output fields: detailed LSP container information

Output example: LSP container information

```
A:node-2# show router mpls lsp-container
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
MPLS LSP Containers
===============================================================================
Name                            Adm  Opr  To Address      Num Member Num LSPs
                                                         LSPs       Up
-------------------------------------------------------------------------------
c1                              Up   Up   2.2.2.2         4          4
-------------------------------------------------------------------------------
No. of LSP Containers: 1
===============================================================================
```

Table 303: Output fields: LSP container information

Label	Description
Name	The name of the LSP container
Adm	Indicates if the LSP container is administratively up
Opr	Indicates if the LSP container is operationally up
To Address	The IP address of the LSP container
Num Member LSPs	The number of member LSPs for the LSP container
Num LSPs Up	The number of LSPs that are operationally up

Output example: LSP detailed container information

```
A:node-2# show router mpls lsp-container detail

===============================================================================
MPLS LSP Containers (Detail)
===============================================================================
-------------------------------------------------------------------------------
LSP Container Name: c1
-------------------------------------------------------------------------------
Member LSP Template: test1
Admin State        : Up                 Oper State         : Up
Oper Down Reason   : notApplicable
Suffix             : (Not Specified)    To Address         : 2.2.2.2
Min Member LSPs    : 4                  Max Member LSPs    : 64
Initial Num LSPs   : N/A                Initial LSP BW     : N/A
Num Member LSPs    : 4                  Num LSPs Up        : 4
Nominal Num LSPs   : 4                  Nominal BW         : 4 Mbps
Optimization Timer : 20 minutes         NextOptimizationIn : 0d 00:19:22
Ad Hoc Optimization: Enabled            Ad Hoc Pending     : False
Min Avg BW         : 3 Mbps             Max Avg BW         : 10 Mbps
Last Optimization  : 08/05/2025 20:01:35 Last Opt Status    : completed
Last Opt Reason    : adHoc              Ad Hoc Opt Event   : lspAutoBwSkipped

-------------------------------------------------------------------------------
Member LSPs
-------------------------------------------------------------------------------
LSP Name                                 Oper  Tunnel  Oper BW   Sampled Avg
                                               Id      (Mbps)    Rate (Mbps)
-------------------------------------------------------------------------------
c1-1                                     Up    61521   4         4
c1-2                                     Up    61522   4         8
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
c1-3                                    Up    61523   4         4
c1-4                                    Up    61524   4         8
===============================================================================
```

Table 304: Output fields: detailed LSP container information

Label	Description
LSP Container Name	The LSP container name
Member LSP Template	The member LSP template
Admin State	The administrative state of the LSP container
Oper State	The operational state of the LSP container
Oper Down Reason	The operational down state reason
Suffix	The suffix shows an optional string for the formation of LSP member names
To Address	The IP address of the egress router of the member LSPs of the LSP container
Min Member LSPs	The minimum number of member LSPs the LSP container can have
Max Member LSPs	The maximum number of member LSPs the LSP container can have
Initial Num LSPs	The initial number of LSPs. This is the initial number of LSPs the LSP container tries to create when it transitions to being administratively up.
Initial LSP BW	The initial LSP bandwidth. This is the initial bandwidth, in Mb/s, reserved by each member LSP when the LSP container transitions to being administratively up.
Num Member LSPs	The number of member LSPs
Num LSPs Up	The number of LSPs that are operationally up
Nominal Num LSPs	The nominal number of LSPs
Nominal BW	The nominal bandwidth
Optimization Timer	The optimization timer value, which is the period at which the LSP container performs an optimization

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
NextOptimization In	The next optimization interval
Ad Hoc Optimization	The status of ad hoc optimization: • Enabled – ad hoc optimization is enabled • Disabled – ad hoc optimization is disabled
Ad Hoc Pending	Indicates if an ad hoc optimization is pending
Min Avg BW	The minimum average bandwidth value, below which the LSP container reduces the number of its member LSPs
Max Avg BW	The maximum average bandwidth value, above which the container increases the number of its member LSPs
Last Optimization	The date and time the last optimization occurred
Last Opt Status	The last optimization status
Last Opt Reason	The last optimization reason
Ad Hoc Opt Event	The ad hoc optimization event
Member LSPs	
LSP Name	The LSP name
Oper	The operational status of the LSP
Tunnel Id	The tunnel ID
Oper BW (Mbps)	The operational bandwidth in Mb/s
Sampled Avg Rate (Mbps)	The sampled average rate in Mb/s

lsp-container

Syntax

lsp-container [*lsp-container-name*] **detail**

Context

[Tree] (tools>dump>router>mpls lsp-container)

Full Context

tools dump router mpls lsp-container

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command dumps LSP container information.

Parameters

lsp-container-name

Specifies the LSP container name, up to 64 characters.

detail

Keyword that displays detailed information about the LSP container.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following examples display information about LSP containers.

Output example: LSP container detailed information

```
A:node-2# /tools dump router mpls lsp-container "test" detail
-------------------------------------------------------------------------------

LSP Container "test"
  AdminState Up, OperState Up, OperDownReason notApplicable
  State LSP_CONTAINER_S_UP, Flags 0x0, HaFlags 0x0
  InitMemberLsp 0, InitMemberLspBw N/A
  MinMemberLsp 1, MaxMemberLsp 64
  LspTemplate "test" Suffix N/A
  ToAddr 10.20.1.6
  OptimizeTimer 60min, AdHocOptimization Disabled
  MinAvgRate 0Kbps, MaxAvgRate 6400000000Kbps
  NumMemberLsps 1, NumMemberLspsUp 0, NumMemberLspsDown 1
  NumNominalLsps 1, NominalRate 0Kbps
  LastOptimization StartedAt N/A, Status notApplicable, Reason N/A
  AdHocTriggerReason N/A
  MemberIdBitmap 0x15c06c160, NumInUse 1
  Member LSPs:
  [ 1] LSP "test-1", LspIndex 61443, OperState Down,
       OperBw N/A, AvgBw 0Kbps

Total LSP Container Count: 1
```

Output example: LSP container information

```
*A:node-2# /tools dump router mpls lsp-container "test"

LSP Container "test"
  AdminState Up, OperState Up, OperDownReason notApplicable
  State LSP_CONTAINER_S_UP, Flags 0x0, HaFlags 0x0
  InitMemberLsp 0, InitMemberLspBw N/A
  MinMemberLsp 1, MaxMemberLsp 64
  LspTemplate "test" Suffix N/A
  ToAddr 10.20.1.6
  OptimizeTimer 60min, AdHocOptimization Disabled
  MinAvgRate 0Kbps, MaxAvgRate 6400000000Kbps

Total LSP Container Count: 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.79 lsp-db

lsp-db

Syntax

lsp-db [**lsp-type** *lsp-type*] [**delegated-pce** *ip-address*]

lsp-db [**lsp-type** *lsp-type*] **from** *ip-address* [**delegated-pce** *ip-address*]

lsp-db [**lsp-type** *lsp-type*] **lsp** *lsp-name* [**delegated-pce** *ip-address*]

lsp-db [**lsp-type** *lsp-type*] **to** *ip-address* [**delegated-pce** *ip-address*]

lsp-db [**lsp-type** *lsp-type*] **tunnel-id** *tunnel-id*

Context

[Tree] (show>router>pcep>pcc lsp-db)

Full Context

show router pcep pcc lsp-db

Description

This command displays the PCEP LSP-DB information.

Parameters

lsp-type

Specifies the LSP type.

Values rsvp-p2p, rsvp-p2mp, seg-rt

Note:
The LSP type, **rsvp-p2mp**, is not supported for PCE controlled or PCE initiated LSPs.

ip-address

Specifies the IP address.

Values a.b.c.d

lsp-name

Specifies the LSP name, up to 80 characters.

tunnel-id

Specifies the tunnel ID.

Values 1 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

LSP-DB Output

Table 305: Output fields: LSP-DB describes LSP-DB output fields.

Output Example

```
*A:Dut-C>config>router>mpls# show router pcep pcc lsp-db
===============================================================================
PCEP Path Computation Client (PCC) LSP Update Info
===============================================================================
PCEP-specific LSP ID: 1
LSP ID              : 11264             LSP Type            : pce-init-seg-rt
Tunnel ID           : 16386             Extended Tunnel Id  : 10.20.1.3
LSP Name            : intra_area__no_constraints
Source Address      : 10.20.1.3         Destination Address : 10.20.1.6
LSP Delegated       : True              Delegate PCE Address: 10.20.1.24
Oper Status         : active
-------------------------------------------------------------------------------
PCEP-specific LSP ID: 2
LSP ID              : 3072              LSP Type            : pce-init-seg-rt
Tunnel ID           : 16387             Extended Tunnel Id  : 10.20.1.3
LSP Name            : intra_area_nonDefault
Source Address      : 10.20.1.3         Destination Address : 10.20.1.6
LSP Delegated       : True              Delegate PCE Address: 10.20.1.24
Oper Status         : active
===============================================================================
```

Table 305: Output fields: LSP-DB

Label	Description
PCEP-specific LSP ID	Specifies the PCEP specific LSP ID.
LSP ID	Specifies the LSP ID.
LSP Type	rsvp-p2p — Indicates the LSP type is rsvp-p2p. rsvp-p2mp — Indicates the LSP type is rsvp-p2mp. seg-rt — Indicates the LSP type is seg-rt. pce-init-seg-rt — Indicates the LSP type is pce-init-seg-rt.
Tunnel ID	Specifies the tunnel ID.
Extended Tunnel Id	Specifies the extended tunnel ID.
LSP Name	Specifies the LSP name
Source Address	Specifies the source IP address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Destination Address	Specifies the destination IP address.
LSP Delegated	True — Specifies that LSP Delegation is true. False— Specifies that LSP Delegation is false.
Delegate PCE Address	Specifies the delegate PCE IP address.
Oper Status	active — Specifies that the operational status is active. down — Specifies that the operational status is down.

14.80 lsp-egress-stats

lsp-egress-stats

Syntax

lsp-egress-stats

lsp-egress-stats *lsp-name*

Context

[Tree] (show>router>mpls lsp-egress-stats)

Full Context

show router mpls lsp-egress-stats

Description

This command displays MPLS LSP egress statistics information.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

Platforms

All

Output

The following output is an example of MPLS LSP egress statistics information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-C>config>router>mpls>lsp$ show router mpls lsp-egress-stats lsp "1"
===============================================================
MPLS LSP Egress Statistics
===============================================================
---------------------------------------------------------------
LSP Name      : 1
---------------------------------------------------------------
Collect Stats : Enabled                Accting Plcy. : Default
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC AF
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC L1
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC H2
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC EF
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC H1
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC NC
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
===============================================================


*A:Dut-C# show router mpls lsp-egress-stats lsp "ipmsi-1-73728"

===============================================================
MPLS LSP Egress Statistics
===============================================================
---------------------------------------------------------------
LSP Name      : ipmsi-1-73728
---------------------------------------------------------------
Collect Stats : Enabled                Accting Plcy. : Default
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC AF
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC L1
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC H2
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC EF
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC H1
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC NC
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
===============================================================
```

lsp-egress-stats

Syntax

lsp-egress-stats [**active**]

lsp-egress-stats lsp *lsp-name*

Context

[Tree] (show>router>mpls>mpls-tp lsp-egress-stats)

Full Context

show router mpls mpls-tp lsp-egress-stats

Description

This command displays MPLS-TP LSP egress statistics information.

Parameters

active

Displays statistics for all active LSPs.

lsp-name

Displays statistics for the specified LSP name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lsp-egress-stats

Syntax

lsp-egress-stats

lsp-egress-stats *lsp-name*

Context

[Tree] (clear>router>mpls lsp-egress-stats)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear router mpls lsp-egress-stats

Description

This command clears MPLS LSP egress statistics information.

Parameters

lsp-name

Specifies the LSP to clear, up to 64 characters.

Platforms

All

lsp-egress-stats

Syntax

lsp-egress-stats lsp *lsp-name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] [**bits**]

Context

[Tree] (monitor>router>mpls lsp-egress-stats)

Full Context

monitor router mpls lsp-egress-stats

Description

This command displays egress statistics for LSP interfaces at the configured interval until the configured count is reached.

Default

no lsp-egress-stats

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

repeat

Specifies how many times the command is repeated.

Values 1 to 999

Default 10

seconds

Specifies the interval for each display, in seconds.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 3 to 60

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

bits

Displays the output values in bits rather than in octets.

Platforms

All

Output

The following output is an example of LSP egress statistics information.

Output Example

```
B:Dut-C-cpm2# monitor router mpls lsp-egress-stats lsp sample repeat 3 interval 10
absolute
===============================================================================
Monitor egress statistics for MPLS LSP "sample"
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
LSP Name      : sample
-------------------------------------------------------------------------------
Collect Stats : Enabled                Accting Plcy. : 5
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 0                      OutProf Pkts  : 551
InProf Octets : 0                      OutProf Octets: 560918
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 551
InProf Octets : 0                      OutProf Octets: 560918
FC AF
InProf Pkts   : 551                    OutProf Pkts  : 0
InProf Octets : 560918                 OutProf Octets: 0
FC L1
InProf Pkts   : 551                    OutProf Pkts  : 0
InProf Octets : 560918                 OutProf Octets: 0
FC H2
InProf Pkts   : 0                      OutProf Pkts  : 551
InProf Octets : 0                      OutProf Octets: 560918
FC EF
InProf Pkts   : 0                      OutProf Pkts  : 551
InProf Octets : 0                      OutProf Octets: 560918
FC H1
InProf Pkts   : 0                      OutProf Pkts  : 551
InProf Octets : 0                      OutProf Octets: 560918
FC NC
InProf Pkts   : 551                    OutProf Pkts  : 0
InProf Octets : 560918                 OutProf Octets: 0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
At time t = 10 sec (Mode: Absolute)
-------------------------------------------------------------------------------
LSP Name      : sample
-------------------------------------------------------------------------------
Collect Stats : Enabled                Accting Plcy. : 5
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 0                      OutProf Pkts  : 580
InProf Octets : 0                      OutProf Octets: 590440
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 580
InProf Octets : 0                      OutProf Octets: 590440
FC AF
InProf Pkts   : 580                    OutProf Pkts  : 0
InProf Octets : 590440                 OutProf Octets: 0
FC L1
InProf Pkts   : 580                    OutProf Pkts  : 0
InProf Octets : 590440                 OutProf Octets: 0
FC H2
InProf Pkts   : 0                      OutProf Pkts  : 580
InProf Octets : 0                      OutProf Octets: 590440
FC EF
InProf Pkts   : 0                      OutProf Pkts  : 580
InProf Octets : 0                      OutProf Octets: 590440
FC H1
InProf Pkts   : 0                      OutProf Pkts  : 580
InProf Octets : 0                      OutProf Octets: 590440
FC NC
InProf Pkts   : 580                    OutProf Pkts  : 0
InProf Octets : 590440                 OutProf Octets: 0
-------------------------------------------------------------------------------
At time t = 20 sec (Mode: Absolute)
-------------------------------------------------------------------------------
LSP Name      : sample
-------------------------------------------------------------------------------
Collect Stats : Enabled                Accting Plcy. : 5
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 0                      OutProf Pkts  : 609
InProf Octets : 0                      OutProf Octets: 619962
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 609
InProf Octets : 0                      OutProf Octets: 619962
FC AF
InProf Pkts   : 609                    OutProf Pkts  : 0
InProf Octets : 619962                 OutProf Octets: 0
FC L1
InProf Pkts   : 609                    OutProf Pkts  : 0
InProf Octets : 619962                 OutProf Octets: 0
FC H2
InProf Pkts   : 0                      OutProf Pkts  : 609
InProf Octets : 0                      OutProf Octets: 619962
FC EF
InProf Pkts   : 0                      OutProf Pkts  : 609
InProf Octets : 0                      OutProf Octets: 619962
FC H1
InProf Pkts   : 0                      OutProf Pkts  : 609
InProf Octets : 0                      OutProf Octets: 619962
FC NC
InProf Pkts   : 609                    OutProf Pkts  : 0
InProf Octets : 619962                 OutProf Octets: 0
-------------------------------------------------------------------------------
At time t = 30 sec (Mode: Absolute)
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP Name      : sample
-------------------------------------------------------------------------------
Collect Stats : Enabled                Accting Plcy. : 5
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 0                      OutProf Pkts  : 638
InProf Octets : 0                      OutProf Octets: 649484
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 638
InProf Octets : 0                      OutProf Octets: 649484
FC AF
InProf Pkts   : 638                    OutProf Pkts  : 0
InProf Octets : 649484                 OutProf Octets: 0
FC L1
InProf Pkts   : 638                    OutProf Pkts  : 0
InProf Octets : 649484                 OutProf Octets: 0
FC H2
InProf Pkts   : 0                      OutProf Pkts  : 638
InProf Octets : 0                      OutProf Octets: 649484
FC EF
InProf Pkts   : 0                      OutProf Pkts  : 638
InProf Octets : 0                      OutProf Octets: 649484
FC H1
InProf Pkts   : 0                      OutProf Pkts  : 638
InProf Octets : 0                      OutProf Octets: 649484
FC NC
InProf Pkts   : 638                    OutProf Pkts  : 0
InProf Octets : 649484                 OutProf Octets: 0
===============================================================================
B:Dut-C-cpm2#
```

14.81 lsp-history

lsp-history

Syntax

lsp-history [*lsp-name*]

Context

[Tree] (tools>dump>router>mpls lsp-history)

Full Context

tools dump router mpls lsp-history

Description

This command displays the recorded history of LSP events for all RSVP-TE and SR-TE LSPs if no LSP name is provided, or only the named LSP if an LSP name is provided.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

Platforms

All

Output

The following example shows the LSP history output, and Table 306: Output fields: MPLS LSP history describes the output fields.

```
tools dump router mpls lsp-history "C_F_5"
```

Output Example

```
Info: lsp history recording is Enabled
===============================================================================
LSP: C_F_5
Hist Log [size=100]  Last Entry = 17
===============================================================================
 17 2022/09/20 06:43:52.15 UTC LSP Up
 16 2022/09/20 06:43:52.15 UTC Active path selected: C_F_sec
 15 2022/09/20 06:43:52.15 UTC Path Up: C_F_sec:47618
 14 2022/09/20 06:43:52.13 UTC CSPF Computation result Success: C_F_sec
 13 2022/09/20 06:43:52.13 UTC ERO: IPv4Prefix 10.10.5.3/32, Strict
 12 2022/09/20 06:43:52.13 UTC Active path removed: C_F_5
 11 2022/09/20 06:43:52.13 UTC LSP Down  Reason: Admin Down
 10 2022/09/20 06:43:52.13 UTC Path Down: C_F_5:pathAdminDown
  9 2022/09/20 06:42:58.57 UTC LSP-ID Created: 47618
  8 2022/09/20 06:39:49.53 UTC LSP Up
  7 2022/09/20 06:39:49.53 UTC Active path selected: C_F_5
  6 2022/09/20 06:39:49.53 UTC Path Up: C_F_5:47616
  5 2022/09/20 06:39:49.53 UTC CSPF Computation result Success: C_F_5
  4 2022/09/20 06:39:49.53 UTC ERO: IPv4Prefix 10.10.11.3/32, Strict
  3 2022/09/20 06:39:32.18 UTC CSPF result Failure: No CspfRouteOwner
  2 2022/09/20 06:39:32.18 UTC LSP-ID Created: 47616
  1 2022/09/20 06:39:32.15 UTC Created: C_F_5
```

Table 306: Output fields: MPLS LSP history

Label	Description
Info	Specifies whether the LSP history event recording is enabled or disabled
LSP	Specifies the name of the LSP
Hist Log	Specifies the size of the history log
Last Entry	Specifies the number of entries

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lsp-history

Syntax

lsp-history [*lsp-name*]

Context

[Tree] (clear>router>mpls lsp-history)

Full Context

clear router mpls lsp-history

Description

This command clears the recorded history of LSP events for all RSVP-TE and SR-TE LSPs if no LSP name is provided, or only the named LSP if the LSP name is provided.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

Platforms

All

14.82 lsp-ingress-stats

lsp-ingress-stats

Syntax

lsp-ingress-stats

lsp-ingress-stats *ip-address* **lsp** *lsp-name*

Context

[Tree] (show>router>mpls lsp-ingress-stats)

Full Context

show router mpls lsp-ingress-stats

Description

This command displays MPLS LSP ingress statistics information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

Platforms

All

Output

The following output is an example of MPLS LSP ingress statistics information.

Output Example

```
*A:Dut-A# show router mpls lsp-ingress-stats lsp "1" sender 10.20.1.3
===============================================================
MPLS LSP Ingress Statistics
===============================================================
---------------------------------------------------------------
LSP Name      : 1
Sender        : 10.20.1.3
---------------------------------------------------------------
Collect Stats : Disabled               Accting Plcy. : None
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC AF
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC L1
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC H2
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC EF
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC H1
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC NC
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
===============================================================

*A:Dut-A# show router mpls lsp-ingress-stats lsp "ipmsi-1-73728" sender 10.20.1.3
===============================================================================
MPLS LSP Ingress Statistics
===============================================================================
-------------------------------------------------------------------------------
LSP Name      : ipmsi-1-73728
Sender        : 10.20.1.3
-------------------------------------------------------------------------------
Collect Stats : Disabled               Accting Plcy. : None
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 0                      OutProf Pkts  : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
InProf Octets : 0                       OutProf Octets: 0
FC L2
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC AF
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC L1
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC H2
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC EF
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC H1
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC NC
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
===============================================================================


*A:Dut-A>config>router>mpls>ingr-stats# show router mpls lsp-ingress-stats
type p2mp active template-match
===============================================================================
MPLS LSP Ingress Statistics
===============================================================================
-------------------------------------------------------------------------------
LSP Name      : ipmsi-1-73728
Sender        : 10.20.1.3
-------------------------------------------------------------------------------
Collect Stats : Disabled                Accting Plcy. : None
Adm State     : Up                      PSB Match     : True
FC BE
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC L2
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC AF
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC L1
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC H2
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC EF
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC H1
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
FC NC
InProf Pkts   : 0                       OutProf Pkts  : 0
InProf Octets : 0                       OutProf Octets: 0
-------------------------------------------------------------------------------
LSP Statistics : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lsp-ingress-stats

Syntax

lsp-ingress-stats [**active**]

lsp-ingress-stats lsp *lsp-name*

Context

[Tree] (show>router>mpls>mpls-tp lsp-ingress-stats)

Full Context

show router mpls mpls-tp lsp-ingress-stats

Description

This command displays MPLS-TP LSP ingress statistics information.

Parameters

active

Displays statistics for all active LSPs.

lsp-name

Displays statistics for the specified LSP name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lsp-ingress-stats

Syntax

lsp-ingress-stats

lsp-ingress-stats *ip-address* **lsp** *lsp-name*

lsp-ingress-stats *sender-address*:*lsp-name*

Context

[Tree] (clear>router>mpls lsp-ingress-stats)

Full Context

clear router mpls lsp-ingress-stats

Description

This command clears MPLS LSP ingress statistics information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

lsp-ingress-stats

Syntax

lsp-ingress-stats lsp *lsp-name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] *ip-address* [**bits**]

Context

[Tree] (monitor>router>mpls lsp-ingress-stats)

Full Context

monitor router mpls lsp-ingress-stats

Description

This command displays ingress statistics for LSP interfaces at the configured interval until the configured count is reached.

Parameters

lsp-name

Specifies the LSP name up to 64 characters.

repeat

Specifies how many times the command is repeated.

Values 1 to 999

Default 10

seconds

Specifies the interval for each display, in seconds.

Values 3 to 60

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

ip-address

Specifies the IP address.

Values *a.b.c.d*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

bits

Displays the output values in bits rather than in octets.

Platforms

All

Output

The following output is an example of LSP ingress statistics information.

Output Example

```
B:Dut-C-cpm2# monitor router mpls lsp-ingress-stats lsp sample 192.0.2.1 repeat 3
interval 10 absolute
===============================================================================
Monitor ingress statistics for MPLS LSP "sample"
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
LSP Name      : sample
Sender        : 192.0.2.1
-------------------------------------------------------------------------------
Collect Stats : Enabled                Accting Plcy. : None
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 539                    OutProf Pkts  : 0
InProf Octets : 548702                 OutProf Octets: 0
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 539
InProf Octets : 0                      OutProf Octets: 548702
FC AF
InProf Pkts   : 0                      OutProf Pkts  : 0
InProf Octets : 0                      OutProf Octets: 0
FC L1
InProf Pkts   : 1078                   OutProf Pkts  : 0
InProf Octets : 1097404                OutProf Octets: 0
FC H2
InProf Pkts   : 0                      OutProf Pkts  : 539
InProf Octets : 0                      OutProf Octets: 548702
FC EF
InProf Pkts   : 539                    OutProf Pkts  : 0
InProf Octets : 548702                 OutProf Octets: 0
FC H1
InProf Pkts   : 539                    OutProf Pkts  : 0
InProf Octets : 548702                 OutProf Octets: 0
FC NC
InProf Pkts   : 0                      OutProf Pkts  : 539
InProf Octets : 0                      OutProf Octets: 548702
-------------------------------------------------------------------------------
At time t = 10 sec (Mode: Absolute)
-------------------------------------------------------------------------------
LSP Name      : sample
Sender        : 192.0.2.1
-------------------------------------------------------------------------------
Collect Stats : Enabled                Accting Plcy. : None
Adm State     : Up                     PSB Match     : True
FC BE
InProf Pkts   : 568                    OutProf Pkts  : 0
InProf Octets : 578224                 OutProf Octets: 0
FC L2
InProf Pkts   : 0                      OutProf Pkts  : 568
InProf Octets : 0                      OutProf Octets: 578224
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
FC AF
InProf Pkts   : 0                     OutProf Pkts  : 0
InProf Octets : 0                     OutProf Octets: 0
FC L1
InProf Pkts   : 1136                  OutProf Pkts  : 0
InProf Octets : 1156448               OutProf Octets: 0
FC H2
InProf Pkts   : 0                     OutProf Pkts  : 568
InProf Octets : 0                     OutProf Octets: 578224
FC EF
InProf Pkts   : 568                   OutProf Pkts  : 0
InProf Octets : 578224                OutProf Octets: 0
FC H1
InProf Pkts   : 568                   OutProf Pkts  : 0
InProf Octets : 578224                OutProf Octets: 0
FC NC
InProf Pkts   : 0                     OutProf Pkts  : 568
InProf Octets : 0                     OutProf Octets: 578224
-------------------------------------------------------------------------------
At time t = 20 sec (Mode: Absolute)
-------------------------------------------------------------------------------
LSP Name      : sample
Sender        : 192.0.2.1
-------------------------------------------------------------------------------
Collect Stats : Enabled               Accting Plcy. : None
Adm State     : Up                    PSB Match     : True
FC BE
InProf Pkts   : 597                   OutProf Pkts  : 0
InProf Octets : 607746                OutProf Octets: 0
FC L2
InProf Pkts   : 0                     OutProf Pkts  : 597
InProf Octets : 0                     OutProf Octets: 607746
FC AF
InProf Pkts   : 0                     OutProf Pkts  : 0
InProf Octets : 0                     OutProf Octets: 0
FC L1
InProf Pkts   : 1194                  OutProf Pkts  : 0
InProf Octets : 1215492               OutProf Octets: 0
FC H2
InProf Pkts   : 0                     OutProf Pkts  : 597
InProf Octets : 0                     OutProf Octets: 607746
FC EF
InProf Pkts   : 597                   OutProf Pkts  : 0
InProf Octets : 607746                OutProf Octets: 0
FC H1
InProf Pkts   : 597                   OutProf Pkts  : 0
InProf Octets : 607746                OutProf Octets: 0
FC NC
InProf Pkts   : 0                     OutProf Pkts  : 597
InProf Octets : 0                     OutProf Octets: 607746
-------------------------------------------------------------------------------
At time t = 30 sec (Mode: Absolute)
-------------------------------------------------------------------------------
LSP Name      : sample
Sender        : 192.0.2.1
-------------------------------------------------------------------------------
Collect Stats : Enabled               Accting Plcy. : None
Adm State     : Up                    PSB Match     : True
FC BE
InProf Pkts   : 627                   OutProf Pkts  : 0
InProf Octets : 638286                OutProf Octets: 0
FC L2
InProf Pkts   : 0                     OutProf Pkts  : 627
InProf Octets : 0                     OutProf Octets: 638286
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
FC AF
InProf Pkts   : 0                     OutProf Pkts  : 0
InProf Octets : 0                     OutProf Octets: 0
FC L1
InProf Pkts   : 1254                  OutProf Pkts  : 0
InProf Octets : 1276572               OutProf Octets: 0
FC H2
InProf Pkts   : 0                     OutProf Pkts  : 627
InProf Octets : 0                     OutProf Octets: 638286
FC EF
InProf Pkts   : 627                   OutProf Pkts  : 0
InProf Octets : 638286                OutProf Octets: 0
FC H1
InProf Pkts   : 627                   OutProf Pkts  : 0
InProf Octets : 638286                OutProf Octets: 0
FC NC
InProf Pkts   : 0                     OutProf Pkts  : 627
InProf Octets : 0                     OutProf Octets: 638286
===============================================================================
B:Dut-C-cpm2#
```

14.83 lsp-ldp

lsp-ldp

Syntax

lsp-ldp prefix *ip-prefix*/*ip-prefix-length*

Context

[Tree] (tools>dump>router>bfd lsp-ldp)

Full Context

tools dump router bfd lsp-ldp

Description

This command displays the local and remote discriminator values for LSP BFD sessions for a given prefix, as well as the BFD session state.

Parameters

prefix *ip-prefix*/*ip-prefix-length*

Specifies information for the specified IP prefix and mask length.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

d - [0 to 255]D

Platforms

All

14.84 lsp-rsvp

lsp-rsvp

Syntax

lsp-rsvp {**head** | **tail**} [**tunnel-id** *tunnel-id*]

Context

[Tree] (tools>dump>router>bfd lsp-rsvp)

Full Context

tools dump router bfd lsp-rsvp

Description

This command displays the local and remote discriminator values for LSP RSVP sessions.

Parameters

head

Specifies information for the head of the LSP LDP link.

tail

Specifies information for the tail of the LSP LDP link.

tunnel-id *tunnel-id*

Displays information about the specified tunnel.

Values 0 to 4294967295

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.85 lsp-self-ping

lsp-self-ping

Syntax

lsp-self-ping

Context

[Tree] (show>router>mpls lsp-self-ping)

Full Context

show router mpls lsp-self-ping

Description

This command displays LSP Self-ping timeout statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of MPLS LSP Self-ping information.

Table 307: Output fields: MPLS LSP self ping describes the MPLS LSP Self-ping output fields.

Table 307: Output fields: MPLS LSP self ping

Label	Description
RSVP-TE LSP Self Ping	Specifies the status of LSP Self-ping
LSP Self Ping Timeout	Specifies the value of the LSP timeout in seconds
LSP Self Ping Interval	Specifies the LSP Self-ping interval in seconds
Number of LSP Self Ping Timeouts	Specifies the total number of LSP Self-ping timeouts

Output Example

```
*A:Dut-C>config>router>mpls# show router mpls lsp-self-ping
===============================================
MPLS LSP Self Ping Timeout Statistics
===============================================
RSVP-TE LSP Self Ping                  : Enabled
LSP Self Ping Timeout                  : 60 seconds
LSP Self Ping Interval                 : 1 seconds
LSP Self Ping Timeout Action           : switch
Number of LSP Self Ping Timeouts       : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
OAM Resource Failures                  : 0
===============================================
*A:Dut-C>config>router>mpls#
```

lsp-self-ping

Syntax

lsp-self-ping

Context

[Tree] (clear>router>mpls>lsp lsp-self-ping)

Full Context

clear router mpls lsp lsp-self-ping

Description

This command resets or clears counters and timers for MPLS LSP self ping at the LSP level.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

lsp-self-ping

Syntax

lsp-self-ping

Context

[Tree] (clear>router>mpls lsp-self-ping)

Full Context

clear router mpls lsp-self-ping

Description

This command resets or clears counters and timers for MPLS LSP self ping at the LSP level.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

14.86 lsp-template

lsp-template

Syntax

lsp-template [*lsp-template-name*] [**detail**]

lsp-template [*lsp-template-name*] **bindings**

Context

[Tree] (show>router>mpls lsp-template)

Full Context

show router mpls lsp-template

Description

This command displays MPLS LSP template information.

Parameters

lsp-template-name

Specifies the LSP template name, up to 32 characters.

detail

Displays detailed information.

bindings

Displays any bindings associated with the LSP template.

Platforms

All

Output

The following outputs are examples of LSP template information, and Table 308: Output fields: LSP template describes the output fields.

Output Example

```
*A:Dut-C>config>router>mpls# show router mpls lsp-template
===============================================================================
MPLS LSP Templates
===============================================================================
Name                              Type           Admin State    No Of LSPs
-------------------------------------------------------------------------------
pce_init_sr_te_template           PceInitP2PSrTe Up             1
pce_init_sr_te_template_nonDef    PceInitP2PSrTe Up             1
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP Templates : 2
```

```
*A:Dut-C>config>router>mpls# show router mpls lsp-template detail
===============================================================================
MPLS LSP Templates (Detail)
===============================================================================
Legend :
    + - Inherited
===============================================================================
-------------------------------------------------------------------------------
LSP Template : pce_init_sr_te_template
-------------------------------------------------------------------------------
Type               : PceInitP2PSrTe     Admin State        : Up
From               : 10.20.1.3+
Template ID        : Default
Default Path       : fully_loose
Bandwidth          : 0 Mbps             Hop Limit          : 255
CSPF               : Enabled            Use TE metric      : Disabled
Include Groups     :                    Exclude Groups     :
None                                    None
Record Route       : Record             Record Label       : Record
Retry Limit        : 0                  Retry Timer        : 30 sec
LSP Count          : 1                  Ref Count          : 0
Load Bal Wt        : N/A                ClassForwarding    : Disabled
VprnAutoBind       : Enabled
IGP Shortcut       : Enabled            BGP Shortcut       : Enabled
IGP LFA            : Disabled           IGP Rel Metric     : Disabled
Metric             : 0
BGP Transport Tunn : Enabled
Entropy Label      : Enabled+
PCE Report         : Enabled

Admin Tags         : None
-------------------------------------------------------------------------------
LSP Template : pce_init_sr_te_template_nonDef
-------------------------------------------------------------------------------
Type               : PceInitP2PSrTe     Admin State        : Up
From               : 10.20.1.3+
Template ID        : 4294967295
Default Path       : fully_loose
Bandwidth          : 0 Mbps             Hop Limit          : 255
CSPF               : Enabled            Use TE metric      : Disabled
Include Groups     :                    Exclude Groups     :
None                                    None
Record Route       : Record             Record Label       : Record
Retry Limit        : 0                  Retry Timer        : 30 sec
LSP Count          : 1                  Ref Count          : 0
Load Bal Wt        : N/A                ClassForwarding    : Disabled
VprnAutoBind       : Enabled
IGP Shortcut       : Enabled            BGP Shortcut       : Enabled
IGP LFA            : Disabled           IGP Rel Metric     : Disabled
Metric             : 0
BGP Transport Tunn : Enabled
Entropy Label      : Enabled+
PCE Report         : Enabled

Admin Tags         : None
===============================================================================
+ indicates inherited values
```

```
*A:Dut-C# show router mpls lsp-template detail
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MPLS LSP Templates (Detail)
===============================================================================
-------------------------------------------------------------------------------
LSP Template : ipmsi
-------------------------------------------------------------------------------
Type               : P2MP               Admin State        : Up
Default Path       : path_ipmsi         Adaptive           : Enabled
Bandwidth          : 0 Mbps             Hop Limit          : 255
CSPF               : Enabled            Use TE metric      : Disabled
Include Groups     :                    Exclude Groups     :
None                                    None
FastReroute        : Enabled
FR Method          : Facility           FR Hop Limit       : 16
Record Route       : Record             Record Label       : Record
Retry Limit        : 0                  Retry Timer        : 30 sec
LSP Count          : 3                  Ref Count          : 3
===============================================================================
```

Output Example

```
*A:Dut-A# show router mpls lsp-template "toC" detail
===============================================================================
MPLS LSP Templates (Detail)
===============================================================================
Legend :
    + - Inherited
===============================================================================
-------------------------------------------------------------------------------
LSP Template : toC
-------------------------------------------------------------------------------
Type               : OnDemandP2PSrTe    Admin State        : Up
From               : 10.20.1.1+
Default Path       : toC
Bandwidth          : 0 Mbps             Hop Limit          : 255
PathCompMethod     : pce                Metric Type        : igp
Local Sr Protection: preferred          Label Stack Reduct*: Disabled
Include Groups     :                    Exclude Groups     :
None                                    None
Record Route       : Record             Record Label       : Record
Retry Limit        : 0                  Retry Timer        : 30 sec
LSP Count          : 1                  Ref Count          : 0
Load Bal Wt        : N/A                ClassForwarding    : Disabled
VprnAutoBind       : Enabled
IGP Shortcut       : Enabled            BGP Shortcut       : Enabled
IGP LFA            : Disabled           IGP Rel Metric     : Disabled
Metric             : 0
BGP Transport Tunn : Enabled
Egress Stats       : Disabled
Stat Mode          : aggregate
BFD Template Name  : sbfdTemplate       BFD LSP Ping Intvl : N/A
BFD Enable         : True               BFD Failure-action : None
WaitForUpTimer     : 30
Entropy Label      : Enabled+           Override Tunnel ELC: Disabled
PCE Report         : Enabled

Admin Tags         :
                     green
Lsp Self Ping      : Inherited
PCE Control        : Enabled            FallbkPathComp     : not-applicable
Path Profile       :
Profile            : 1                  Group              : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
+ indicates inherited values
*A:Dut-A#
```

Table 308: Output fields: LSP template

Label	Description
Name	Specifies the name.
Type	Specifies the type.
Admin State	Specifies the up or down administrative state.
No of LSPs	Specifies the number of LSPs.
LSP Templates	Specifies the number of LSP templates.
LSP Template	Specifies the name of the LSP template.
From	Specifies the from IP address.
Template ID	Specifies the template ID.
Default Path	Specifies the default path value.
Bandwidth	Specifies the bandwidth value in Mbps.
Hop Limit	Specifies the maximum number of hops.
CSPF	Specifies the enabled or disabled status for CSPF.
Use TE metric	Specifies the enabled or disabled status for use TE metric.
Include Groups	Specifies the included groups or none for no included groups.
Exclude Groups	Specifies the excluded groups or none for no excluded groups.
Record Route	Specifies the record route value.
Record Label	Specifies the record label value.
Retry Limit	Specifies the retry limit value.
Retry Timer	Specifies the retry timer value.
LSP Count	Specifies the LSP count.
Ref Count	Specifies the reference count number.
Load Bal Wt	Specifies the load balance weight value.
ClassForwarding	Specifies the enabled or disabled status for class forwarding.
VprnAutoBind	Specifies the enabled or disabled status for VPRN autobind.
IGP Shortcut	Specifies the enabled or disabled status for IGP shortcut.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
IGP LFA	Specifies the enabled or disabled status for IGP LFA.
IGP Rel Metric	Specifies the enabled or disabled status for IGP Rel metric.
Metric	Specifies the metric value.
BGP Transport Tunn	Specifies the enabled or disabled status for BGP transport tunnels.
Entropy Label	Specifies the enabled or disabled status for entropy label.
PCE Report	Specifies the enabled or disabled status for PCE reports.
Admin Tags	Specifies the administrative tag names or none.
PCE Control	Specifies the enabled or disabled status for the PCE control.
FallbkPathComp	none — No fallback method is configured. local-cspf— Local CSPF fallback is configured.

14.87 lspinfo

lspinfo

Syntax

lspinfo [*lsp-name*] [**detail**]

Context

[Tree] (tools>dump>router>mpls lspinfo)

Full Context

tools dump router mpls lspinfo

Description

This command dumps MPLS LSP information.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

detail

Specifies detailed LSP information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of a BFD session that is up (LSPS UP).

Output Example

```
*A:Dut-B# tools dump router mpls lspinfo
LSP "lsp1"  LspIdx 1  LspType Dynamic  State LSPS_UP  Flags 0x2000
NumPaths 3  NumSdps 0  NumCBFSdps 0  NumFltrEntries 0
HoldTimeRemaining 0secs  ClassType 0  Metric 0  OperMetric 2000
LDPoRsvp Include  VprnAutoBind Include IgpShortCut Include BgpShortCut Include
BgpTransTunnel Include IpShCutTtlPropLocal TRUE IpShCutTtlPropTans TRUE
RelativeMetricOffset 2147483647 EntropyLbl inherit MTU 1500 LspAdminState :2
LspOperState : 2 lspRowStatus : 1
ClassForwarding: Disabled
BFD Enabled  Template bfdTemp1  PingInterval 60 Failure-Action Failover
```

The following output is an example of a BFD session that is degraded (LSPS DEGRADED).

```
*A:Dut-B# /tools dump router mpls  lspinfo "lsp1"
LSP "lsp1"  LspIdx 1  LspType Dynamic  State LSPS_DEGRADED  Flags 0x2000
NumPaths 3  NumSdps 0  NumCBFSdps 0  NumFltrEntries 0
HoldTimeRemaining 0secs  ClassType 0  Metric 0  OperMetric 2000
LDPoRsvp Include  VprnAutoBind Include IgpShortCut Include BgpShortCut Include
BgpTransTunnel Include IpShCutTtlPropLocal TRUE IpShCutTtlPropTans TRUE
RelativeMetricOffset 2147483647 EntropyLbl inherit MTU 1500 LspAdminState :2
LspOperState : 2 lspRowStatus : 1
ClassForwarding: Disabled
BFD Enabled  Template bfdTemp1  PingInterval 60 Failure-Action Failover

Total Ingress LSP Count         : 1
```

The following output is an example of LSP Self-ping InProgress.

```
*A:Dut-C>config>router>mpls# /tools dump router mpls lspinfo "1" detail
LSP "1"  LspIdx 1  LspType Dynamic  State LSPS_UP  Flags 0x2000
From ::  To 10.20.1.6 AdminState Up  OperState Up  RowStatus Active
NumPaths 1  NumSdps 0  NumCBFSdps 0  NumFltrEntries 0
ActivePath 1::p(LspId 34306)
HoldTimeRemaining 0secs  ClassType 0  Metric 0  OperMetric 20
LDPoRsvp Include  VprnAutoBind Include IgpShortCut Include BgpShortCut Include
BgpTransTunnel Include IpShCutTtlPropLocal TRUE IpShCutTtlPropTans TRUE
RelativeMetricOffset 2147483647 MTU 1500 InUseByLdp FALSE
EntropyLabel inherit  OperEntropyLabel enable
ClassForwarding: Disabled
BFD Disabled UpdLspBfd No Template n/a  PingInterval 60 FailureAction None
PCE Report: Disabled  PCE Control: Disabled
Path Profile:
  None
Admin Tags:
  None
Lsp-self-ping: Config: inherit, Oper: Enabled, TimedOutCnt: 0
  Path "p"  Flags 0x0 LspId 34306  LspPathIndex 1 PathType Primary  ActivePath Yes
    RowStatus Active  LastChange 000 00:00:09.730
    AdminState Up  OperState Up  OperStateChange 000 00:00:17.760
    TE Computed Hop List:
      Hop[1] IngIp 10.20.1.3 IngLnkId 0 EgrIp 10.10.5.3 EgrLnkId 0 RtrId 10.20.1.3 Flag 0x0
      Hop[2] IngIp 10.10.5.5 IngLnkId 0 EgrIp 10.10.10.5 EgrLnkId 0 RtrId 10.20.1.5 Flag 0x0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      Hop[3] IngIp 10.10.10.6 IngLnkId 0 EgrIp 10.20.1.6 EgrLnkId 0 RtrId 10.20.1.6 Flag 0x0
    LspPath FsmState LSP_PATH_S_UP  Flags 0x0
    RetryAttempts 0  RetryInterval 30  NextRetryIn 0secs
    Class Type 0 SetupPri 7 HoldPri 0 Pref 0 HopLimit 255 BW 1Mbps
    TotIgpCost 20 OperMetric 20 MTU 1500
    BFD Disabled  Template n/a  PingInterval 60
    Degraded No
    Oper Values:
        Class Type 0 SetupPri 7 HoldPri 0 HopLimit 255 BW 0Mbps
        RecordRoute RecordLabel No Adspec
        No PropagateAdminGroup Exclude 0x00000000 Include 0x00000000
        No FRR
        Metric 20  CSPF No Least Fill Intra-area
        NegotiatedEntropyLabel Disabled
        PCE-Computed No PCE-Reported No PCE-Controlled No
        BFD State N/A
    MBB is in progress -
        Type Config Change  LspId 34308  FsmState LSP_PATH_S_UP  Flags 0x20
        RetryAttempts 1  NextRetryIn 0secs  CspfFailures 0
        Started 2020/05/23 01:09:56.84 UTC  HoldTimeRemaining 21secs
        MBB Self-Ping: State InProgress OamSessId 1007 Started 2020/05/23 01:09:57.61 UTC
 Remaining 22 secs

Total Ingress LSP Count         : 1
```

The following output is an example of LSP Self-ping OK.

```
*A:Dut-C>config>router>mpls# /tools dump router mpls lspinfo "1" detail
LSP "1"  LspIdx 1  LspType Dynamic  State LSPS_UP  Flags 0x2000
From ::  To 10.20.1.6 AdminState Up  OperState Up  RowStatus Active
NumPaths 1  NumSdps 0  NumCBFSdps 0  NumFltrEntries 0
ActivePath 1::p(LspId 34308)
HoldTimeRemaining 0secs  ClassType 0  Metric 0  OperMetric 20
LDPoRsvp Include  VprnAutoBind Include IgpShortCut Include BgpShortCut Include
BgpTransTunnel Include IpShCutTtlPropLocal TRUE IpShCutTtlPropTans TRUE
RelativeMetricOffset 2147483647 MTU 1500 InUseByLdp FALSE
EntropyLabel inherit  OperEntropyLabel enable
ClassForwarding: Disabled
BFD Disabled UpdLspBfd No Template n/a  PingInterval 60 FailureAction None
PCE Report: Disabled  PCE Control: Disabled
Path Profile:
  None
Admin Tags:
  None
Lsp-self-ping: Config: inherit, Oper: Enabled, TimedOutCnt: 0
  Path "p"  Flags 0x0 LspId 34308  LspPathIndex 1 PathType Primary  ActivePath Yes
    RowStatus Active  LastChange 000 00:00:42.760
    AdminState Up  OperState Up  OperStateChange 000 00:00:50.790
    TE Computed Hop List:
      Hop[1] IngIp 10.20.1.3 IngLnkId 0 EgrIp 10.10.5.3 EgrLnkId 0 RtrId 10.20.1.3 Flag 0x0
      Hop[2] IngIp 10.10.5.5 IngLnkId 0 EgrIp 10.10.10.5 EgrLnkId 0 RtrId 10.20.1.5 Flag 0x0
      Hop[3] IngIp 10.10.10.6 IngLnkId 0 EgrIp 10.20.1.6 EgrLnkId 0 RtrId 10.20.1.6 Flag 0x0
    LspPath FsmState LSP_PATH_S_UP  Flags 0x0
    RetryAttempts 0  RetryInterval 30  NextRetryIn 0secs
    Class Type 0 SetupPri 7 HoldPri 0 Pref 0 HopLimit 255 BW 1Mbps
    TotIgpCost 20 OperMetric 20 MTU 1500
    BFD Disabled  Template n/a  PingInterval 60
    Degraded No
    Oper Values:
        Class Type 0 SetupPri 7 HoldPri 0 HopLimit 255 BW 1Mbps
        RecordRoute RecordLabel No Adspec
        No PropagateAdminGroup Exclude 0x00000000 Include 0x00000000
        No FRR
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        Metric 20  CSPF No Least Fill Intra-area
        NegotiatedEntropyLabel Disabled
        PCE-Computed No PCE-Reported No PCE-Controlled No
        BFD State N/A
    Self-Ping: State OK Ended 2020/05/23 01:10:16.63 UTC
    Last MBB -
        Type Config Change  State Successful  CspfFailures 0 FailCode noError
        Started 2020/05/23 01:09:56.84 UTC
        Ended   2020/05/23 01:10:16.63 UTC
        Self-ping Started 2020/05/23 01:09:57.61 UTC
        Self-ping Ended   2020/05/23 01:10:16.63 UTC
        Pre-MBB IGP Cost 20
        Pre-MBB Explicit Route -
        [1] 10.10.5.5  Flags 0x0
        [2] 10.10.10.6  Flags 0x0

Total Ingress LSP Count         : 1
```

The following output is an example of LSP Self-Ping TimedOut.

```
*A:Dut-C>config>router>mpls# /tools dump router mpls lspinfo "1" detail
LSP "1"  LspIdx 1  LspType Dynamic  State LSPS_UP  Flags 0x2000
From ::  To 10.20.1.6 AdminState Up  OperState Up  RowStatus Active
NumPaths 1  NumSdps 0  NumCBFSdps 0  NumFltrEntries 0
ActivePath 1::p(LspId 34310)
HoldTimeRemaining 0secs  ClassType 0  Metric 0  OperMetric 20
LDPoRsvp Include  VprnAutoBind Include IgpShortCut Include BgpShortCut Include
BgpTransTunnel Include IpShCutTtlPropLocal TRUE IpShCutTtlPropTans TRUE
RelativeMetricOffset 2147483647 MTU 1500 InUseByLdp FALSE
EntropyLabel inherit  OperEntropyLabel enable
ClassForwarding: Disabled
BFD Disabled UpdLspBfd No Template n/a  PingInterval 60 FailureAction None
PCE Report: Disabled  PCE Control: Disabled
Path Profile:
  None
Admin Tags:
  None
Lsp-self-ping: Config: inherit, Oper: Enabled, TimedOutCnt: 1
  Path "p"  Flags 0x0 LspId 34310  LspPathIndex 1 PathType Primary  ActivePath Yes
    RowStatus Active  LastChange 000 00:00:37.200
    AdminState Up  OperState Up  OperStateChange 000 00:06:25.530
    TE Computed Hop List:
      Hop[1] IngIp 10.20.1.3 IngLnkId 0 EgrIp 10.10.5.3 EgrLnkId 0 RtrId 10.20.1.3 Flag 0x0
      Hop[2] IngIp 10.10.5.5 IngLnkId 0 EgrIp 10.10.10.5 EgrLnkId 0 RtrId 10.20.1.5 Flag 0x0
      Hop[3] IngIp 10.10.10.6 IngLnkId 0 EgrIp 10.20.1.6 EgrLnkId 0 RtrId 10.20.1.6 Flag 0x0
    LspPath FsmState LSP_PATH_S_UP  Flags 0x0
    RetryAttempts 0  RetryInterval 30  NextRetryIn 0secs
    Class Type 0 SetupPri 7 HoldPri 0 Pref 0 HopLimit 255 BW 2Mbps
    TotIgpCost 20 OperMetric 20 MTU 1500
    BFD Disabled  Template n/a  PingInterval 60
    Degraded No
    Oper Values:
        Class Type 0 SetupPri 7 HoldPri 0 HopLimit 255 BW 2Mbps
        RecordRoute RecordLabel No Adspec
        No PropagateAdminGroup Exclude 0x00000000 Include 0x00000000
        No FRR
        Metric 20  CSPF No Least Fill Intra-area
        NegotiatedEntropyLabel Disabled
        PCE-Computed No PCE-Reported No PCE-Controlled No
        BFD State N/A
    Self-Ping: State TimedOut Ended 2020/05/23 01:16:07.61 UTC
    Last MBB -
        Type Config Change  State Successful  CspfFailures 0 FailCode noError
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        Started 2020/05/23 01:15:37.14 UTC
        Ended   2020/05/23 01:16:07.61 UTC
        Self-ping Started 2020/05/23 01:15:37.61 UTC
        Self-ping Ended   2020/05/23 01:16:07.61 UTC
        Pre-MBB IGP Cost 20
        Pre-MBB Explicit Route -
        [1] 10.10.5.5  Flags 0x0
        [2] 10.10.10.6  Flags 0x0

Total Ingress LSP Count         : 1
```

The following output is an example of LSP Self-Ping StartFailed.

```
*A:Dut-C>config>router>mpls# /tools dump router mpls lspinfo "3000" detail
LSP "3000"  LspIdx 3000  LspType Dynamic  State LSPS_UP  Flags 0x2000
From ::  To 10.20.1.6 AdminState Up  OperState Up  RowStatus Active
NumPaths 1  NumSdps 0  NumCBFSdps 0  NumFltrEntries 0
ActivePath 3000::p(LspId 32256)
HoldTimeRemaining 0secs  ClassType 0  Metric 0  OperMetric 2000
LDPoRsvp Include  VprnAutoBind Include IgpShortCut Include BgpShortCut Include
BgpTransTunnel Include IpShCutTtlPropLocal TRUE IpShCutTtlPropTans TRUE
RelativeMetricOffset 2147483647 MTU 1500 InUseByLdp FALSE
EntropyLabel inherit  OperEntropyLabel enable
ClassForwarding: Disabled
BFD Disabled UpdLspBfd No Template n/a  PingInterval 60 FailureAction None
PCE Report: Disabled  PCE Control: Disabled
Path Profile:
  None
Admin Tags:
  None
Lsp-self-ping: Config: inherit, Oper: Enabled, TimedOutCnt: 0
  Path "p"  Flags 0x0 LspId 32256  LspPathIndex 3000 PathType Primary  ActivePath Yes
    RowStatus Active  LastChange 000 00:00:15.940
    AdminState Up  OperState Up  OperStateChange 000 00:01:19.970
    TE Computed Hop List:
      Hop[1] IngIp 10.20.1.3 IngLnkId 0 EgrIp 10.10.5.3 EgrLnkId 0 RtrId 10.20.1.3 Flag 0x0
      Hop[2] IngIp 10.10.5.5 IngLnkId 0 EgrIp 10.10.10.5 EgrLnkId 0 RtrId 10.20.1.5 Flag 0x0
      Hop[3] IngIp 10.10.10.6 IngLnkId 0 EgrIp 10.20.1.6 EgrLnkId 0 RtrId 10.20.1.6 Flag 0x0
    LspPath FsmState LSP_PATH_S_UP  Flags 0x0
    RetryAttempts 0  RetryInterval 30  NextRetryIn 0secs
    Class Type 0 SetupPri 7 HoldPri 0 Pref 0 HopLimit 255 BW 2Mbps
    TotIgpCost 2000 OperMetric 2000 MTU 1500
    BFD Disabled  Template n/a  PingInterval 60
    Degraded No
    Oper Values:
        Class Type 0 SetupPri 7 HoldPri 0 HopLimit 255 BW 1Mbps
        RecordRoute RecordLabel No Adspec
        No PropagateAdminGroup Exclude 0x00000000 Include 0x00000000
        No FRR
        Metric 2000  CSPF No Least Fill Intra-area
        NegotiatedEntropyLabel Disabled
        PCE-Computed No PCE-Reported No PCE-Controlled No
        BFD State N/A
    MBB is in progress -
        Type Config Change  LspId 32258  FsmState LSP_PATH_S_UP  Flags 0x20
        RetryAttempts 1  NextRetryIn 0secs  CspfFailures 0
        Started 2020/05/23 01:27:20.41 UTC  HoldTimeRemaining 1secs
        MBB Self-Ping: State StartFailed OamSessId 0 Started 2020/05/23 01:27:32.88 UTC
 Remaining 27 secs

Total Ingress LSP Count         : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following output is an example of LSP Self-Ping OamNoRsrc.

```
*A:Dut-C>config>router>mpls# /tools dump router mpls lspinfo "5000" detail
LSP "5000"  LspIdx 5000  LspType Dynamic  State LSPS_UP  Flags 0x2000
From ::  To 10.20.1.6 AdminState Up  OperState Up  RowStatus Active
NumPaths 1  NumSdps 0  NumCBFSdps 0  NumFltrEntries 0
ActivePath 5000::p(LspId 61954)
HoldTimeRemaining 0secs  ClassType 0  Metric 0  OperMetric 2000
LDPoRsvp Include  VprnAutoBind Include IgpShortCut Include BgpShortCut Include
BgpTransTunnel Include IpShCutTtlPropLocal TRUE IpShCutTtlPropTans TRUE
RelativeMetricOffset 2147483647 MTU 1500 InUseByLdp FALSE
EntropyLabel inherit  OperEntropyLabel enable
ClassForwarding: Disabled
BFD Disabled UpdLspBfd No Template n/a  PingInterval 60 FailureAction None
PCE Report: Disabled  PCE Control: Disabled
Path Profile:
  None
Admin Tags:
  None
Lsp-self-ping: Config: inherit, Oper: Enabled, TimedOutCnt: 1
  Path "p"  Flags 0x0 LspId 61954  LspPathIndex 5000 PathType Primary  ActivePath Yes
    RowStatus Active  LastChange 000 00:02:05.740
    AdminState Up  OperState Up  OperStateChange 000 00:03:18.790
    TE Computed Hop List:
      Hop[1] IngIp 10.20.1.3 IngLnkId 0 EgrIp 10.10.5.3 EgrLnkId 0 RtrId 10.20.1.3 Flag 0x0
      Hop[2] IngIp 10.10.5.5 IngLnkId 0 EgrIp 10.10.10.5 EgrLnkId 0 RtrId 10.20.1.5 Flag 0x0
      Hop[3] IngIp 10.10.10.6 IngLnkId 0 EgrIp 10.20.1.6 EgrLnkId 0 RtrId 10.20.1.6 Flag 0x0
    LspPath FsmState LSP_PATH_S_UP  Flags 0x0
    RetryAttempts 0  RetryInterval 30  NextRetryIn 0secs
    Class Type 0 SetupPri 7 HoldPri 0 Pref 0 HopLimit 255 BW 2Mbps
    TotIgpCost 2000 OperMetric 2000 MTU 1500
    BFD Disabled  Template n/a  PingInterval 60
    Degraded No
    Oper Values:
        Class Type 0 SetupPri 7 HoldPri 0 HopLimit 255 BW 2Mbps
        RecordRoute RecordLabel No Adspec
        No PropagateAdminGroup Exclude 0x00000000 Include 0x00000000
        No FRR
        Metric 2000  CSPF No Least Fill Intra-area
        NegotiatedEntropyLabel Disabled
        PCE-Computed No PCE-Reported No PCE-Controlled No
        BFD State N/A
    Self-Ping: State OamNoRsrc Ended 2020/05/23 01:28:17.87 UTC
    Last MBB -
        Type Config Change  State Successful  CspfFailures 0 FailCode noError
        Started 2020/05/23 01:27:22.57 UTC
        Ended   2020/05/23 01:28:17.87 UTC
        Self-ping Started 2020/05/23 01:27:45.86 UTC
        Self-ping Ended   2020/05/23 01:28:17.87 UTC
        Pre-MBB IGP Cost 2000
        Pre-MBB Explicit Route -
        [1] 10.10.5.5  Flags 0x0
        [2] 10.10.10.6  Flags 0x0

Total Ingress LSP Count         : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15 m Commands

15.1 mac

mac

Syntax

mac all | *ieee-address* | **unknown**

Context

[Tree] (show>subscr-mgmt>errors mac)

Full Context

show subscriber-mgmt errors mac

Description

This command sorts all the subscriber errors by MAC address.

Parameters

all

Shows all errors starting with the lowest MAC address.

ieee-address

Shows only the error of a specific MAC address.

unknown

Shows errors with unknown MAC addresses.

Platforms

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

Output

The following output is an example of subscriber management listed by MAC addresses.

Output Example

```
*A:eng-BNG-2# show  subscriber-mgmt errors mac all
===============================================================================
Subscriber management errors
===============================================================================
-------------------------------------------------------------------------------
MAC       : 00:00:10:10:12:13
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Time      : 2016/06/23 17:35:46.0
Service   : 1000
SAP       : 1/1/20:841
Error     : No Offer from DHCP server after Discover from DHCP client
Extra     : DHCPv4
Time      : 2016/06/23 17:35:16.0
Service   : 1000
SAP       : 1/1/20:841
Error     : No Offer from DHCP server after Discover from DHCP client
Extra     : DHCPv4
===============================================================================
```

Table 309: Output fields: subscriber management MAC error describes subscriber management MAC error output fields.

Table 309: Output fields: subscriber management MAC error

Field	Description
MAC	The MAC address associated with the error
Time	The time the error was reported
Service	The service ID
SAP	The SAP on which the error occurred
Error	The error that occurred on the MAC address
Extra	Extra information about the error that occurred

mac

Syntax

mac *mac-filter-id*

mac *mac-filter-id* **associations**

mac *mac-filter-id* [**type** *entry-type*] **counters** [**detail**]

mac *mac-filter-id* [**entry** *entry-id*] **effective-action** [{**ingress** | **egress**}]

mac *mac-filter-id* [**entry** *entry-id*] **effective-action router** [{**ingress** | **egress**}]

mac *mac-filter-id* [**entry** *entry-id*] **effective-action service** *service-id* [{**ingress** | **egress**}]

mac [*mac-filter-id*] **embedded** [**inactive**]

mac *mac-filter-id* **entry** *entry-id* [**counters**] [**detail**]

mac [**filter-type** *filter-type*]

mac *mac-filter-id* **type** *entry-type*

Context

[Tree] (show>filter mac)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show filter mac

Description

This command displays MAC filter information.

When **effective-action** is specified, this command displays what effectively happens to a packet that matches the criteria associated with the MAC filter policy.

Parameters

mac-filter-id

Displays detailed information for the specified filter ID and its filter entries.

Values 1 to 65535

associations

Appends information as to where the filter policy ID is applied to the detailed filter policy ID output.

entry-type

Specifies the type of filter entries as "fixed” or "embedded”.

counters

Displays counter information for the specified filter ID.

detail

Displays detailed information.

entry-id

Displays information on the specified filter entry ID for the specified filter ID only.

Values 1 to 2097151

effective-action

Displays the action that the system will effectively apply to the packet.

ingress

Filters the output and only displays the information for filter policies applied on ingress.

egress

Filters the output and only displays the information for filter policies applied on egress.

router

Filters the output and only displays the information for that specific service ("Base” instance).

service-id

Filters the output and only displays the information for the specified service. The specified value must correspond to an existing service in which the filter has been applied.

filter-type

Specifies the type of filter entries as "config”.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

No Parameters Specified — A brief listing of MAC filters is produced when no parameters are specified; Table 310: Output fields: filter MAC describes the output fields.

Output Example

```
*A:Dut-C# show filter mac
===============================================================================
Configured Mac Filters                                        Total:     1
===============================================================================
Filter-Id   Scope     Applied Description                                 Type
-------------------------------------------------------------------------------
10          Template  No                                                normal
===============================================================================
Num Mac filters: 1
===============================================================================
*A:Dut-C#
```

Table 310: Output fields: filter MAC

Label	Description
Filter Id	The MAC filter ID
Scope	Template — the filter policy is of type Template
	Exclusive — the filter policy is of type Exclusive
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Description	The MAC filter policy description

Filter ID Specified — The following output is an example of MAC filter information when the filter ID is specified, and Table 311: Output fields: MAC filter ID describes the fields. Detailed filter information for the filter ID and its entries is produced when the filter ID is specified.

Output Example

```
===============================================================================
Mac Filter : 200
===============================================================================
Filter Id       : 200                    Applied         : No
Scope           : Exclusive              D. Action       : Drop
Description     : Forward SERVER sourced packets
-------------------------------------------------------------------------------
Filter Match Criteria : Mac
-------------------------------------------------------------------------------
Entry           : 200                    FrameType       : 802.2SNAP
Description     : Not Available
Src Mac         : 00:00:5a:00:00:00 ff:ff:ff:00:00:00
Dest Mac        : 00:00:00:00:00:00 00:00:00:00:00:00
Dot1p           : Undefined              Ethertype       : 802.2SNAP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
DSAP            : Undefined               SSAP            : Undefined
Snap-pid        : Undefined               ESnap-oui-zero  : Undefined
Match action    : Forward
Ing. Matches    : 0                       Egr. Matches    : 0
Entry           : 300 (Inactive)          FrameType       : Ethernet
Description     : Not Available
Src Mac         : 00:00:00:00:00:00 00:00:00:00:00:00
Dest Mac       : 00:00:00:00:00:00 00:00:00:00:00:00
Dot1p           : Undefined               Ethertype       : Ethernet
DSAP            : Undefined               SSAP            : Undefined
Snap-pid        : Undefined               ESnap-oui-zero  : Undefined
Match action    : Default
Ing. Matches    : 0                       Egr. Matches    : 0
===============================================================================
```

Table 311: Output fields: MAC filter ID

Label	Description
MAC Filter Filter Id	The MAC filter policy ID
Scope	Template — the filter policy is of type Template
	Exclusive — the filter policy is of type Exclusive
Description	The MAC filter policy description
Applied	No — the filter policy ID has not been applied
	Yes — the filter policy ID is applied
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward
	Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
Filter Match Criteria	MAC — indicates the filter is an MAC filter policy
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
Description	The filter entry description
FrameType	Ethernet — the entry ID match frame type is Ethernet IEEE 802.3
	Ethernet II — the entry ID match frame type is Ethernet Type II
Src MAC	The source MAC address and mask match criterion; when both the MAC address and mask are all zeros, no criterion specified for the filter entry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Dest MAC	The destination MAC address and mask match criterion; when both the MAC address and mask are all zeros, no criterion specified for the filter entry
Dot1p	The IEEE 802.1p value for the match criteria; undefined indicates no value is specified
Ethertype	The Ethertype value match criterion
DSAP	The DSAP value match criterion; undefined indicates no value specified
SSAP	SSAP value match criterion; undefined indicates no value specified
Snap-pid	The Ethernet SNAP PID value match criterion; undefined indicates no value specified
Esnap-oui-zero	Non-Zero — filter entry matches a non-zero value for the Ethernet SNAP OUI
	Zero — filter entry matches a zero value for the Ethernet SNAP OUI
	Undefined — no Ethernet SNAP OUI value specified
Match action	Default — the filter does not have an explicit forward or drop match action specified; if the filter entry ID indicates the entry is Inactive, the filter entry is incomplete, no action was specified
	Drop — packets matching the filter entry criteria will be dropped
	Forward — packets matching the filter entry criteria is forwarded
Ing. Matches	The number of ingress filter matches/hits for the filter entry
Egr. Matches	The number of egress filter matches/hits for the filter entry

Filter Associations — The associations for a filter ID will be displayed if the **associations** keyword is specified. The association information is appended to the filter information.

The following output is an example of MAC filter information when the associations keyword is specified, and Table 312: Output fields: MAC associations describes the fields.

Output Example

```
A:ALA-49# show filter mac 3 associations
===============================================================================
Mac Filter
===============================================================================
Filter ID    : 3                    Applied          : Yes
Scope        : Template             Def. Action      : Drop
Entries      : 1
-------------------------------------------------------------------------------
Filter Association : Mac
-------------------------------------------------------------------------------
Service Id   : 1001                 Type             : VPLS
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
- SAP          1/1/1:1001            (Egress)
===============================================================================
```

Table 312: Output fields: MAC associations

Label	Description
Filter Association	Mac — the filter associations displayed are for a MAC filter policy ID
Service Id	The service ID on which the filter policy ID is applied; the output also provides a list of service points where the filter has been applied
SAP	The Service Access Point or spoke/mesh SDP on which the filter policy ID is applied
Type	The type of service of the Service ID
(Ingress)	The filter policy ID is applied as an ingress filter policy on the interface
(Egress)	The filter policy ID is applied as an egress filter policy on the interface

Filter Entry Counters Output — When the **counters** keyword is specified, the filter entry output displays the filter matches/hit information. The following table describes the command output for the command.

```
A:ALA-49# show filter mac 8 counters
===============================================================================
Mac Filter
===============================================================================
Filter Id   : 8                                 Applied         : Yes
Scope       : Template                          Def. Action     : Forward
Entries     : 2
Description : Description for Mac Filter Policy id # 8
-------------------------------------------------------------------------------
Filter Match Criteria : Mac
-------------------------------------------------------------------------------
Entry       : 8                                 FrameType       : Ethernet
Ing. Matches: 80 pkts (5440 bytes)
Egr. Matches: 62 pkts (3968 bytes)

Entry       : 10                                FrameType       : Ethernet
Ing. Matches: 80 pkts (5440 bytes)
Egr. Matches: 80 pkts (5120 bytes)
===============================================================================
```

Table 313: Output fields: MAC counters

Label	Description
Mac Filter Filter Id	The MAC filter policy ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Scope	Template — the filter policy is of type Template Exclusive — the filter policy is of type Exclusive
Description	The MAC filter policy description
Applied	No — the filter policy ID has not been applied Yes — the filter policy ID is applied
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
Filter Match Criteria	Mac — indicates the filter is an MAC filter policy
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified
FrameType	Ethernet — the entry ID match frame type is Ethernet IEEE 802.3 802.2LLC — the entry ID match frame type is Ethernet IEEE 802.2 LLC 802.2SNAP — the entry ID match frame type is Ethernet IEEE 802.2 SNAP Ethernet II — the entry ID match frame type is Ethernet Type II
Ing. Matches	The number of ingress filter matches/hits for the filter entry
Egr. Matches	The number of egress filter matches/hits for the filter entry

Show Filter MAC Output (with effective-action specified) — The following output is an example of MAC filter information when the **effective-action** keyword is specified. Table 314: Output fields: MAC effective action describes the command output fields.

If the main action (either primary or secondary) cannot be performed, a reason will be given. This will be displayed on the same line as the Effective Action. The reason codes as currently defined are:

- entry-default
- filter-default-action
- pbr-down-action-override
- action not supported on egress
- target does not exist

Output Example

```
show filter mac 1 effective-action
===============================================================================
Mac Filter
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Filter Id           : 1                           Applied        : Yes
Scope               : Template                    Def. Action    : Drop
Entries             : 1                           Type           : normal
Description         : (Not Specified)
-------------------------------------------------------------------------------
Entry               : 2
-------------------------------------------------------------------------------
Stickiness          : No
PBR Dwn Act Override: None
PBR Down Action     : Drop (entry-default)

Configuration
Primary Action      : Forward (SAP)
  Next Hop          : 1/1/3
  Service Id        : Not configured
Secondary Action    : None

Status
Target status based on extended checks
  Primary Action    : Target does not exist
  Secondary Action  : None
Downloaded Action   : Forward
Stickiness Timer    : Not Running

Effective Action based on application context
Service Id          : 10                          Type           : VPLS
  Ingress
    Effective Action: Forward (target does not exist)
===============================================================================
```

Table 314: Output fields: MAC effective action

Label	Description
Filter Id	The MAC filter policy ID
Applied	No — the filter policy ID has not been applied Yes — the filter policy ID is applied
Scope	Template — the filter policy is of type Template Exclusive — the filter policy is of type Exclusive
Def. Action	Forward — the default action for the filter ID for packets that do not match the filter entries is to forward Drop — the default action for the filter ID for packets that do not match the filter entries is to drop
Entries	The number of entries configured in this filter ID
Type	The type of entries configures in this filter
Description	The MAC filter policy description
Entry	The filter entry ID; if the filter entry ID indicates the entry is (Inactive), then the filter entry is incomplete as no action has been specified

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Stickiness	No — stickiness is not configured Yes — stickiness is configured
PBR Dwn Act Override	Indicates whether or not the action to take when the PBR target is down has been overridden
PBR Down Action	The action to take in case the target is down
Configuration	Section of the output providing information on the configured parameters
Primary Action	The configured action, if any; indented sub-labels in the show output provide configured parameters for this action
Secondary Action	The configured secondary action, if any; indented sub-labels in the show output provide configured parameters for this action
Status/Target status based on extended checks	Section of the output providing information on the operational status of certain parameters
Primary Action	The status of the target of the primary action, if configured, based on extended checks
Secondary Action	The status of the target of the secondary action, if configured, based on extended checks
Downloaded Action	The action downloaded by the CPM to the IOM
Stickiness Timer	The status of the stickiness timer, if any
Effective Action based on application context	Section of the output providing the effective action, in the context of services, that a packet matching the criteria will be subject to
Service Id	The service ID on which the filter policy ID is applied; the output also provides a list of service points where the filter has been applied
Type	The service type in which the service has been applied
Ingress/Egress	The direction in which the service has been applied
Effective Action	Indicates the effective action the packet will be subject to

mac

Syntax

mac *mac-filter-id* [**entry** *entry-id*] [{**ingress** | **egress**}]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>filter mac)

Full Context

clear filter mac

Description

Clears the counters associated with the entries of the specified MAC filter policy.

By default, the counters associated with each entry of the specified filter policy are all cleared. The scope of which counters are cleared can be narrowed using the command line parameters.

Default

Clears all counters associated with each entry of the specified MAC filter policy.

Parameters

mac-filter-id

The MAC filter policy ID for which to clear the entry counters. Values can either be expressed as a decimal integer or as an ASCII string of up to 64 characters. The following values only shows decimal integer.

Values 1 to 65535

entry-id

Specifies that only the counters associated with the specified filter policy entry will be cleared. The values are expressed as a decimal integer.

Values 1 to 2097151

ingress

Specifies to only clear the ingress counters.

egress

Specifies to only clear the egress counters.

Platforms

All

mac

Syntax

mac *mac-filter-id*

Context

[Tree] (tools>dump>filter>resources mac)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump filter resources mac

Description

This command displays information about the specified MAC filter including resource utilization on CPM and IOM, the IOMs on which the filter is used, and the entries using the most resources.

Parameters

mac-filter-id

Specifies that only the filter resource utilization associated with this IPv6 filter will be displayed.

Values 1 to 65535

Platforms

All

Output

The following output is an example of MAC filter resource utilization information.

Output Example

```
*A:Dut-C>tools>dump>filter>resources># mac 1

===============================================================================
Resource utilization details for Mac filter 1
===============================================================================
CPM entries used                      : 1
CPM subentries used                   : 1
TCAM entries used (per FlexPath)      : 1
Associated with IOMs                  : 1

-------------------------------------------------------------------------------
Largest 5 entries
-------------------------------------------------------------------------------
Entry ID                                        Active       TCAM entries
                                                           (per FlexPath)
-------------------------------------------------------------------------------
1                                                  Yes                  1
No more entries defined
-------------------------------------------------------------------------------
===============================================================================
```

mac

Syntax

mac *mac-filter-id* **entry** *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>filter mac)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

monitor filter mac

Description

This command enables MAC filter monitoring. The statistical information for the specified MAC filter entry displays at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified MAC filter. The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

mac-filter-id

Specifies the MAC filter policy ID.

Values *filter-id* | *filter-name*

filter-id: 1 to 65535

filter-name: 64 chars max

entry-id

Displays information on the specified filter entry ID for the specified filter ID only.

Values 1 to 65535

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of filter mac information.

Output Example

```
A:ALA-1>monitor>filter# mac 50 entry 10 interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for Mac filter 50 entry 10
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
===============================================================================


A:ALA-1>monitor>filter# mac 50 entry 10 interval 3 repeat 3 rate
===============================================================================
Monitor statistics for Mac filter 50 entry 10
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
Ing. Matches: 0                                 Egr. Matches    : 0
===============================================================================
A:ALA-1>monitor>filter#
```

mac

Syntax

mac entry *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>cpm-filter mac)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

monitor cpm-filter mac

Description

This command displays monitor command statistics for MAC filter entries.

Parameters

entry-id

Displays information on the specified filter entry ID for the specified filter ID only.

Values 1 to 2048

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mac

Syntax

mac *entry-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | *rate*]

Context

[Tree] (monitor>management-access-filter mac)

Full Context

monitor management-access-filter mac

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command monitors statistics for the MAF MAC filter entry.

Parameters

entry-id

Specifies an existing IP MAF entry ID.

Values 1 to 9999

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

mac

Syntax

mac [**hunt** | **detail**] [**rd** *rd*] [**next-hop** *next-hop*] [**mac-address** *mac-address*] [**community** *comm-id*] [**tag** *tag*] [**aspath-regex** *reg-exp*]

Context

[Tree] (show>router>bgp>routes>evpn mac)

Full Context

show router bgp routes evpn mac

Description

This command displays BGP-EVPN MAC routes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

mac-address

Specifies the MAC address in *xx:xx:xx:xx:xx:xx* or *xx-xx-xx-xx-xx-xx* format.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{*ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535
  – *comm-val1* — 0 to 65535
  – **type** — target, origin
  – *ip-address* — a.b.c.d
  – *comm-val2* — 0 to 4294967295
  – *as-number2* — 0 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

tag

Specifies the MAC route tag.

Values 0to 4294967295 | MAX-ET

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

Platforms

All

15.2 mac-filter

mac-filter

Syntax

mac-filter [**entry** *entry-id*]

Context

[Tree] (show>system>security>cpm-filter mac-filter)

Full Context

show system security cpm-filter mac-filter

Description

This command displays CPM MAC filters.

Parameters

entry-id

Displays information about the specified entry.

Values 1 to 131072

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of CPU MAC filter information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*B:bksim67# show system security cpm-filter mac-filter
===============================================================================
CPM Mac Filter (applied)
===============================================================================
Entry-Id  Dropped   Forwarded Description
-------------------------------------------------------------------------------
1         23002     47094
-------------------------------------------------------------------------------
Num CPM Mac filter entries: 1
===============================================================================
*B:bksim67#
```

mac-filter

Syntax

mac-filter [**entry** *entry-id*]

Context

[Tree] (show>system>security>mgmt-access-filter mac-filter)

Full Context

show system security management-access-filter mac-filter

Description

This command displays management access MAC filters.

Parameters

entry-id

Displays information about the specified entry.

Values 1 to 9999

Platforms

All

Output

The following output is an example of management access filter MAC filter information.

Output Example

```
*B:bksim67# show system security management-access-filter mac-filter
===============================================================================
Mac Management Access Filter
===============================================================================
filter type   : mac
Def. Action   : permit
Admin Status  : enabled (no shutdown)
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Entry              : 1                 Action             : deny
FrameType          : ethernet_II       Svc-Id             : Undefined
Src Mac            : Undefined
Dest Mac           : Undefined
Dot1p              : Undefined         Ethertype          : Disabled
DSAP               : Undefined         SSAP               : Undefined
Snap-pid           : Undefined         ESnap-oui-zero     : Undefined
cfm-opcode         : Undefined
Log                : disabled          Matches            : 0
===============================================================================
*B:bksim67#
```

mac-filter

Syntax

mac-filter [**entry** *entry-id*]

Context

[Tree] (clear>cpm-filter mac-filter)

Full Context

clear cpm-filter mac-filter

Description

This command clears MAC filter statistics.

Parameters

entry-id

Specifies a particular CPM MAC filter entry.

Values 1 to 2048

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

mac-filter

Syntax

mac-filter *mac-filter-id*

Context

[Tree] (tools>perform>filter mac-filter)

Full Context

tools perform filter mac-filter

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context perform MAC filter operations.

Parameters

mac-filter-id

Specifies a particular MAC filter ID or filter name.

Values *filter-id* | *filter-name*

filter-id

Specifies the MAC filter ID.

Values *1 to 65535*

filter-name

Specifies name of the MAC filter, up to 64 characters.

Platforms

All

15.3 mac-list

mac-list

Syntax

mac-list [*name*]

mac-list *name* **associations**

Context

[Tree] (show>service mac-list)

Full Context

show service mac-list

Description

This command displays the configured MAC lists in the router and its associations to service objects.

Parameters

name

Displays the MAC list name, up to 32 characters.

associations

Displays the associated service objects.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of services associated so particular SAPs.

Output Example

The following output is an example of MAC list.

```
A:admin@PE-2# show service mac-list

===============================================================================
MAC List Information
===============================================================================
MAC List Name                       Num Macs       Last Change
-------------------------------------------------------------------------------
moving-macs-1                       10             04/22/2020 09:45:34
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================
```

The following output is an example of MAC list name.

```
A:admin@PE-2# show service mac-list "moving-macs-1"
===============================================================================
MAC List Mac Address Information
Description: List of macs allowed to move
===============================================================================
MAC Address                  MAC Mask                     Last Change
-------------------------------------------------------------------------------
00:00:5e:00:00:00            ff:ff:ff:00:00:00            04/22/2020 09:46:14
00:01:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:57:33
00:02:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:57:37
00:03:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:57:40
00:04:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:57:45
00:05:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:57:50
00:06:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:57:54
00:07:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:58:02
00:08:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:58:09
00:09:5e:00:00:00            ff:ff:ff:ff:ff:ff            04/22/2020 09:58:12
-------------------------------------------------------------------------------
Number of Entries: 10
===============================================================================
```

The following output is an example of MAC list associations.

```
A:admin@PE-2# show service mac-list "moving-macs-1" associations

===============================================================================
Associated VPLS SAPs
-------------------------------------------------------------------------------
Service Id                          SAP
-------------------------------------------------------------------------------
3                                   pxc-1.a:3
-------------------------------------------------------------------------------
Number of Entries: 1
-------------------------------------------------------------------------------

Associated VPLS spoke-sdp
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service Id                              sdpID
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Entries: 0
-------------------------------------------------------------------------------

Associated VPLS mesh-sdp
-------------------------------------------------------------------------------
Service Id                              sdpID
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Entries: 0
-------------------------------------------------------------------------------

Associated VPLS split-horizon-group
-------------------------------------------------------------------------------
Service Id                              Split Horizon Group
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Entries: 0
-------------------------------------------------------------------------------

Associated PW-template
-------------------------------------------------------------------------------
PW-template Id
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Entries: 0
-------------------------------------------------------------------------------

===============================================================================
```

Table 315: Output fields: service MAC list describes show service MAC list output fields.

Table 315: Output fields: service MAC list

Label	Description
MAC List Name	Displays the MAC list name.
Num Macs	Displays the number of MACs.
Last Change	Displays the date and time of the change.
Number of Entries	Displays the number of matching entries.
MAC Address	Displays the MAC address.
MAC Mask	Displays the MAC mask.
Service Id	Displays the service ID.
SAP	Displays the SAP name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.4 mac-move

mac-move

Syntax

mac-move

Context

[Tree] (show>service>id mac-move)

Full Context

show service id mac-move

Description

This command displays MAC move related information about the service.

Platforms

All

Output

The following output is an example of service MAC move information.

Output Example

```
*A:ALA-2009>config>service>vpls>mac-move# show service id 500 mac-move
===============================================================================
Service Mac Move Information
===============================================================================
Service Id        : 500                Mac Move          : Enabled
Primary Factor    : 4                  Secondary Factor  : 2
Mac Move Rate     : 2                  Mac Move Timeout  : 10
Mac Move Retries  : 3
-------------------------------------------------------------------------------
SAP Mac Move Information: 2/1/3:501
-------------------------------------------------------------------------------
Admin State       : Up                 Oper State        : Down
Flags              : RelearnLimitExceeded
Time to come up   : 1 seconds          Retries Left      : 1
Mac Move          : Blockable          Blockable Level   : Tertiary
-------------------------------------------------------------------------------
SAP Mac Move Information: 2/1/3:502
-------------------------------------------------------------------------------
Admin State       : Up                 Oper State        : Up
Flags              : None
Time to RetryReset: 267 seconds        Retries Left      : none
Mac Move          : Blockable          Blockable Level   : Tertiary
-------------------------------------------------------------------------------
SDP Mac Move Information: 21:501
-------------------------------------------------------------------------------
Admin State       : Up                 Oper State        : Up
Flags              : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Time to RetryReset: never               Retries Left      : 3
Mac Move          : Blockable           Blockable Level   : Secondary
-------------------------------------------------------------------------------
SDP Mac Move Information: 21:502
-------------------------------------------------------------------------------
Admin State       : Up                  Oper State        : Down
Flags              : RelearnLimitExceeded
Time to come up   : never               Retries Left      : none
Mac Move          : Blockable           Blockable Level   : Tertiary
===============================================================================
*A:ALA-2009>config>service>vpls>mac-move#
```

15.5 mac-protect

mac-protect

Syntax

mac-protect [**implicit**]

Context

[Tree] (show>service>id mac-protect)

Full Context

show service id mac-protect

Description

This command displays MAC protect-related information about the service.

Parameters

implicit

Displays only the MAC addresses implicitly protected by the system.

Platforms

All

Output

The following output is an example of service MAC protect information.

Output Example

```
*A:ALA-48>show>service>id# mac-protect
===============================================================================
Protected MACs, Service 700
===============================================================================
ServId    MAC               Source-Identifier     Type/Age  Last Change
-------------------------------------------------------------------------------
700       ff:ff:ff:ff:ff:ff not learned           n/a       n/a
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of MAC Entries: 1
===============================================================================
*A:ALA-48>show>service>id# mac-protect
```

15.6 mac-status

mac-status

Syntax

mac-status [**mac** *ieee-address*] [**card** *slot-id*] [**pending**]

Context

[Tree] (tools>dump>service>id>fdb mac-status)

Full Context

tools dump service id fdb mac-status

Description

This command displays the status of MAC addresses within the service, displaying the line cards on which FDB entries are allocated for the MAC addresses (if a MAC address has been allocated an entry on all cards provisioned in the system, it is displayed as "All") and those for which there are pending FDB entry updates (allocate, displayed as "PendAlloc", or free, displayed as "PendFree") for each MAC address. The MAC address status is displayed per service or line card and for a single MAC address. In addition, only MAC addresses with pending updates can be displayed.

Parameters

ieee-address

The 48-bit MAC address for which the FDB entry will be displayed in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee and ff are hexadecimal numbers.

slot-id

The slot ID of the card in the chassis. The maximum slot ID is platform-dependent. See the hardware installation guides for more information.

pending

Displays only those MAC address with pending FDB entry line card updates (allocate or free).

Platforms

All

Output

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:PE1# tools dump service id 1 fdb mac-status
===============================================================================
VPLS FDB MAC status at 01/31/2017 08:44:39
===============================================================================
MAC Address         Type               Status : Card list
-------------------------------------------------------------------------------
00:00:00:00:01:01   Select             Allocated : 5
00:00:00:00:01:02   Select             Allocated : 5
00:00:00:00:01:03   Global             Allocated : All
00:00:00:00:01:04   Global             Allocated : All
===============================================================================
*A:PE1#
```

15.7 mac-table

mac-table

Syntax

mac-table [**mac** *ieee-address*] [**class** *class*] [**next-index** *index*] [**detail**]

Context

[Tree] (tools>dump>wlan-gw>lanext>bd mac-table)

Full Context

tools dump wlan-gw lanext bd mac-table

Description

This command dumps the specified MAC table entries for the specified HLE BD.

Parameters

ieee-address

Specifies the MAC address of the MAC table entry.

class

Specifies the source on which to filter the MAC table entries.

Values access, network, remote

index

Specify the **next-index** *index* parameter to display the next set of results If there are more results than the current output. The additional results are indicated at the bottom of the current output.

Values 0 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of MAC table information.

Output Example

```
tools>dump>wlan-gw>lanext>bd# mac-table
===============================================================================
MATCHED 2 MAC ENTRIES ON SLOT #2 MDA #1
===============================================================================
UE-MAC            VLAN   BRIDGE-ID  DESCRIPTION           L2-SVC     L2-VLAN
  TUNNEL  CLASS   TYPE   ROUTER     SRC-IP
  ANCHOR                            DST-IP
-------------------------------------------------------------------------------
AA:2B:9E:11:D1:6F 100    100        ESM-USER              N/A        N/A
  2/1     ACCESS  GRE    500        11.3.3.100
  2/1/NAT-OUT-IP:2145.1             4.4.4.4
-------------------------------------------------------------------------------
02:DE:01:00:01:11 N/A    100        ESM-USER              N/A        N/A
  2/1     NETWORK VXLAN  500        2.2.2.2
  2/1/NAT-OUT-IP:2145.1             44.44.44.1
-------------------------------------------------------------------------------
===============================================================================
```

15.8 macsec

macsec

Syntax

macsec

Context

[Tree] (clear macsec)

Full Context

clear macsec

Description

Commands in this context clear MACsec information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

macsec

Syntax

macsec

Context

[Tree] (show macsec)

Full Context

show macsec

Description

Commands in this context display MACsec information.

Platforms

All

macsec

Syntax

macsec

Context

[Tree] (show>router macsec)

Full Context

show router macsec

Description

This command displays router MACsec information.

Platforms

All

Output

The following output is an example of router MACsec information.

Output Example

```
*A:Dut-C>config>router# show router macsec
===============================================================================
MACSec (Summary), Base
===============================================================================
Interface Name PortId/Sap  MACsec    Sub-port Encap- CA tags  CA-name
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                           port              match  In-clear
-------------------------------------------------------------------------------
MACsec_Dut_B_* 1/1/10:50   1/1/10    50       :50    0        dut_B_C_xpn_128_*
                           1/1/10    1002     :*.*   2        dut_B_C_xpn_256_*
MACsec_Dut_B_* 1/1/10:51   1/1/10    51       :51    1        dut_B_C_xpn_128_*
                           1/1/10    1002     :*.*   2        dut_B_C_xpn_256_*
===============================================================================
* indicates that the corresponding row element may have been truncated.


*A:Dut-C>config>router# show router "Base" interface "MACsec_Dut_B_C_Link_11_tag_50" macsec
===============================================================================
Interface MACsec_Dut_B_C_Link_11_tag_50 port/SapId 1/1/10:50 macsec
===============================================================================
MACsec port   Sub-port    Admin state Encap-match CA-name
-------------------------------------------------------------------------------
1/1/10        50          enabled     :50         dut_B_C_xpn_128_null_03
1/1/10        1002        enabled     :*.*        dut_B_C_xpn_256_2tags_1tag_01
===============================================================================


*A:Dut-C>config>router# show router "Base" interface "MACsec_Dut_B_C_Link_11_tag_51" macsec
===============================================================================
Interface MACsec_Dut_B_C_Link_11_tag_51 port/SapId 1/1/10:51 macsec
===============================================================================
MACsec port   Sub-port    Admin state Encap-match CA-name
-------------------------------------------------------------------------------
1/1/10        51          enabled     :51         dut_B_C_xpn_128_1tag_03
1/1/10        1002        enabled     :*.*        dut_B_C_xpn_256_2tags_1tag_01
===============================================================================
```

macsec

Syntax

macsec

Context

[Tree] (tools>perform macsec)

Full Context

tools perform macsec

Description

Commands in this context perform MACsec operations.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.9 managed-hosts

managed-hosts

Syntax

managed-hosts type {**aaa** | **bonding** | **data-triggered** | **gtp**} [**ip** *ip-address*] [**mac** *ieee-address*]

Context

[Tree] (show>service>id managed-hosts)

Full Context

show service id managed-hosts

Description

This command displays information about hosts that are not yet linked to an in-band control plane protocol, such as DHCP or DHCPv6. Examples include hosts installed by data-triggers and hosts installed by RADIUS.

Parameters

aaa

Displays information about managed hosts installed and removed only by RADIUS.

bonding

Displays information about managed hosts installed in a connection bonding subscriber context.

data-triggered

Displays information about managed hosts installed by data-triggers.

gtp

Displays information about managed hosts installed via GTP access.

ip-address

Displays information about a managed host with the specified IPv4 or IPv6 address.

ieee-address

Displays information about a managed host with the specified MAC address.

Platforms

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

Output

The following output is an example of managed host information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
# show service id 100 managed-hosts type data-triggered
===============================================================================
Managed data-triggered hosts
===============================================================================
IP address                                MAC address
-------------------------------------------------------------------------------
10.0.0.9/32                               fa:ac:a6:02:11:01
2001:a:b:5::1/128                         fa:ac:a6:02:11:01
-------------------------------------------------------------------------------
No. of Managed hosts: 2
===============================================================================
```

managed-hosts

Syntax

managed-hosts type {**data-triggered**} [**sap** *sap-id*] [**mac** *ieee-address*] [**ip** *ip-prefix*[/*prefix-length*]] [**port** *port-id*]

managed-hosts type {**data-triggered**} **all**

Context

[Tree] (clear>service>id managed-hosts)

Full Context

clear service id managed-hosts

Description

This command deletes managed hosts.

Platforms

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

15.10 management

management

Syntax

management

management ftp

management grpc

management netconf

management ssh

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

management telnet

management telnet6

Context

[Tree] (show>system>security management)

Full Context

show system security management

Description

This command displays the management server status.

Parameters

ftp

Displays the FTP server status.

grpc

Displays the gRPC server status.

netconf

Displays the NETCONF server status.

ssh

Displays the SSH server status.

telnet

Displays the Telnet server status.

telnet6

Displays the Telnetv6 server status.

Platforms

All

15.11 management-access-filter

management-access-filter

Syntax

management-access-filter

Context

[Tree] (show>system>security management-access-filter)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show system security management-access-filter

Description

Commands in this context display management access filter information for IP and MAC filters.

Platforms

All

management-access-filter

Syntax

management-access-filter

Context

[Tree] (monitor management-access-filter)

Full Context

monitor management-access-filter

Description

Commands in this context monitor management-access filters. These filters are configured in the **config>system>security>mgmt-access-filter** context.

Platforms

All

15.12 management-interface

management-interface

Syntax

management-interface

Context

[Tree] (clear>system management-interface)

Full Context

clear system management-interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears the management interface information.

Platforms

All

management-interface

Syntax

management-interface

Context

[Tree] (show>system management-interface)

Full Context

show system management-interface

Description

Commands in this context display management interface information.

Platforms

All

management-interface

Syntax

management-interface

Context

[Tree] (tools>perform>system management-interface)

Full Context

tools perform system management-interface

Description

This command enables tools for management interface.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.13 manual

manual

Syntax

manual *ring-index* **path** {**a** | **b**}

Context

[Tree] (tools>perform>eth-ring manual)

Full Context

tools perform eth-ring manual

Description

In the absence of a failure or FS, this command forces a block on the ring port where the command is issued.

Parameters

ring-index

Specifies the ring index.

Values 1 to 128

path

Displays information for a specific path.

Values a, b

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

manual

Syntax

manual id *tunnel-id*

manual *lsp-name*

Context

[Tree] (tools>perform>router>mpls>tp-tunnel manual)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform router mpls tp-tunnel manual

Description

This command performs a manual switchover of the MPLS-TP LSP from the active path to the protect path.

Parameters

tunnel-id

Specifies the tunnel number of the MPLS-TP LSP.

Values 1 to 61440

lsp-name

Specifies name of the MPLS-TP LSP, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.14 manual-export

manual-export

Syntax

manual-export

Context

[Tree] (tools>perform>cflowd manual-export)

Full Context

tools perform cflowd manual-export

Description

This command triggers the manual export operation. This command is only applicable if **export-mode** is configured as **manual**.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.15 manual-switch-path

manual-switch-path

Syntax

manual-switch-path lsp *lsp-name*

no manual-switch-path lsp *lsp-name*

manual-switch-path sr-te-lsp *sr-te-lsp-name*

no manual-switch-path sr-te-lsp *sr-te-lsp-name*

Context

[Tree] (tools>perform>router>mpls manual-switch-path)

Full Context

tools perform router mpls manual-switch-path

Description

This command forces a manual degraded state on the active primary path, which triggers a switchover to another best-preference non-degraded secondary path that is already up. Non-degraded standby paths are preferred over secondary paths. If non-degraded standby paths do not exist, a setup is triggered for secondary paths.

For LSPs, the **revert-timer** and **hold-timer** apply to any switchover triggered by the **manual-switch-path** command. For SR-TE LSPs, only the revert-timer applies to any switchover triggered by the **manual-switch-path sr-te-lsp** command. The revert timer is started in the case where both the primary and standby paths are initially degraded and the system is using a second secondary path, and the primary path then comes back up.

The revert timer is started only when switching from a non-degraded secondary or standby path to the primary path. If the active secondary or standby path is degraded and then the primary path comes up, the system does not start the revert timer because the intention is to move the LSP away from the degraded active path as quickly as possible.

The manually degraded state remains in effect if the path goes down or is resignaled, either by make-before-break (MBB) or break-before-make (BBM). BBM applies regardless of whether the resignalling is due to a locally initiated change or through PCEP. To reset the manually degraded state, use the **no manual-switch-path** CLI command or the **delete manual-switch-path** MD-CLI command.

To revert to the primary path when the revert timer is configured prior to the expiry of the revert timer, use the following commands:

- **no manual-switch-path lsp** or **no manual-switch-path sr-te-lsp** to reset the manual degraded state on the primary path
- **tools perform router mpls revert lsp** to revert the LSP to the primary path
- **tools perform router mpls revert sr-te-lsp** to revert the SR-TE LSP to the primary path

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

sr-te-lsp-name

Specifies the SR-TE LSP name, up to 64 characters.

Platforms

All

15.16 map

map

Syntax

map

map statistics

Context

[Tree] (clear>nat map)

Full Context

clear nat map

Description

This command enables the clears mapping of address and port data.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

map

Syntax

map

Context

[Tree] (show>service>nat map)

Full Context

show service nat map

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display MAP information.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

15.17 map-domain

map-domain

Syntax

map-domain

map-domain *domain-name*

map-domain *domain-name* **mapping-rule** *map-rule-name*

map-domain *domain-name* **statistics**

Context

[Tree] (show>service>nat>map map-domain)

Full Context

show service nat map map-domain

Description

This command displays the MAP domains configured in the system and displays whether the domain is instantiated (that is, shows the association with the routing context). It also provides information about the domain and the specific rules configured within the domain

Parameters

domain-name

Specifies the MAP domain name.

Values 32 chars maximum

map-rule-name

Specifies the MAP rule name.

Values 32 chars maximum

mapping-rule

Keyword that displays the router instances and/or subscriber profiles associated with the NAT policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Keyword that displays statistics of the specified MAP domain.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

Output

The following output is an example of the **map-domain** command, and Table 316: Output fields: map domain describes the fields.

Output Example

```
*A:Dut-D>show>service>nat>map# show service nat map map-domain
===============================================================================
MAP domains
===============================================================================
Name                                                Admin-state    Router
-------------------------------------------------------------------------------
AZ                                                  in-service     221
AZb                                                 in-service     N/A
-------------------------------------------------------------------------------
No. of domains: 2
===============================================================================
```

Table 316: Output fields: map domain

Label	Description
Admin-state	Configured admin-state of the MAP domain. The state can be either **shutdown** or **no shutdown**.
Router	Specifies the routing context in which the MAP domain is instantiated. When set to "N/A", it indicates that the MAP domain is not instantiated in the VSR.

The following output is an example of the **map-domain** *domain-name* command, and Table 317: Output fields: map domain name describes the fields.

Output Example

```
*A:Dut-D>show>service>nat>map# map-domain "AZ"
===============================================================================
MAP-T domain "AZ"
===============================================================================
Description                 : bAAAA
Default Mapping Rule prefix : 1000::/4
MTU                         : 9212
TCP MSS adjust              : 0
IP fragmentation
 v6-frag-header             : enabled
Administrative state        : in-service
Router                      : 221
Last management change      : 07/14/2016 21:04:04
Mapping rule "rule A-11"
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description                 : basic mapping rule 11
Rule prefix                 : 2001:db8::/44
IPv4 prefix                 : 192.0.2.0/24
Embedded Address bits       : 12
PSID offset                 : 4
Address sharing ratio       : 0
No. of excluded ports       : 0
No. of ports per user       : 0
Administrative state        : out-of-service
Last management change      : 07/08/2016 01:15:12
Mapping rule "rule A-12"
-------------------------------------------------------------------------------
Description                 : (Not Specified)
Rule prefix                 : (Not Specified)
IPv4 prefix                 : (Not Specified)
Embedded Address bits       : 0
PSID offset                 : 6
Address sharing ratio       : 0
No. of excluded ports       : 0
No. of ports per user       : 0
Administrative state        : out-of-service
Last management change      : 07/08/2016 01:15:12
Mapping rule "rule A-13"
-------------------------------------------------------------------------------
Description                 : basic mapping rule 11
Rule prefix                 : 2001:db8::/44
IPv4 prefix                 : 192.0.2.0/24
Embedded Address bits       : 9
PSID offset                 : 15
Address sharing ratio       : 2
No. of excluded ports       : 2
No. of ports per user       : 32767
Administrative state        : in-service
Last management change      : 07/14/2016 21:11:43
===============================================================================
```

Table 317: Output fields: map domain name

Label	Description
Address sharing ratio	Specifies the number of CEs covered by this rule, that share the same IPv4 address, each with different PSID.
No. of excluded ports	Specifies the ports excluded from PSID, according to the configured PSID offset.
No. of ports per user	Specifies the number of PSID ports available to each user.

The following output is an example of the **map-domain** *domain-name* command, which shows details of the specific rule within a given MAP domain.

Output Example

```
*A:Dut-D>show>service>nat>map# map-domain "AZ" mapping-rule "rule A-13"
===============================================================================
MAP-T domain "AZ"
===============================================================================
Description                 : bAAAA
Default Mapping Rule prefix : 1000::/4
MTU                         : 9212
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
TCP MSS adjust              : 0
IP fragmentation
 v6-frag-header             : enabled
Administrative state        : in-service
Router                      : 221
Last management change      : 07/14/2016 21:04:04
Mapping rule "rule A-13"
-------------------------------------------------------------------------------
Description                 : basic mapping rule 11
Rule prefix                 : 2001:db8::/44
IPv4 prefix                 : 192.0.2.0/24
Embedded Address bits       : 9
PSID offset                 : 15
Address sharing ratio       : 2
No. of excluded ports       : 2
No. of ports per user       : 32767
Administrative state        : in-service
Last management change      : 07/14/2016 21:11:43
===============================================================================
```

The following output is an example of the **map-domain statistics** command, which shows the forwarding statistics for a MAP-T domain, and Table 318: Output fields: map domain statistics describes the fields.

Output Example

```
# show service nat map map-domain "AZ" statistics

===============================================================================
MAP domain "AZ"
===============================================================================
Upstream (IPv6->IPv4) forwarded packets                 : 0
Upstream (IPv6->IPv4) forwarded octets                  : 0
Upstream (IPv6->IPv4) dropped packets                   : 0
Upstream (IPv6->IPv4) dropped octets                    : 0
Upstream (IPv6->IPv4) dropped anti-spoof packets        : 0
Upstream (IPv6->IPv4) dropped icmpv6 packets            : 0
Upstream (IPv6->IPv4) dropped other packets             : 0
Upstream (IPv6->IPv4) dropped unknown protocol packets  : 0
Upstream (IPv6->IPv4) fragmented packets                : 0
Upstream (IPv6->IPv4) icmpv6 node info packets          : 0
Upstream (IPv6->IPv4) cpe icmpv6 error packets          : 0
Upstream (IPv6->IPv4) intermediate icmpv6 error packets : 0
Downstream (IPv4->IPv6) forwarded packets               : 0
Downstream (IPv4->IPv6) forwarded octets                : 0
Downstream (IPv4->IPv6) dropped packets                 : 0
Downstream (IPv4->IPv6) dropped octets                  : 0
Downstream (IPv4->IPv6) dropped fragmented packets      : 0
Downstream (IPv4->IPv6) dropped icmpv4 packets          : 0
Downstream (IPv4->IPv6) dropped unknown protocol packets: 0
Downstream (IPv4->IPv6) fragmented packets              : 0
Downstream (IPv4->IPv6) need fragmentation packets      : 0
Downstream (IPv4->IPv6) icmpv4 error packets            : 0
Downstream (IPv4->IPv6) icmpv4 echo packets             : 0
===============================================================================
```

Table 318: Output fields: map domain statistics

Label	Description
Upstream (IPv6->IPv4) forwarded packets	Specifies the number of forwarded packets in the upstream direction within the MAP domain.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Upstream (IPv6->IPv4) forwarded octets	Specifies the number of forwarded octets in the upstream direction within the MAP domain.
Upstream (IPv6->IPv4) dropped packets	Specifies the number of dropped packets in the upstream direction within the MAP domain.
Upstream (IPv6->IPv4) dropped octets	Specifies the number of dropped octets in the upstream direction within the MAP domain.
Upstream (IPv6->IPv4) dropped anti-spoof packets	Specifies the number of packet drops due to antispoof failure
Upstream (IPv6->IPv4) dropped icmpv6 packets	Specifies the number of ICMPv6 drops due to truncated errors, antispoof ICMP failures, or malformed ICMPs
Upstream (IPv6->IPv4) dropped other packets	Specifies the number of packet drops due to unknown protocol (not TCP/UDP/ICMP)
Upstream (IPv6->IPv4) dropped unknown protocol packets	Specifies the number of all other drops that are not previously listed
Upstream (IPv6->IPv4) fragmented packets	Specifies the number of received fragments
Upstream (IPv6->IPv4) icmpv6 node info packets	Specifies the number of received ICMPV6 node info
Upstream (IPv6->IPv4) cpe icmpv6 error packets	Specifies the number of received ICMPV6 errors from the CPE
Upstream (IPv6->IPv4) intermediate icmpv6 error packets	Specifies the number of received ICMPV6 errors received from intermediate nodes between the BR and CPE
Downstream (IPv4->IPv6) forwarded packets	Specifies the number of forwarded packets in the downstream direction within the MAP domain.
Downstream (IPv4->IPv6) forwarded octets	Specifies the number of forwarded octets in the downstream direction within the MAP domain.
Downstream (IPv4->IPv6) dropped packets	Specifies the number of dropped packets in the downstream direction within the MAP domain.
Downstream (IPv4->IPv6) dropped octets	Specifies the number of dropped octets in the downstream direction within the MAP domain.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Downstream (IPv4->IPv6) dropped fragmented packets	Specifies the number of fragmentation required but the packet is dropped due to DF flag being set
Downstream (IPv4->IPv6) dropped icmpv4 packets	Specifies the total number of ICMPV4 drops
Downstream (IPv4->IPv6) dropped unknown protocol packets	Specifies the number of packet drops because of unknown protocol (not TCP/UDP/ICMP)
Downstream (IPv4->IPv6) fragmented packets	Specifies the number of received fragments
Downstream (IPv4->IPv6) need fragmentation packets	Specifies the number of frames for which IPv6 fragmentation is required (these frames can be received as packets or fragments)
Downstream (IPv4->IPv6) icmpv4 error packets	Specifies the number of ICMPV4 errors received
Downstream (IPv4->IPv6) icmpv4 echo packets	Specifies the number of ICMPV4 echoes received

15.18 map-e-domain

map-e-domain

Syntax

map-e-domain [*domain-name*]

map-e-domain *domain-name* **fp statistics**

map-e-domain *domain-name* **mapping-rule** *rule-name*

map-e-domain *domain-name* **mapping-rule** *rule-name* **fp statistics**

map-e-domain *domain-name* **mapping-rule** *rule-name* **esa-vm** *vapp-id* **statistics**

map-e-domain *domain-name* **esa-vm** *vapp-id* **statistics**

map-e-domain *domain-name* **esa-vm** *vapp-id* **statistics downstream fragment-handling** [**histogram**]

map-e-domain *domain-name* **esa-vm** *vapp-id* **statistics upstream ipv6-reassembly** [**histogram**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>nat>map map-e-domain)

Full Context

show service nat map map-e-domain

Description

This command displays MAP-E domain information. The output includes whether a domain is instantiated in a routing context, the domain and mapping-rule configuration, and MAP-E statistics on the FP and ESA-VM.

Parameters

domain-name

Specifies the MAP-E domain name.

Values 32 chars max

rule-name

Specifies the mapping-rule name.

Values 32 chars max

vapp-id

Specifies the ESA-VM.

Values esa-id/vm-id

esa-id: 1 to 16

vm-id: 1 to 4

mapping-rule

Keyword that displays mapping-rule information.

fp

Keyword that displays FP statistics.

esa-vm

Keyword that displays ESA-VM statistics.

statistics

Keyword used with **fp** or **esa-vm** to display statistics. When used after **fp**, the keyword displays forwarding statistics on the FP. When used after **esa-vm**, the keyword displays statistics on the specified ESA-VM.

upstream

Keyword that displays upstream statistics.

downstream

Keyword that displays downstream statistics.

ipv6-reassembly

Keyword that displays IPv6 reassembly statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

fragment-handling

Keyword that displays fragment-handling statistics.

histogram

Keyword that displays histogram statistics.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

Output

The following outputs are examples of MAP-E domain information:

- MAP-E domain information: Output example (MAP-E domains), Output fields: MAP-E domain
- MAP-E domain name information: Output example (MAP-E domain name), Output fields: MAP-E domain name
- MAP-E domain FP statistics: Output example (FP statistics), Output fields: MAP-E domain FP statistics
- MAP-E mapping rule FP statistics: Output example (mapping rule FP statistics), Output fields: MAP-E mapping rule FP statistics
- MAP-E domain ESA-VM statistics: Output example (ESA-VM statistics), Output fields: MAP-E domain ESA-VM statistics
- MAP-E fragment-handling statistics: Output example (fragment-handling statistics), Output fields: MAP-E fragment-handling statistics
- MAP-E IPv6 reassembly histogram: Output example (IPv6 reassembly histogram), Output fields: MAP-E IPv6 reassembly histogram
- MAP-E fragment-handling histogram: Output example (fragment-handling histogram), Output fields: MAP-E fragment-handling histogram
- MAP-E IPv6 reassembly statistics: Output example (IPv6 reassembly statistics), Output fields: MAP-E IPv6 reassembly statistics

Output example (MAP-E domains)

```
*A:node-2# show service nat map map-e-domain
===============================================================================
MAP-E domains
===============================================================================
Name                                                Admin-state    Router
-------------------------------------------------------------------------------
demo-domain-1                                       in-service     Base
demo-domain-2                                       in-service     N/A
-------------------------------------------------------------------------------
No. of domains: 2
===============================================================================
```

Table 319: Output fields: MAP-E domain

Label	Description
Name	Specifies the MAP-E domain name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Admin-state	Configured administrative state of the MAP-E domain
Router	Specifies the routing context in which the MAP-E domain is instantiated N/A – The MAP-E domain is not instantiated
No. of domains	Specifies the number of MAP-E domains

Output example (MAP-E domain name)

```
*A:node-2# show service nat map map-e-domain "demo-domain-1"
===============================================================================
MAP-E domain "demo-domain-1"
===============================================================================
Description                 : (Not Specified)
Border Relay address        : 2001:db8:ffff::1
MTU                         : 1500
Reassembly                  : enabled
MAP-E group                 : 1
FPE                         : 1
Administrative state        : in-service
Router                      : Base
Last management change      : 09/17/2026 12:00:00
Mapping rule "map-domain1-rule1"
-------------------------------------------------------------------------------
Description                 : (Not Specified)
Rule prefix                 : 2001:db8::/44
IPv4 prefix                 : 192.0.2.0/24
Embedded Address bits       : 12
PSID offset                 : 4
Address sharing ratio       : 0
No. of excluded ports       : 0
No. of ports per user       : 0
Administrative state        : in-service
Last management change      : 09/17/2026 12:00:00
===============================================================================
```

Table 320: Output fields: MAP-E domain name

Label	Description
Description	Specifies the configured description of the MAP-E domain or mapping rule (Not Specified) – A description is not configured
Border Relay address	Specifies the BR IPv6 address of the MAP-E domain
MTU	Specifies the MTU of the MAP-E domain
Reassembly	Specifies whether IPv6 reassembly is enabled for the MAP-E domain
MAP-E group	Specifies the MAP-E group associated with the domain

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
FPE	Specifies the FPE associated with the MAP-E domain
Administrative state	Specifies the administrative state of the MAP-E domain or mapping rule
Router	Specifies the routing context in which the MAP-E domain is instantiated
Last management change	Specifies the date and time of the last management change
Rule prefix	Specifies the IPv6 rule prefix of the mapping rule
IPv4 prefix	Specifies the IPv4 prefix of the mapping rule
Embedded Address bits	Specifies the EA length of the mapping rule
PSID offset	Specifies the PSID offset of the mapping rule
Address sharing ratio	Specifies the number of CEs covered by this rule that share the same IPv4 address, each with a different PSID
No. of excluded ports	Specifies the ports excluded from PSID, according to the configured PSID offset
No. of ports per user	Specifies the number of PSID ports available to each user

Output example (FP statistics)

```
*A:node-2# show service nat map map-e-domain "demo-domain-1" fp statistics
===============================================================================
MAP-E domain "demo-domain-1" fp statistics
===============================================================================
Upstream (IPv6->IPv4) forwarded packets                 : 0
Upstream (IPv6->IPv4) forwarded octets                  : 0
Upstream (IPv6->IPv4) dropped anchor-interface packets  : 0
Upstream (IPv6->IPv4) dropped anti-spoof packets        : 0
Upstream (IPv6->IPv4) dropped unknown protocol packets  : 0
Downstream (IPv4->IPv6) forwarded packets               : 0
Downstream (IPv4->IPv6) forwarded octets                : 0
Downstream (IPv4->IPv6) dropped anchor-interface packets: 0
Downstream (IPv4->IPv6) dropped unknown protocol packets: 0
===============================================================================
```

Table 321: Output fields: MAP-E domain FP statistics

Label	Description
Upstream (IPv6->IPv4) forwarded packets	Specifies the number of packets forwarded in the upstream direction

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Upstream (IPv6->IPv4) forwarded octets	Specifies the number of octets forwarded in the upstream direction
Upstream (IPv6->IPv4) dropped anchor-interface packets	Specifies the number of packets discarded in the upstream direction
Upstream (IPv6->IPv4) dropped anti-spoof packets	Specifies the number of dropped packets due to antispoof failures
Upstream (IPv6->IPv4) dropped unknown protocol packets	Specifies the number of packets dropped in the upstream direction because of unknown protocol (not TCP/UDP/ICMP)
Downstream (IPv4->IPv6) forwarded packets	Specifies the number of packets forwarded in the downstream direction
Downstream (IPv4->IPv6) forwarded octets	Specifies the number of octets forwarded in the downstream direction
Downstream (IPv4->IPv6) dropped anchor-interface packets	Specifies the number of packets discarded in the downstream direction
Downstream (IPv4->IPv6) dropped unknown protocol packets	Specifies the number of packets dropped in the downstream direction because of unknown protocol (not TCP/UDP/ICMP)

Output example (mapping rule FP statistics)

```
*A:node-2# show service nat map map-e-domain "map-domain1" mapping-rule "map-domain1-rule1" fp
 statistics
===============================================================================
MAP-E domain "map-domain1" mapping-rule "map-domain1-rule1"
===============================================================================
Upstream (IPv6->IPv4) forwarded packets                 : 0
Upstream (IPv6->IPv4) forwarded octets                  : 0
Upstream (IPv6->IPv4) dropped anti-spoof packets        : 0
Downstream (IPv4->IPv6) forwarded packets               : 0
Downstream (IPv4->IPv6) forwarded octets                : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 322: Output fields: MAP-E mapping rule FP statistics

Label	Description
Upstream (IPv6->IPv4) forwarded packets	Specifies the number of packets forwarded in the upstream direction
Upstream (IPv6->IPv4) forwarded octets	Specifies the number of octets forwarded in the upstream direction
Upstream (IPv6->IPv4) dropped anti-spoof packets	Specifies the number of dropped packets due to antispoof failures
Downstream (IPv4->IPv6) forwarded packets	Specifies the number of packets forwarded in the downstream direction
Downstream (IPv4->IPv6) forwarded octets	Specifies the number of octets forwarded in the downstream direction

Output example (ESA-VM statistics)

```
*A:node-2# show service nat map map-e-domain "demo-domain-1" esa-vm 1/1 statistics
===============================================================================
MAP-E domain "demo-domain-1" esa-vm 1/1 statistics
===============================================================================
Upstream (IPv6->IPv4) forwarded packets                 : 0
Upstream (IPv6->IPv4) forwarded octets                  : 0
Upstream (IPv6->IPv4) dropped packets                   : 0
Upstream (IPv6->IPv4) dropped octets                    : 0
Upstream (IPv6->IPv4) dropped anti-spoof packets        : 0
Upstream (IPv6->IPv4) dropped icmpv6 packets            : 0
Upstream (IPv6->IPv4) dropped unknown protocol packets  : 0
Upstream (IPv6->IPv4) fragmented packets                : 0
Upstream (IPv6->IPv4) icmpv6 echo packets               : 0
Upstream (IPv6->IPv4) cpe icmpv6 error packets          : 0
Upstream (IPv6->IPv4) intermediate icmpv6 error packets : 0
Downstream (IPv4->IPv6) forwarded packets               : 0
Downstream (IPv4->IPv6) forwarded octets                : 0
Downstream (IPv4->IPv6) dropped packets                 : 0
Downstream (IPv4->IPv6) dropped octets                  : 0
Downstream (IPv4->IPv6) dropped fragmented packets      : 0
Downstream (IPv4->IPv6) dropped need fragmentation pckts: 0
Downstream (IPv4->IPv6) dropped icmpv4 packets          : 0
Downstream (IPv4->IPv6) dropped unknown protocol packets: 0
Downstream (IPv4->IPv6) fragmented packets              : 0
Downstream (IPv4->IPv6) need fragmentation packets      : 0
Downstream (IPv4->IPv6) icmpv4 echo packets             : 0
Downstream (IPv4->IPv6) icmpv4 error packets            : 0
Generated icmpv4 Fragmentation Problem                  : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 323: Output fields: MAP-E domain ESA-VM statistics

Label	Description
Upstream (IPv6->IPv4) forwarded packets	Specifies the number of packets forwarded in the upstream direction
Upstream (IPv6->IPv4) forwarded octets	Specifies the number of octets forwarded in the upstream direction
Upstream (IPv6->IPv4) dropped packets	Specifies the number of packets discarded in the upstream direction
Upstream (IPv6->IPv4) dropped octets	Specifies the number of octets discarded in the upstream direction
Upstream (IPv6->IPv4) dropped anti-spoof packets	Specifies the number of packets dropped in the upstream direction due to anti-spoof lookup failure
Upstream (IPv6->IPv4) dropped icmpv6 packets	Specifies the number of ICMPv6 packets dropped in the upstream direction
Upstream (IPv6->IPv4) dropped unknown protocol packets	Specifies the number of packets dropped in the upstream direction because of unknown protocol (not TCP/UDP/ICMP)
Upstream (IPv6->IPv4) fragmented packets	Specifies the number of fragmented packets received in the upstream direction
Upstream (IPv6->IPv4) icmpv6 echo packets	Specifies the number of transient ICMPv6 echo packets received in the upstream direction
Upstream (IPv6->IPv4) cpe icmpv6 error packets	Specifies the number of CE-generated ICMPv6 error report packets received in the upstream direction
Upstream (IPv6->IPv4) intermediate icmpv6 error packets	Specifies the number of intermediate-node generated ICMPv6 error report packets received in the upstream direction
Downstream (IPv4->IPv6) forwarded packets	Specifies the number of packets forwarded in the downstream direction

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Downstream (IPv4->IPv6) forwarded octets	Specifies the number of octets forwarded in the downstream direction
Downstream (IPv4->IPv6) dropped packets	Specifies the number of packets discarded in the downstream direction
Downstream (IPv4->IPv6) dropped octets	Specifies the number of octets discarded in the downstream direction
Downstream (IPv4->IPv6) dropped fragmented packets	Specifies the number of fragments discarded in the downstream direction
Downstream (IPv4->IPv6) dropped need fragmentation pckts	Specifies the number of packets discarded in the downstream direction that need fragmentation, but the DF bit is set
Downstream (IPv4->IPv6) dropped icmpv4 packets	Specifies the number of ICMPv4 packets discarded in the downstream direction
Downstream (IPv4->IPv6) dropped unknown protocol packets	Specifies the number of packets dropped in the downstream direction because of unknown protocol (not TCP/UDP/ICMP)
Downstream (IPv4->IPv6) fragmented packets	Specifies the number of fragmented packets received in the downstream direction
Downstream (IPv4->IPv6) need fragmentation packets	Specifies the number of packets received in the downstream direction that are larger than the domain MTU
Downstream (IPv4->IPv6) icmpv4 echo packets	Specifies the number of ICMPv4 echo packets received in the downstream direction
Downstream (IPv4->IPv6) icmpv4 error packets	Specifies the number of ICMPv4 error report packets received in the downstream direction
Generated icmpv4 Fragmentation Problem	Specifies the number of generated ICMPv4 error messages with code Fragmentation Needed and DF Set

A fragment list represents all fragments belonging to a single original IPv4 packet. Fragments are associated with the same list based on the matching IPv4 source address, destination address, protocol, and IP Identification field.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example (fragment-handling statistics)

```
*A:node-2# show service nat map map-e-domain "demo-domain-1" esa-vm 1/1 statistics downstream
 fragment-handling
===============================================================================
MAP-E domain "demo-domain-1" esa-vm 1/1 fragment-handling statistics
===============================================================================
RX Resolved frags                                   : 0
RX Unresolved frags                                 : 0
TX Frags                                            : 0
Dropped timeout                                     : 0
Dropped buffer exhaustion                           : 0
Dropped too many frags                              : 0
Dropped too many lists                              : 0
Dropped fragment lists timeout                      : 0
Overlapping first fragments                         : 0
===============================================================================
```

Table 324: Output fields: MAP-E fragment-handling statistics

Label	Description
RX Resolved frags	Specifies the number of fragments that were successfully assembled into packets
RX Unresolved frags	Specifies the number of fragments that were not successfully assembled into a packet and were discarded
TX Frags	Specifies the number of transmitted fragments
Dropped timeout	Specifies the number of fragment discards due to timeout
Dropped buffer exhaustion	Specifies the number of fragment discards due to buffer exhaustion
Dropped too many frags	Specifies the number of fragment discards due to too many fragments
Dropped too many lists	Specifies the number of fragment discards because the number of fragmentation lists exceeded the maximum value
Dropped fragment lists timeout	Specifies the number of list drops due to timeout
Overlapping first fragments	Specifies the number of fragment discards due to overlap

Output example (IPv6 reassembly histogram)

```
*A:node-2# show service nat map map-e-domain "demo-domain-1" esa-vm 1/1 statistics upstream
 ipv6-reassembly histogram
===============================================================================
MAP-E domain "demo-domain-1" esa-vm 1/1 fragment lists histogram
===============================================================================
Histogram of reassembled fragment lists upstream (during reassembly):
0 fragments                                         : 0
1 fragments                                         : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2 fragments                                                : 0
3 fragments                                                : 0
4 fragments                                                : 0
5 fragments                                                : 0

Histogram of dropped fragment lists upstream (during reassembly):
0 fragments                                                : 0
1 fragments                                                : 0
2 fragments                                                : 0
3 fragments                                                : 0
4 fragments                                                : 0
5 fragments                                                : 0
===============================================================================
```

Table 325: Output fields: MAP-E IPv6 reassembly histogram

Label	Description
Histogram of reassembled fragment lists upstream (during reassembly)	Specifies the number of fragment lists grouped by fragment count during IPv6 reassembly
Histogram of dropped fragment lists upstream (during reassembly)	Specifies the number of dropped fragment lists grouped by fragment count during IPv6 reassembly
0 fragments to 5 fragments	Specifies the number of fragment lists that contain the specified number of fragments

Output example (fragment-handling histogram)

```
*A:node-2# show service nat map map-e-domain "demo-domain-1" esa-vm 1/1 statistics downstream
 fragment-handling histogram
===============================================================================
MAP-E domain "demo-domain-1" esa-vm 1/1 downstream fragment-handling histogram
===============================================================================
Histogram of resolved fragment lists downstream:
0 fragments                                                : 0
1 fragments                                                : 0
2 fragments                                                : 0
3 fragments                                                : 0
4 fragments                                                : 0
5 fragments                                                : 0

Histogram of dropped fragment lists downstream:
0 fragments                                                : 0
1 fragments                                                : 0
2 fragments                                                : 0
3 fragments                                                : 0
4 fragments                                                : 0
5 fragments                                                : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 326: Output fields: MAP-E fragment-handling histogram

Label	Description
Histogram of resolved fragment lists downstream	Specifies the number of resolved fragment lists grouped by fragment count during downstream fragment-handling
Histogram of dropped fragment lists downstream	Specifies the number of dropped fragment lists grouped by fragment count during downstream fragment-handling
0 fragments to 5 fragments	Specifies the number of fragment lists that contain the specified number of fragments

Output example (IPv6 reassembly statistics)

```
*A:node-2# show service nat map map-e-domain "demo-domain-1" esa-vm 1/1 statistics upstream
 ipv6-reassembly
===============================================================================
MAP-E domain "demo-domain-1" esa-vm 1/1 upstream ipv6-reassembly statistics
===============================================================================
Reassembled IPv6 packets received from the CPE          : 0
Packets for which fragmentation list was created        : 0
Reassembly failures due to buffer exhaustion            : 0
Reassembly failures due to max fragmentation lists      : 0
Reassembly failures due to timeout                      : 0
Reassembly failures due to other reasons                : 0
Total reassembly failures                               : 0
===============================================================================
```

Table 327: Output fields: MAP-E IPv6 reassembly statistics

Label	Description
Reassembled IPv6 packets received from the CPE	Specifies the number of reassembled IPv6 packets received from the CPE
Packets for which fragmentation list was created	Specifies the number of packets for which a fragmentation list was created
Reassembly failures due to buffer exhaustion	Specifies the number of reassembly failures due to buffer exhaustion
Reassembly failures due to max fragmentation lists	Specifies the number of reassembly failures due to maximum fragmentation list exhaustion
Reassembly failures due to timeout	Specifies the number of reassembly failures due to timeouts while waiting for all fragments of a packet to arrive

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Reassembly failures due to other reasons	Specifies the number of reassembly failures due to reasons other than the ones above
Total reassembly failures	Specifies the total number of reassembly failures regardless of reason

15.19 map-e-group

map-e-group

Syntax

map-e-group *map-e-group-id* [**members**]

map-e-group *map-e-group-id* **esa-vm** *vapp-id* **resources**

map-e-group *map-e-group-id* **member** *member*

Context

[Tree] (show>isa map-e-group)

Full Context

show isa map-e-group

Description

This command displays MAP-E group information.

Parameters

map-e-group-id

Specifies the MAP-E group ID.

Values 1 to 4

vapp-id

Specifies the ESA-VM.

Values esa-id/vm-id

esa-id: 1 to 16

vm-id: 1 to 4

member

Specifies the member.

Values 1 to 255

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

members

Keyword that displays MAP-E group information for all members of the group.

member

Keyword that displays MAP-E group information for the specified member.

esa-vm

Keyword that displays ESA-VM information.

resources

Keyword that displays fragmentation resource usage for the specified ESA-VM.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

Output

The following outputs are examples of MAP-E group information:

- MAP-E group information: Output example (MAP-E group), Output fields: MAP-E group
- MAP-E group resource information: Output example (resources), Output fields: MAP-E group resources

Output example (MAP-E group)

```
*A:node-2# show isa map-e-group 1
===============================================================================
ISA MAP-E Group 1
===============================================================================
Description                 : (Not Specified)
Admin state                 : in-service
Operational state           : in-service
Fragments per packet        : 5
Last Mgmt Change            : 09/17/2026 12:00:00
===============================================================================
=====================================================
NAT MAP-E Group 1 members
=====================================================
Group Member     State          ESA/VM Domains Rules
-----------------------------------------------------
1     1          active         1/1    1       3
-----------------------------------------------------
No. of members: 1
=====================================================
```

Table 328: Output fields: MAP-E group

Label	Description
Description	Specifies the configured description of the MAP-E group (Not Specified) – A description is not configured
Admin state	Specifies the administrative state of the MAP-E group
Operational state	Specifies the operational state of the MAP-E group

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Fragments per packet	Specifies the maximum number of fragments per packet
Last Mgmt Change	Specifies the date and time of the last management change
Group	Specifies the MAP-E group ID
Member	Specifies the MAP-E group member
State	Specifies the operational state of the member
ESA/VM	Specifies the ESA-VM assigned to the member
Domains	Specifies the number of MAP-E domains on the member
Rules	Specifies the number of mapping rules on the member
No. of members	Specifies the number of members in the MAP-E group

Output example (resources)

```
*A:node-2# show isa map-e-group 1 esa-vm 1/1 resources
===============================================================================
ISA NAT ESA-VM 1/1 resources
===============================================================================
Name                                Maximum         Limit
                                     Actual          Peak       Peak Timestamp
-------------------------------------------------------------------------------
Upstream fragment lists                   0           N/A
                                          0             0                  N/A
Downstream fragment lists                 0           N/A
                                          0             0                  N/A
Upstream fragment buffers                 0           N/A
                                          0             0                  N/A
Downstream fragment buffers               0           N/A
                                          0             0                  N/A
===============================================================================
```

Table 329: Output fields: MAP-E group resources

Label	Description
Name	Specifies the resource name
Maximum	Specifies the maximum value of the resource
Limit	Specifies the configured limit of the resource
Actual	Specifies the current value of the resource
Peak	Specifies the peak value of the resource
Peak Timestamp	Specifies the timestamp of the peak value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Upstream fragment lists	Specifies the number of fragment lists used for reassembly of fragmented IPv6 packets received from the CPE
Downstream fragment lists	Specifies the number of fragment lists used in fragment-handling for IPv4 fragments received in the downstream direction before they are encapsulated in IPv6
Upstream fragment buffers	Specifies the number of buffers used for reassembly of fragmented IPv6 packets received from the CPE
Downstream fragment buffers	Specifies the number of buffers used in fragment-handling for IPv4 fragments received in the downstream direction before they are encapsulated in IPv6

map-e-group

Syntax

map-e-group [*map-e-group-id*] [**esa-vm** *vapp-id*] **resource-peak-values**

Context

[Tree] (clear>nat>isa map-e-group)

Full Context

clear nat isa map-e-group

Description

This command clears MAP-E group resource peak values.

Parameters

map-e-group-id

Specifies the MAP-E group ID.

Values 1 to 4

vapp-id

Specifies the ESA-VM.

Values esa-id/vm-id

esa-id: 1 to 16

vm-id: 1 to 4

esa-vm

Keyword that clears resource peak values on the specified ESA-VM.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

resource-peak-values

Keyword that clears resource peak values.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

15.20 map-t-group

map-t-group

Syntax

map-t-group *map-t-group-id* [**members**]

map-t-group *map-t-group-id* **member** *member*

Context

[Tree] (show>isa map-t-group)

Full Context

show isa map-t-group

Description

This command displays the MAP-T group information.

Parameters

map-t-group-id

Specifies the MAP-T group ID.

Values 1 to 4

member

Specifies the member.

Values 1 to 255

member

Keyword that displays a specific member.

members

Keyword that displays all members.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of ISA MAP-T information.

Output Example

```
# show isa map-t-group 1

===============================================================================
ISA MAP-T Group 1
===============================================================================
Description                 : (Not Specified)
Admin state                 : in-service
Operational state           : in-service
Fragments per packet        : 5
Last Mgmt Change            : 10/08/2024 06:51:56
===============================================================================

=====================================================
NAT MAP-T Group 1 members
=====================================================
Group Member     State          ESA/VM Domains Rules
-----------------------------------------------------
1     1          active         1/1    1       3
-----------------------------------------------------
No. of members: 1
=====================================================
```

map-t-group

Syntax

map-t-group

Context

[Tree] (clear>nat>isa map-t-group)

Full Context

clear nat isa map-t-group

Description

This command clears MAP-T group information.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.21 map-to-phy-port

map-to-phy-port

Syntax

map-to-phy-port {**lag** *lag-id* | **eth-tunnel** *tunnel-index*} {**isid** *isid* [**end-isid** *isid*] | **service** *service-id* | *svc-name* [**end-service** *service-id* | *svc-name*]} [**summary**]

Context

[Tree] (tools>dump map-to-phy-port)

Full Context

tools dump map-to-phy-port

Description

This command provides the ability to respond to a query to provide the link in a LAG/Ethernet tunnel (load sharing protection mode)/CCAG that is currently assigned to a given service-id or ISID.

Parameters

lag-id

Specifies the LAG ID.

Values 1 to 800

isid

Specifies the ISID.

Values 0 to 16777215

service-id

Specifies the service ID.

Values 1 to 2148278381, svc-name: 64 char max

tunnel-index

Specifies the tunnel index.

Values 1 to 1024

summary

Displays summary information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.22 mapping-server

mapping-server

Syntax

mapping-server [**prefix** *ip-address*[/*mask*]] [**index** *index*] [**level** *level*] [**flag** {**s**}]

Context

[Tree] (show>router>isis mapping-server)

Full Context

show router isis mapping-server

Description

This command displays IS-IS mapping-server information.

Parameters

***ip-address*[/*mask*]**

Specifies the IP address and mask of a prefix that has received a node-sid in a SID/Label binding TLV.

Values *ip-address:* **a.b.c.d.** (host bits must be 0)

mask: **0 to 32**

index

Specifies the node-sid index value for the generated SID/Label binding TLV.

Values 0 to 4294967295

Default none

level

Specifies a match on the mapping server's own flooding scope for the generated SID/Label binding TLV.

Values 1, 2, 1/2

flag

Specifies a match on the flooding scope of the generated SID/Label binding TLV.

Values s — Specifies to match on the S flag value of 1. A SID/Label Binding TLV with the S flag set is flooded across the entire IS-IS routing domain, except across another IS-IS instance. If the S flag is not set (value of zero), the SID/Label Binding TLV is not leaked between levels.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of mapping service information.

Output Example

```
*A:Dut-C# show router isis  mapping-server
===============================================================================
Rtr Base ISIS Instance 0 Mapping Server
===============================================================================
Index      Prefix             Range Flags Level
-------------------------------------------------------------------------------
1000       10.20.1.4/32       1     -     L1L2
1001       10.20.1.5/32       1     -     L1L2
1002       10.20.1.6/32       1     -     L1L2
-------------------------------------------------------------------------------
No. of Mapping Server Sid-Maps : 3
===============================================================================
```

mapping-server

Syntax

mapping-server [**prefix** *ip-address*[/*mask*]] [**index** *index*] [**scope** {**as** | **area** [*area-id*]}]

Context

[Tree] (show>router>ospf mapping-server)

Full Context

show router ospf mapping-server

Description

This command displays OSPFv2 mapping server information.

Parameters

***ip-address*[/*mask*]**

Displays information associated with the specified IP address.

Values *ip-address:* a.b.c.d. (host bits must be 0)
mask: 0 to 32

index

Specifies the Node-SID index value for the generated SID or label binding TLV.

Values 0 to 4294967295

area-id

Specifies the area ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values *ip-address* | 0 to 4294967295

Platforms

All

15.23 mappings

mappings

Syntax

mappings svc *service-id* [**sf-ip** *ip-address* | *ipv6-address*] [**esi** *esi*] [**state** *map-state*]

Context

[Tree] (show>subscr-mgmt>isa-svc-chain mappings)

Full Context

show subscriber-mgmt isa-service-chaining mappings

Description

This command shows reachability details for the SF in the specified EVPN instance. This information is gathered from the EVPN routes learned from the peer.

Parameters

service-id

Displays information about the specified service ID.

Values 1 to 2147483647

ip-address

Displays information about the specified IPv4 address up to 64 characters.

ipv6-address

Displays information about the specified IPv6 address up to 64 characters.

esi

Displays information about the specified the ESI value.

Values 10-byte Ethernet Segment Identifier
00-11-22-33-44-55-66-77-88-99 with
any of these separators ('-',':',' ')

map-state

Displays map state status.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values resolved, unresolved

Platforms

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

Output

The following output is an example of service chaining mapping information.

Output Example

```
show subscriber-mgmt isa-service-chaining mappings svc 111
===============================================================================
ISA Service Chaining - Mappings for EVPN 111
===============================================================================
IP-mappings
           MAC                Vni       Vtep
-------------------------------------------------------------------------------
160.0.0.7
           00:00:01:00:00:01  1         5.20.1.12
170.0.0.7
           00:00:02:00:00:01  1         5.20.1.12
-------------------------------------------------------------------------------
ESI-mappings
                              Vni       Vtep
-------------------------------------------------------------------------------
24:23:2c:2e:2f:36:2e:4d:1b:4c
                              1         5.20.1.12
-------------------------------------------------------------------------------
No. of mappings: 3
```

Table 330: Output fields: service chaining mappings

Label	Description
IP-mappings	The IP address
MAC	The MAC address of the IP mappings
Vni	The VXLAN network identifier
Vtep	The VXLAN tunnel endpoint
ESI-mappings	The Ethernet Segment Identifier MAC address
No. of mappings	The total number of mappings for the EVPN ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.24 match-criteria-overload

match-criteria-overload

Syntax

match-criteria-overload

match-criteria-overload card *slot-number* **fp** *fp-number*

match-criteria-overload card *slot-number* **fp** *fp-number* **network** *network-policy-id* **direction** *direction*

match-criteria-overload card *slot-number* **fp** *fp-number* **sap-egress** *policy-id*

match-criteria-overload card *slot-number* **fp** *fp-number* **sap-ingress** *policy-id*

Context

[Tree] (tools>dump>qos match-criteria-overload)

Full Context

tools dump qos match-criteria-overload

Description

This command, when used without parameters, allows the operator to identify QoS match-criteria memory banks with one or more policies in overload in the system by slot number, FP number, type (IP-MAC or IPv6), SAP ingress, SAP egress, network, and direction (ingress or egress).

This command, when used with the **card** and **fp** parameters, lists the QoS policy with match criteria in overload on a specified FP when the optional parameters *slot-number* and *fp-number* are specified.

This command, when used with the **network**, **sap-egress**, or **sap-ingress** parameters, displays the match-criteria entries not programmed for a specified QoS policy due to an overload condition.

Parameters

card slot-number

Specifies the IOM slot number for the overload command.

Values 1 to 10

fp fp-number

Specifies the FP number.

Values 1 to 8

network network-policy-id

Specifies the network policy ID.

Values 1 to 65538

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

direction direction

Specifies the memory bank ingress or egress direction.

Values ingress or egress

sap-egress policy-id

Specifies the SAP policy ID.

Values 1 to 65535

sap-ingress policy-id

Specifies the SAP policy ID.

Values 1 to 65535

Platforms

All

Output

The following output is an example of filter overload status.

Output Example

```
*A:Dut# tools dump qos match-criteria-overload
===================================
QoS Match Criteria Status Overload
===================================
Slot  FP  Direction            Type
-----------------------------------
1     1   Ingress              ip-mac
===================================
```

The following output is an example with **card** and **fp** parameters only.

Output Example

```
*A:Dut# tools dump qos match-criteria-overload card 1 fp 1
=============================================================================
QoS Match Criteria Status Overload
=============================================================================
Slot  FP  Access/Network  Direction  Type  Policy         # Entries
-----------------------------------------------------------------------------
1     1   Access          Ingress    ip    5                    5
=============================================================================
```

The following output is an example with **card**, **fp**, {**network** or **sap-egress** or **sap-ingress**} parameters only.

Output Example

```
A:Dut# tools dump qos match-criteria-overload card 1 fp 1 sap-ingress 5
=============================================
QoS Sap Ingress Match Criteria Status Overload
=============================================
Slot  FP  Type  Policy                   Entry
---------------------------------------------
1     1   IPv4  5                         1001
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1     1   IPv4  5                          1002
===============================================
```

15.25 match-list

match-list

Syntax

match-list

Context

[Tree] (show>filter match-list)

Full Context

show filter match-list

Description

Commands in this context display information for match lists used in filter policies (IOM/FP and CPM).

Platforms

All

match-list

Syntax

match-list

Context

[Tree] (show>qos match-list)

Full Context

show qos match-list

Description

Commands in this context display match-list information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.26 mc-ecmp-balance

mc-ecmp-balance

Syntax

mc-ecmp-balance [**detail**]

Context

[Tree] (show>router>pim mc-ecmp-balance)

Full Context

show router pim mc-ecmp-balance

Description

This command displays multicast balance information.

Parameters

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of PIM mc-ecmp-balance information.

Output Example

```
A:ALA-48>config>router>pim# show router pim mc-ecmp-balance
===============================================================================
PIM ECMP Balance
===============================================================================
MC-ECMP-Balance                  : Disabled
Rebalance in progress            : No
Last Rebalance Time              : 11/13/2007 09:03:10
Rebalance Type                   : Unknown
Optional Threshold Used          : 0
Mc Ecmp Balance Hold Time        : None
===============================================================================
A:ALA-48>config>router>pim#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.27 mc-ecmp-rebalance

mc-ecmp-rebalance

Syntax

mc-ecmp-rebalance [*ecmp-opt-threshold*]

Context

[Tree] (tools>perform>router>pim mc-ecmp-rebalance)

Full Context

tools perform router pim mc-ecmp-rebalance

Description

This command triggers an immediate rebalance, regardless if the hold timer has triggered or if any changes have occurred.

Parameters

ecmp-opt-threshold

Forces a rebalance of all multicast streams with a priority equal or less then the specified value.

Specifying the value of 7 forces all multicast streams to be re-balanced regardless of the configured value.

Values 1 to 7

Platforms

All

15.28 mc-endpoint

mc-endpoint

Syntax

mc-endpoint peer *ip-address*

Context

[Tree] (tools>dump>redundancy>multi-chassis mc-endpoint)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump redundancy multi-chassis mc-endpoint

Description

This command dumps multi-chassis endpoint information.

Parameters

ip-address

Specifies the peer's IP address.

Platforms

All

Output

The following output is an example of multi-chassis peer endpoint information.

Output Example

```
*A:Dut-B# tools dump redundancy multi-chassis mc-endpoint peer 10.1.1.3
MC Endpoint Peer Info
    peer addr                   : 10.1.1.3
    peer name                   : Dut-C
    peer name refs              : 1
    src addr conf               : Yes
    source addr                 : 10.1.1.2
    num of mcep                 : 1
    num of non-mcep             : 0
    own sess num                : 58ba0d39
    mc admin state              : Up
    tlv own mc admin state      : Up
    tlv peer mc admin state     : Up
    reachable                   : Yes

    own sys priority            : 50
    own sys id                  : 00:03:fa:72:c3:c0
    peer sys priority           : 21
    peer sys id                 : 00:03:fa:c6:31:f8
    master                      : No

    conf boot timer             : 300
    boot timer active           : No
    conf ka intv                : 10
    conf hold on num of fail    : 3
    tlv own ka intv             : 10
    tlv peer ka intv            : 10
    ka timeout tmr active       : Yes
    ka timeout tmr intvl        : 20
    ka timeout tmr time left    : 4
    peer ka intv                : 10
    mc peer timed out           : No

    initial peer conf rx        : Yes
    peer-mc disabled            : No
    initial peer conf sync      : Yes
    peer conf sync              : Yes

    own passive mode            : Disable
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    peer passive mode            : No

    retransmit pending           : No
    non-mcep retransmit pending  : No
    retransmit intvl             : 5
    last tx time                 : 1437130
    last rx time                 : 1437156

    own bfd                      : Enable
    peer bfd                     : Enable
    bfd vrtr if                  : 2
    bfd handle                   : 1
    bfd state                    : 3
    bfd code                     : 0

*A:Dut-B#
```

mc-endpoint

Syntax

mc-endpoint statistics

mc-endpoint peer [*ip-address*] **statistics**

mc-endpoint endpoint [*mcep-id*] **statistics**

mc-endpoint peer [*ip-address*]

Context

[Tree] (show>redundancy>multi-chassis mc-endpoint)

Full Context

show redundancy multi-chassis mc-endpoint

Description

This command displays multi-chassis endpoint information.

Parameters

statistics

Displays the global statistics for the MC endpoint.

peer

Displays information for a single peer.

ip-address

Specifies the IP address of multi-chassis end-point peer.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- x – [0 to FFFF] H
- d – [0 to 255] D

endpoint

Displays multi-chassis endpoint information.

mcep-id

Specifies the multi-chassis endpoint.

Values 1 to 4294967295

Platforms

All

Output

The following output is an example of multi-chassis endpoint information.

Output Example

```
*A:Dut-B# show redundancy multi-chassis mc-endpoint statistics
===============================================================================
Multi-Chassis Endpoint Global Statistics
===============================================================================
Packets Rx                                : 533
Packets Rx Keepalive                      : 522
Packets Rx Config                         : 3
Packets Rx Peer Config                    : 1
Packets Rx State                          : 7
Packets Dropped Keep-Alive Task           : 7
Packets Dropped Too Short                 : 0
Packets Dropped Verify Failed             : 0
Packets Dropped Tlv Invalid Size          : 0
Packets Dropped Out Of Seq                : 0
Packets Dropped Unknown Tlv               : 0
Packets Dropped Tlv Invalid MC-Endpoint Id  : 0
Packets Dropped MD5                       : 0
Packets Dropped Unknown Peer              : 0
Packets Dropped MC Endpoint No Peer       : 0
Packets Tx                                : 26099
Packets Tx Keepalive                      : 8221
Packets Tx Config                         : 2
Packets Tx Peer Config                    : 17872
Packets Tx State                          : 4
Packets Tx Failed                         : 0
===============================================================================
*A:Dut-B#

*A:Dut-B# show redundancy multi-chassis mc-endpoint peer 10.1.1.3 statistics
===============================================================================
Multi-Chassis MC-Endpoint Statistics
===============================================================================
Peer Addr                         : 10.1.1.3
-------------------------------------------------------------------------------
Packets Rx                        : 597
Packets Rx Keepalive              : 586
Packets Rx Config                 : 3
Packets Rx Peer Config            : 1
Packets Rx State                  : 7
Packets Dropped State Disabled    : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Packets Dropped Packets Too Short : 0
Packets Dropped Tlv Invalid Size  : 0
Packets Dropped Tlv Invalid LagId : 0
Packets Dropped Out of Seq        : 0
Packets Dropped Unknown Tlv       : 0
Packets Dropped MD5               : 0
Packets Tx                        : 636
Packets Tx Keepalive              : 600
Packets Tx Peer Config            : 30
Packets Tx Failed                 : 0
Packets Dropped No Peer           : 0
===============================================================================
*A:Dut-B#

*A:Dut-B# show redundancy multi-chassis mc-endpoint  endpoint 1 statistics
===============================================================================
Multi-Chassis Endpoint Statistics
===============================================================================
===============================================================================
MC-Endpoint Id 1
===============================================================================
Packets Rx Config                 : 3
Packets Rx State                  : 7
Packets Tx Config                 : 2
Packets Tx State                  : 4
Packets Tx Failed                 : 0
===============================================================================
Number of Entries 1
===============================================================================
```

mc-endpoint

Syntax

mc-endpoint endpoint [*mcep-id*] **statistics**

mc-endpoint statistics

mc-endpoint peer [*ip-address*] **statistics**

Context

[Tree] (clear>redundancy>multi-chassis mc-endpoint)

Full Context

clear redundancy multi-chassis mc-endpoint

Description

This command clears multi-chassis endpoint statistics.

Parameters

mcep-id

Clears information for the specified multi-chassis endpoint ID.

Values 1 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Clears information for the specified peer IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

statistics

Clears statistics for this multi-chassis endpoint.

Platforms

All

15.29 mc-ipsec

mc-ipsec

Syntax

mc-ipsec peer *ip-address* **domain** *ipsec-domain-id*

mc-ipsec peer *ip-address* **tunnel-group** *tunnel-group-id*

mc-ipsec peer *ip-address*

Context

[Tree] (show>redundancy>multi-chassis mc-ipsec)

Full Context

show redundancy multi-chassis mc-ipsec

Description

This command displays the IPsec multi-chassis states. Optionally, only the state of the specified tunnel-group is displayed.

Parameters

ipsec-domain-id

Specifies the IPsec domain ID.

ip-address

Specifies the peer address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tunnel-group-id

Specifies the tunnel-group.

Platforms

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

Output

The following output is an example of IPsec multi-chassis information, and Table 331: Output fields: MC-IPsec peer describes the output fields.

Output Example

```
show redundancy multi-chassis mc-ipsec peer 10.2.2.2
===============================================================================
Multi-Chassis MC-IPsec
===============================================================================
Peer Name       : (Not Specified)
Peer Addr       : 10.2.2.2
Keep Alive Intvl: 1.0 secs            Hold on Nbr Fail     : 3
Discovery Intvl : 300 secs            Discovery Boot Intvl : 300 secs
BFD             : Disable
Last update     : 09/27/2012 00:44:23

===========================================================================
Multi-Chassis IPsec Multi Active Tunnel-Group Table
===========================================================================
ID             Peer Group     Priority  Admin State    Mastership
---------------------------------------------------------------------------
1              2              100       Up             standby
---------------------------------------------------------------------------
Multi Active Tunnel Group Entries found: 1
===========================================================================


show redundancy multi-chassis mc-ipsec peer 10.2.2.2 tunnel-group 1
===============================================================================
Multi-Chassis MC-IPsec Multi Active Tunnel-Group: 1
===============================================================================
Peer Ex Tnl Grp : 2                   Priority             : 100
Master State    : standby             Protection Status    : nominal
Admin State     : Up                  Oper State           : Up
===============================================================================
===========================================================================
Multi-Chassis Tunnel Statistics
===========================================================================
                             Static              Dynamic
---------------------------------------------------------------------------
Installed                    1                   0
Installing                   0                   0
Awaiting Config              0                   0
Failed                       0                   0
===========================================================================
```

Table 331: Output fields: MC-IPsec peer

Label	Description
Peer Name	The name of the peer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Peer Addr	The IP address of the peer.
Keep Alive Intvl	The interval at which keepalive messages are exchanged.
Hold on Nbr Fail	The number of keep-alives lost before declaring the peer as failed to reach.
Discovery Intvl	The duration of the discovery interval.
Discovery Boot Intvl	The duration of the discovery boot interval.
BFD	Bi-directional forward enabled or disabled.
Last update	The date and time of the last update.
ID	The tunnel group table ID.
Peer Group	The peer group ID.
Priority	The priority for the IPsec domain.
Admin State	The administrative state of the tunnel group.
Mastership/Master State	The current mastership state.
Protection Status	Displays **nominal** or **notReady**. **notReady** means the system is not ready for a switchover. There could be major traffic impact if switchover happens in the case of notReady. **nominal** means the tunnel-group is in a better situation to switchover than notReady. However, there still might be traffic impact.
Installed	The number of tunnels that have been successfully installed on MS-ISA.
Installing	The number of tunnels that are being installed on MS-ISA.
Awaiting Config	The number of synchronized tunnels that do not have a corresponding configuration ready.
Failed	The number of tunnels that failed to be installed on MS-ISA.
Active Tunnel-Group	The specific active tunnel group.
Peer Ex Tnl Grp	The external tunnel group.
Priority	The priority of the tunnel-group
Oper State	The operational state

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Installed	The number of tunnels that have been successfully installed
Installing	The number of tunnels that are being installed
Awaiting Config	The number of synchronized tunnels that do not have a corresponding configuration ready
Failed	The number of tunnels that failed to be installed

mc-ipsec

Syntax

mc-ipsec

Context

[Tree] (tools>perform>redundancy>multi-chassis mc-ipsec)

Full Context

tools perform redundancy multi-chassis mc-ipsec

Description

Commands in this context provide 7750 SR mc-ipsec tools.

Platforms

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

15.30 mc-lag

mc-lag

Syntax

mc-lag peer *ip-address* [**lag** *lag-id*]

mc-lag [**peer** *ip-address* [**lag** *lag-id*]] **statistics**

Context

[Tree] (show>redundancy>multi-chassis mc-lag)

Full Context

show redundancy multi-chassis mc-lag

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays multi-chassis LAG information.

Parameters

lag-id

Shows information for the specified LAG identifier.

Values 1 to 800

ip-address

Shows peer information about the specified IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

statistics

Displays multi-chassis statistics.

Platforms

All

Output

See the following sections for show command output:

- MC-Lag Peer Output Example
- MC-Lag Peer Statistics Output Example

The following output is an example of mc-lag peer information, and Table 332: Output fields: redundancy multi-chassis MC-lag peer describes the output fields.

MC-Lag Peer Output Example

```
A:subscr_mgt# show redundancy multi-chassis mc-lag peer 10.10.10.30
===============================================================================
Multi-Chassis MC-Lag Peer 10.10.10.30
===============================================================================
Last Changed    : 01/23/2007 18:20:13
Admin State     : Up                 Oper State           : Up
KeepAlive       : 10 deci-seconds    Hold On Ngbr Failure : 3
-------------------------------------------------------------------------------
Lag Id Lacp Key Remote Lag Id System Id          Sys Prio Last Changed
-------------------------------------------------------------------------------
1      1        1             00:00:00:00:00:01  1        01/23/2007 18:20:13
2      2        2             00:00:00:00:00:02  2        01/24/2007 08:53:48
-------------------------------------------------------------------------------
Number of LAGs : 2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:subscr_mgt#
```

```
A:subscr_mgt# show redundancy multi-chassis mc-lag peer 10.10.10.30 lag 1
===============================================================================
Multi-Chassis MC-Lag Peer 10.10.10.30
===============================================================================
Last Changed    : 01/23/2007 18:20:13
Admin State     : Up                  Oper State           : Up
KeepAlive       : 10 deci-seconds     Hold On Ngbr Failure : 3
-------------------------------------------------------------------------------
Lag Id Lacp Key Remote Lag Id System Id          Sys Prio Last Changed
-------------------------------------------------------------------------------
1      1        1             00:00:00:00:00:01  1        01/23/2007 18:20:13
-------------------------------------------------------------------------------
Number of LAGs : 1
===============================================================================
A:subscr_mgt#
```

Table 332: Output fields: redundancy multi-chassis MC-lag peer

Label	Description
Last Changed	Displays date and time of the last mc-lag peer.
Admin State	Displays the administrative state of the mc-lag peer.
Oper State	Displays the operation state of the mc-lag peer.
KeepAlive	Displays the length of time to keep alive the mg-lag peer.
Hold On Ngbr Failure	Specifies how many "keepalive" intervals the standby SR will wait for packets from the active node before assuming a redundant-neighbor node failure.

The following output is an example of multi-chassis mc-lag peer statistics information, and Table 333: Output fields: redundancy multi-chassis MC-lag peer statistics describes the output fields.

MC-Lag Peer Statistics Output Example

```
A:subscr_mgt# show redundancy multi-chassis mc-lag statistics
===============================================================================
Multi-Chassis Statistics
===============================================================================
Packets Rx                        : 52535
Packets Rx Keepalive              : 52518
Packets Rx Config                 : 2
Packets Rx Peer Config            : 4
Packets Rx State                  : 6
Packets Dropped KeepaliveTask     : 0
Packets Dropped Packet Too Short  : 0
Packets Dropped Verify Failed     : 0
Packets Dropped Tlv Invalid Size  : 0
Packets Dropped Out of Seq        : 0
Packets Dropped Unknown Tlv       : 0
Packets Dropped Tlv Invalid LagId : 0
Packets Dropped MD5               : 0
Packets Dropped Unknown Peer      : 0
Packets Tx                        : 52583
Packets Tx Keepalive              : 52519
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Packets Tx Config                 : 2
Packets Tx Peer Config            : 54
Packets Tx State                  : 8
Packets Tx Failed                 : 0
===============================================================================
A:subscr_mgt#

B:Dut-B# show redundancy multi-chassis mc-lag peer 10.10.10.2 statistics
===============================================================================
Multi-Chassis Statistics, Peer 10.10.10.2
===============================================================================
Packets Rx                        : 231
Packets Rx Keepalive              : 216
Packets Rx Config                 : 1
Packets Rx Peer Config            : 2
Packets Rx State                  : 12
Packets Dropped State Disabled    : 0
Packets Dropped Packets Too Short : 0
Packets Dropped Tlv Invalid Size  : 0
Packets Dropped Tlv Invalid LagId : 0
Packets Dropped Out of Seq        : 0
Packets Dropped Unknown Tlv       : 0
Packets Dropped MD5               : 0
Packets Tx                        : 235
Packets Tx Keepalive              : 216
Packets Tx Peer Config            : 3
Packets Tx Failed                 : 0
===============================================================================
B:Dut-B#
```

Table 333: Output fields: redundancy multi-chassis MC-lag peer statistics

Label	Description
Packets Rx	Indicates the number of MC-Lag packets received from the peer.
Packets Rx Keepalive	Indicates the number of MC-Lag keepalive packets received from the peer.
Packets Rx Config	Indicates the number of received MC-Lag configured packets from the peer.
Packets Rx Peer Config	Indicates the number of received MC-Lag packets configured by the peer.
Packets Rx State	Indicates the number of MC-Lag "lag” state packets received from the peer.
Packets Dropped State Disabled	Indicates the number of packets that were dropped because the peer was administratively disabled.
Packets Dropped Packets Too Short	Indicates the number of packets that were dropped because the packet was too short.
Packets Dropped Tlv Invalid Size	Indicates the number of packets that were dropped because the packet size was invalid.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Packets Dropped Tlv Invalid LagId	Indicates the number of packets that were dropped because the packet referred to an invalid or non multi-chassis lag.
Packets Dropped Out of Seq	Indicates the number of packets that were dropped because the packet size was out of sequence.
Packets Dropped Unknown Tlv	Indicates the number of packets that were dropped because the packet contained an unknown TLV.
Packets Dropped MD5	Indicates the number of packets that were dropped because the packet failed MD5 authentication.
Packets Tx	Indicates the number of packets transmitted from this system to the peer.
Packets Tx Keepalive	Indicates the number of keepalive packets transmitted from this system to the peer.
Packets Tx Peer Config	Indicates the number of configured packets transmitted from this system to the peer.
Packets Tx Failed	Indicates the number of packets that failed to be transmitted from this system to the peer.

mc-lag

Syntax

mc-lag [**peer** *ip-address* [**lag** *lag-id*]]

Context

[Tree] (clear>redundancy>multi-chassis mc-lag)

Full Context

clear redundancy multi-chassis mc-lag

Description

This command clears multi-chassis Link Aggregation Group (LAG) information.

Parameters

ip-address

Clears the specified address of the multi-chassis peer.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

lag-id

Clears the specified LAG on this system.

Values 1 to 200

Platforms

All

15.31 mc-ring

mc-ring

Syntax

mc-ring

mc-ring peer *ip-address* [**ring** *sync-tag*]

Context

[Tree] (tools>dump>redundancy>multi-chassis mc-ring)

Full Context

tools dump redundancy multi-chassis mc-ring

Description

This command dumps multi-chassis ring information.

Parameters

ip-address

Specifies the peer IP address.

sync-tag

Specifies the ring's synchronization tag created in the **config>redundancy>mc>peer>mcr> ring** context. The tag can be up to 32 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mc-ring

Syntax

mc-ring peer *ip-address* **statistics**

mc-ring peer *ip-address* [**ring** *sync-tag* [**detail** | **statistics**]]

mc-ring peer *ip-address* **ring** *sync-tag* **ring-node** [*ring-node-name* [**detail** | **statistics**]]

mc-ring global-statistics

Context

[Tree] (show>redundancy>multi-chassis mc-ring)

Full Context

show redundancy multi-chassis mc-ring

Description

This command displays multi-chassis ring information.

Parameters

ip-address

Specifies the address of the multi-chassis peer to display.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

sync-tag

Specifies a synchronization tag to be displayed that was used while synchronizing this port with the multi-chassis peer up to 32 characters.

ring-node-name

Specifies a ring-node name up to 32 characters.

global-statistics

Displays global statistics for the multi-chassis ring.

detail

Displays detailed peer information for the multi-chassis ring.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

See the following output examples:

- Output Example: show redundancy multi-chassis mc-ring peer <ip-address> ring <sync-tag> detail
- Output Fields: show redundancy multi-chassis mc-ring peer <ip-address> ring
- Output Example: show redundancy multi-chassis mc-ring peer <ip-address> statistics
- Output Fields: show redundancy multi-chassis mc-ring peer <ip-address> statistics
- Output Fields: show redundancy multi-chassis mc-ring global-statistics
- Output Fields: show redundancy multi-chassis mc-ring ring-node
- Output Example: show redundancy multi-chassis mc-ring global-statistics

Output Example: show redundancy multi-chassis mc-ring peer <ip-address> ring <sync-tag> detail

```
*A:ALA-48# show redundancy multi-chassis mc-ring peer 10.0.0.2 ring ring11 detail
===============================================================================
Multi-Chassis MC-Ring Detailed Information
===============================================================================
Peer            : 10.0.0.2
Sync Tag        : ring11
Port ID         : 1/1/3
Admin State     : inService
Oper State      : connected
Admin Change    : 01/07/2008 21:40:07
Oper Change     : 01/07/2008 21:40:24
Last Debounce   : 02/15/2008 09:28:42
Debounce Period: 0d 00:00:00
Failure Reason : None
-------------------------------------------------------------------------------
In Band Control Path
-------------------------------------------------------------------------------
Service ID      : 10
Interface Name : to_an1
Oper State      : connected
Dest IP         : 10.10.0.2
Src  IP         : 10.10.0.1
-------------------------------------------------------------------------------
VLAN Map B Path Provisioned
-------------------------------------------------------------------------------
range 13-13
range 17-17
-------------------------------------------------------------------------------
VLAN Map Excluded Path Provisioned
-------------------------------------------------------------------------------
range 18-18
-------------------------------------------------------------------------------
VLAN Map B Path Operational
-------------------------------------------------------------------------------
range 13-13
range 17-17
-------------------------------------------------------------------------------
VLAN Map Excluded Path Operational
-------------------------------------------------------------------------------
range 18-18
===============================================================================
*A:ALA-48#


*A:ALA-48>show>redundancy>multi-chassis# mc-ring peer 192.168.10.104
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MC Ring entries
===============================================================================
Sync Tag                        Oper State      Failure Reason
-------------------------------------------------------------------------------
No. of MC Ring entries: 0
===============================================================================
*A:ALA-48#


*A:ALA-48# show redundancy multi-chassis mc-ring peer 10.0.0.2
===============================================================================
MC Ring entries
===============================================================================
Sync Tag                        Oper State      Failure Reason
-------------------------------------------------------------------------------
ring11                          connected       None
ring12                          shutdown        None
-------------------------------------------------------------------------------
No. of MC Ring entries: 4
===============================================================================
*A:ALA-48#


*A:ALA-48# show redundancy multi-chassis mc-ring peer 10.0.0.2 ring ring11 ring-
node an1 detail
===============================================================================
Multi-Chassis MC-Ring Node Detailed Information
===============================================================================
Peer           : 10.0.0.2
Sync Tag       : ring11
Node Name      : an1
Oper State Loc : connected
Oper State Rem : notTested
In Use         : True
Admin Change   : 01/07/2008 21:40:07
Oper Change    : 01/07/2008 21:40:25
Failure Reason : None
-------------------------------------------------------------------------------
Ring Node Connectivity Verification
-------------------------------------------------------------------------------
Admin State    : inService
Service ID     : 11
VLAN Tag       : 11
Dest IP        : 10.11.3.1
Src  IP        : None
Interval       : 1 minutes
Src MAC        : None
===============================================================================
*A:ALA-48#


*A:ALA-48# show redundancy multi-chassis mc-ring peer 10.0.0.2 ring ring11 ring-node
===============================================================================
MC Ring Node entries
===============================================================================
Name                            Loc Oper St.      Failure Reason
  In Use                          Rem Oper St.
-------------------------------------------------------------------------------
an1                             connected         None
  Yes                             notTested
an2                             connected         None
  Yes                             notTested
-------------------------------------------------------------------------------
No. of MC Ring Node entries: 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:ALA-48#
```

Output Fields: show redundancy multi-chassis mc-ring peer <ip-address> ring

Table 334: Output fields: MC ring peer ring describes the output fields for the **show redundancy multi-chassis mc-ring peer <ip-address> ring** command.

Table 334: Output fields: MC ring peer ring

Label	Description
Sync Tag	Displays the synchronization tag that was used while synchronizing this port with the multi-chassis peer.
Oper State	noPeer — The peer has no corresponding ring configured. connected — The in-band control connection with the peer is operational. broken — The in-band control connection with the peer has timed out. conflict — The in-band control connection with the peer has timed out but the physical connection is still OK; the failure of the in-band signaling connection is caused by a misconfiguration. For example, a conflict between the configuration of this system and its peer, or a misconfiguration on one of the ring access node systems. testingRing — The in-band control connection with the peer is being set up. Waiting for result. waitingForPeer — Verifying if this ring is configured on the peer. configErr — The ring is administratively up, but a configuration error prevents it from operating properly. halfBroken — The in-band control connection indicates that the ring is broken in one direction (towards the peer). localBroken — The in-band control connection with the peer is known to be broken due to local failure or local administrative action. shutdown — The ring is shutdown.
Failure Reason	Displays the failure reason.
Last Debounce	Displays the last time that the debounce mechanism (protecting the router from overload situations in case of a flapping ring) was activated.
Debounce Period	Displays the duration that the debounce mechanism was in action since the "Last Debounce”.

Output Example: show redundancy multi-chassis mc-ring peer <ip-address> statistics

```
*A:ALA-48>show>redundancy>multi-chassis# mc-ring peer 192.168.10.104 statistics
===============================================================================
MC Ring statistics for peer 192.168.10.104
===============================================================================
Message                                          Received     Transmitted
-------------------------------------------------------------------------------
MCS ID Request                                   0            0
MCS ID Response                                  0            0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ring Exists Request                                  0           0
Ring Exists Response                                 0           0
Keepalive                                            0           0
-------------------------------------------------------------------------------
Total                                                0           0
===============================================================================
*A:ALA-48>show>redundancy>multi-chassis#
```

Output Fields: show redundancy multi-chassis mc-ring peer <ip-address> statistics

Table 335: Output fields: MC ring peer statistics describes the output fields for the **show redundancy multi-chassis mc-ring peer <ip-address> statistics** command.

Table 335: Output fields: MC ring peer statistics

Label	Description
Message	Displays the message type.
Received	Indicates the number of valid MC-Ring signaling messages received from the peer.
Transmitted	Indicates the number of valid MC-Ring signaling messages transmitted from the peer.
MCS ID Request	Displays the number of valid MCS ID requests were received from the peer.
MCS ID Response	Displays the number of valid MCS ID responses were received from the peer.
Ring Exists Request	Displays the number of valid 'ring exists' requests were received from the peer.
Ring Exists Response	Displays the number of valid ring exists' responses were received from the peer.
Keepalive	Displays the number of valid MC-Ring control packets of type 'keepalive' were received from the peer.

Output Example: show redundancy multi-chassis mc-ring global-statistics

```
*A:ALA-48>show>redundancy>multi-chassis# mc-ring global-statistics
===============================================================================
Global MC Ring statistics
===============================================================================
Rx                          : 0
Rx Too Short                : 0
Rx Wrong Authentication     : 0
Rx Invalid TLV              : 0
Rx Incomplete               : 0
Rx Unknown Type             : 0
Rx Unknown Peer             : 0
Rx Unknown Ring             : 0
Rx Unknown Ring Node        : 0
Tx                          : 36763
Tx No Buffer                : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Tx Transmission Failed       : 0
Tx Unknown Destination       : 0
Missed Configuration Events  : 0
Missed BFD Events            : 0
===============================================================================
*A:ALA-48>show>redundancy>multi-chassis#
```

Output Fields: show redundancy multi-chassis mc-ring ring-node
Table 336: Output fields: MC ring node describes the output fields for the mc-ring ring-node command.

Table 336: Output fields: MC ring node

Label	Description
Oper State	Displays the state of the connection verification (both local and remote). notProvisioned — Connection verification is not provisioned. configErr — Connection verification is provisioned but a configuration error prevents it from operating properly. notTested — Connection verification is administratively disabled or is not possible in the current situation. testing — Connection Verification is active, but no results are yet available. connected — The ring node is reachable. disconnected — Connection verification has timed out.
In Use	Displays "True” if the ring node is referenced on an e-pipe or as an inter-dest-id on a static host or dynamic lease.

Output Fields: show redundancy multi-chassis mc-ring global-statistics
Table 337: Output fields: MC ring global statistics describes the output fields for the **show redundancy multi-chassis mc-ring global statistics** command.

Table 337: Output fields: MC ring global statistics

Label	Description
Rx	Displays the number of MC-ring signaling packets were received by this system.
Rx Too Short	Displays the number of MC-ring signaling packets were received by this system that were too short.
Rx Wrong Authentication	Displays the number of MC-ring signaling packets were received by this system with invalid authentication.
Rx Invalid TLV	Displays the number of MC-ring signaling packets were received by this system with invalid TLV.
Rx Incomplete	Displays the number of MC-ring signaling packets were received by this system that were incomplete.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Rx Unknown Type	Displays the number of MC-ring signaling packets were received by this system that were of unknown type.
Rx Unknown Peer	Displays the number of MC-ring signaling packets were received by this system that were related to an unknown peer.
Rx Unknown Ring	Displays the number of MC-ring signaling packets were received by this system that were related to an unknown ring.
Rx Unknown Ring Node	Displays the number of MC-ring signaling packets were received by this system that were related to an unknown ring node.
Tx	Displays the number of MC-ring signaling packets were transmitted by this system.
Tx No Buffer	Displays the number of MC-ring signaling packets could not be transmitted by this system due to a lack of packet buffers.
Tx Transmission Failed	Displays the number of MC-ring signaling packets could not be transmitted by this system due to a transmission failure.
Tx Unknown Destination	Displays the number of MC-ring 'unknown destination' signaling packets were transmitted by this system.
Missed Configuration Events	Displays the number of missed configuration events on this system.
Missed BFD Events	Displays the number of missed BFD events on this system.

mc-ring

Syntax

mc-ring

Context

[Tree] (clear>redundancy>multi-chassis mc-ring)

Full Context

clear redundancy multi-chassis mc-ring

Description

This command clears multi-chassis ring data.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mc-ring

Syntax

mc-ring peer *ip-address* **ring** *sync-tag*

Context

[Tree] (show>service>sap-using mc-ring)

Full Context

show service sap-using mc-ring

Description

This command displays SAP information for a specific MC-RING.

Parameters

ip-address

Specifies the IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

sync-tag

Specifies the ring's synchronization tag, up to 32 characters.

Platforms

All

15.32 mcac

mcac

Syntax

mcac

Context

[Tree] (clear>router mcac)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
clear router mcac

Description
Commands in this context clear and reset Multicast Connection Admission Control (MCAC) statistics.

Platforms
All

mcac

Syntax
mcac

Context
[Tree] (show>router mcac)

Full Context
show router mcac

Description
Commands in this context display multicast CAC related information.

Platforms
All

15.33 mcast-ipv4

mcast-ipv4

Syntax
mcast-ipv4 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**brief**] [**all**]

mcast-ipv4 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**brief**] [**all**]

mcast-ipv4 [**detail** | **longer**] [**aspath-regex** reg-exp] [**community** *comm-id*] [**all**]

Context
[Tree] (show>router>bgp>routes mcast-ipv4)

Full Context
show router bgp routes mcast-ipv4

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays BGP multicast IPv4 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

hunt

Displays entries for the specified route.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

– *group-id* — 0 to 16383

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

brief

Displays the BGP multicast IPv4 route information in a brief format.

all

Displays all output for imported routes.

Platforms

All

15.34 mcast-ipv6

mcast-ipv6

Syntax

mcast-ipv6 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**brief**] [**all**]

mcast-ipv6 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**brief**] [**all**]

mcast-ipv6 [**detail** | **longer**] [**aspath-regex** reg-exp] [**community** *comm-id*] [**all**]

Context

[Tree] (show>router>bgp>routes mcast-ipv6)

Full Context

show router bgp routes mcast-ipv6

Description

This command displays BGP multicast IPv6 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

hunt

Displays entries for the specified route.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

brief

Displays the BGP multicast IPv6 route information in a brief format.

all

Displays all output for imported routes.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.35 mcast-join-synch

mcast-join-synch

Syntax

mcast-join-synch [**hunt** | **detail**] [**rd** *rd*] [**community** *comm-id*] [**tag** *tag*] [**next-hop** *next-hop*] [**aspath-regex** *reg-exp*] [**originator-ip** *ip-address* **|** *ipv6-address*]

Context

[Tree] (show>router>bgp>routes>evpn mcast-join-synch)

Full Context

show router bgp routes evpn mcast-join-synch

Description

This command displays BGP-EVPN multicast join sync routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{*ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535

  – *comm-val1* — 0 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- **type** — target, origin
- *ip-address* — a.b.c.d
- *comm-val2* — 0 to 4294967295
- *as-number2* — 0 to 4294967295

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

tag

Specifies the multicast join sync route tag.

Values 0to 4294967295 | MAX-ET

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values		
	ipv4-address:	a.b.c.d
	ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

ip-address* | *ipv6-address

Specifies the originator IPv4 or IPv6 address, up to 64 characters.

Platforms

All

15.36 mcast-leave-synch

mcast-leave-synch

Syntax

mcast-leave-synch [**hunt** | **detail**] [**rd** *rd*] [**community** *comm-id*] [**tag** *tag*] [**next-hop** *next-hop*] [**aspath-regex** *reg-exp*] [**originator-ip** *ip-address* **|** *ipv6-address*]

Context

[Tree] (show>router>bgp>routes>evpn mcast-leave-synch)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bgp routes evpn mcast-leave-synch

Description

This command displays BGP-EVPN multicast leave sync routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{*ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535
  – *comm-val1* — 0 to 65535
  – **type** — target, origin
  – *ip-address* — a.b.c.d
  – *comm-val2* — 0 to 4294967295
  – *as-number2* — 0 to 4294967295
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

tag

Specifies the multicast leave sync route tag.

Values 0to 4294967295 | MAX-ET

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values	ipv4-address:	a.b.c.d
	ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

ip-address* | *ipv6-address

Specifies the originator IPv4 or IPv6 address, up to 64 characters.

Platforms

All

15.37 mcast-management

mcast-management

Syntax

mcast-management

Context

[Tree] (clear mcast-management)

Full Context

clear mcast-management

Description

Commands in this context clear the multicast management status.

Platforms

All

mcast-management

Syntax

mcast-management

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show mcast-management)

Full Context

show mcast-management

Description

This command shows multicast path management related information.

Platforms

All

15.38 mcast-path-mgr

mcast-path-mgr

Syntax

mcast-path-mgr cpm [**unmanaged**]

Context

[Tree] (tools>dump mcast-path-mgr)

Full Context

tools dump mcast-path-mgr

Description

This command dumps multicast path manager CPM information.

Parameters

unmanaged

Displays multicast path manager unmanaged and Multiple MAC Registration Protocol information.

Platforms

7450 ESS, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-7/12/12e, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of CPM information.

Output Example

```
*A:PE-1# tools dump mcast-path-mgr cpm
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Slot: 5 Complex: 0
===============================================================================
PATH:                                    PLANE:
Type SGs     InUseBW   AvailBW   TotalBw  ID    SGs   InUseBW  AvailBW   TotalBw
P      7       28040         -         -  17      7     28040  1971960   2000000
P      7       28047         -         -  16      7     28047  1971953   2000000
P      7       28047         -         -  18      7     28047  1971953   2000000
P      6       24075         -         -  19      6     24075  1975925   2000000
P      6       24075         -         -  20      6     24075  1975925   2000000
P      6       24097         -         -  21      6     24097  1975903   2000000
P      7       28076         -         -  22      7     28076  1971924   2000000
P      7       28043         -         -  23      7     28043  1971957   2000000
P      7       28018         -         -  24      7     28018  1971982   2000000
P      7       28036         -         -  25      7     28036  1971964   2000000
P      7       28036         -         -  26      7     28036  1971964   2000000
P      6       24042         -         -  27      6     24042  1975958   2000000
P      6       24053         -         -  28      6     24053  1975947   2000000
P      7       28047         -         -  29      7     28047  1971953   2000000
P      7       28080         -         -  30      7     28080  1971920   2000000
S      0           0         -         -  31      0         0  1800000   1800000
B      0           0         -         -   -      -         -        -         -
*A:PE-1#
```

15.39 mcast-reporting-dest

mcast-reporting-dest

Syntax

mcast-reporting-dest [*mcast-reporting-dest-name*]

Context

[Tree] (show>mcast-mgmt mcast-reporting-dest)

Full Context

show mcast-management mcast-reporting-dest

Description

This command displays multicast path management reporting destination information.

Parameters

mcast-reporting-dest-name

Specifies the multicast reporting destination name, up to 32 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mcast-reporting-dest

Syntax

mcast-reporting-dest [*mcast-reporting-dest-name*]

Context

[Tree] (clear>mcast-mgmt mcast-reporting-dest)

Full Context

clear mcast-management mcast-reporting-dest

Description

This command clears multicast reporting destination statistics.

Parameters

mcast-reporting-dest-name

Specifies the multicast reporting destination name, up to 32 characters.

Platforms

All

15.40 mcast-reporting-statistics

mcast-reporting-statistics

Syntax

mcast-reporting-statistics *ip-address*

Context

[Tree] (show>router>igmp mcast-reporting-statistics)

Full Context

show router igmp mcast-reporting-statistics

Description

This command displays IGMP multicast reporting statistics.

Parameters

ip-address

Displays the information associated with the specified IP address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

mcast-reporting-statistics

Syntax

mcast-reporting-statistics *[ip-address]*

Context

[Tree] (clear>router>igmp mcast-reporting-statistics)

Full Context

clear router igmp mcast-reporting-statistics

Description

This command clears IGMP multicast reporting statistics.

Parameters

ip-address

Specifies the IP address.

Values a.b.c.d

Platforms

All

15.41 mcast-umh-red

mcast-umh-red

Syntax

mcast-umh-red *pair-id*

Context

[Tree] (tools>dump>router mcast-umh-red)

Full Context

tools dump router mcast-umh-red

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays upstream multi-homing (UMH) information.

Parameters

pair-id

Displays the information associated with the specified pair of primary and backup UMH.

Values 1 to 1000

Platforms

All

Output

The following output is an example of UMH information.

Output Example

```
*A:DUT-B# tools dump router mcast-umh-red 100
===============================================================================
Slot 1
===============================================================================
Switch Count:     1
Last Switch:      04/23/21 15:59:40
Revert Time Left: 39 sec
Active Tunnel
  Label:          523515
                  LDP FEC P2MP: root: 10.20.1.1, T: 1, L: 4, TunnelId: 8228
  Bandwidth:      482400 bps
Standby Tunnel
  Label:          523657
                  LDP FEC P2MP: root: 10.20.1.3, T: 1, L: 4, TunnelId: 8229
  Bandwidth:      482400 bps
```

15.42 mcast-vpn-ipv4

mcast-vpn-ipv4

Syntax

mcast-vpn-ipv4 [**detail** | **longer**] [**rd** *rd*] [**community** *comm-id*] [**aspath-regex** *reg-exp*] [**all**]

mcast-vpn-ipv4 [**brief**] [**rd** *rd*] [**community** *comm-id*] [**aspath-regex** *reg-exp*] [**all**]

mcast-vpn-ipv4 hunt [**brief**] [**rd** *rd*] [**community** *comm-id*] [**aspath-regex** *reg-exp*] [**all**]

Context

[Tree] (show>router>bgp>routes mcast-vpn-ipv4)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bgp routes mcast-vpn-ipv4

Description

This command displays BGP multicast VPN IPv4 routes.

Parameters

detail

Displays detailed information.

longer

Displays the specified route and subsets of the route.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- **ext** — extended
- **ext:4300** — origin verification
- *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
- *value1* — 0000 to FFFF
- *value2* — 0 to FFFFFFFFFFFF
- **flowspec-set —** flow-spec set
- *group-id* — 0 to 16383

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

all

Displays all output for imported routes.

Platforms

All

15.43 mcast-vpn-ipv6

mcast-vpn-ipv6

Syntax

mcast-vpn-ipv6 [**detail** | **longer**] [**rd** *rd*] [**community** *comm-id*] [**aspath-regex** *reg-exp*] [**all**]

mcast-vpn-ipv6 [**brief**] [**rd** *rd*] [**community** *comm-id*] [**aspath-regex** *reg-exp*] [**all**]

mcast-vpn-ipv6 hunt [**brief**] [**rd** *rd*] [**community** *comm-id*] [**aspath-regex** *reg-exp*] [**all**]

Context

[Tree] (show>router>bgp>routes mcast-vpn-ipv6)

Full Context

show router bgp routes mcast-vpn-ipv6

Description

This command displays BGP multicast VPN IPv6 routes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

detail

Displays detailed information.

longer

Displays the specified route and subsets of the route.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- **flowspec-set —** flow-spec set
- *group-id* — 0 to 16383

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

all

Displays all output for imported routes.

Platforms

All

15.44 md-auto-id

md-auto-id

Syntax

md-auto-id

Context

[Tree] (show>qos md-auto-id)

Full Context

show qos md-auto-id

Description

This command displays information about QoS policy IDs that have been automatically assigned by SR OS using the **md-auto-id** functionality. See the **config>qos md-auto-id** configuration command for further details.

Platforms

All

Output

The following output is an example of QoS md-auto-id information, and Table 338: Output fields: MD auto ID QoS describes the output fields.

Output Example

```
*A:node-6# show qos md-auto-id
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MD Auto-Id Information
===============================================================================
QoS Policy-Id Range
Start                       : 327675        End             : 65535
Sap Ingress Count           : 10
Sap Egress Count            : 8
Network Count               : 6
===============================================================================
```

Table 338: Output fields: MD auto ID QoS

Label	Description
Start	Displays the start of the range for an automatic QoS policy ID.
End	Displays the end of the range for an automatic QoS Policy ID.
Sap Ingress Count	Displays the number of SAP ingress policies with automatically-assigned IDs.
Sap Egress Count	Displays the number of SAP egress policies with automatically-assigned IDs.
Network Count	Displays the number of network policies with automatically-assigned IDs.

md-auto-id

Syntax

md-auto-id

Context

[Tree] (show>filter md-auto-id)

Full Context

show filter md-auto-id

Description

This command displays information about filter IDs that have been automatically assigned by SR OS using the **md-auto-id** functionality. See the **config>qos md-auto-id** configuration command for further details.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of **md-auto-id** filter information and Table 339: Output fields: MD auto ID filter describes the output fields.

Output Example

```
*A:node-6# show filter md-auto-id
===============================================================================
MD Auto-Id Information
===============================================================================
Filter-id Range
Start              : 1073741822                 End                : 2147483647
Ip-filter Count    : 30
Ipv6-filter Count  : 20
Mac-filter Count   : 10
===============================================================================
```

Table 339: Output fields: MD auto ID filter

Label	Description
Start	Displays the start of the range for an automatic filter policy ID
End	Displays the end of the range for an automatic filter policy ID
Ip-filter Count	Displays the number of IP filter policies with automatically-assigned IDs
Ipv6-filter Count	Displays the number of IPv6 filter policies with automatically-assigned IDs
Mac-filter Count	Displays the number of MAC filter policies with automatically-assigned IDs

md-auto-id

Syntax

md-auto-id

Context

[Tree] (show>service md-auto-id)

Full Context

show service md-auto-id

Description

This command displays information about service, customer and PW template IDs that have been automatically assigned by SR OS using the **md-auto-id** functionality. For more information, see the **md-auto-id** configuration command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of **md-auto-id** information, and Table 340: Output fields: MD auto ID service describes the output fields.

Output Example

```
*A:node-6# show service md-auto-id
===============================================================================
MD Auto-Id Information
===============================================================================
Service-Id Range
Start              : 1073741823                 End       : 2147483647
Count              : 12
Customer-Id Range
Start              : 1073741823                 End       : 2147483647
Count              : 10
Pw-Template-Id Range
Start              : 1073741823                 End       : 2147483647
Count              : 5
===============================================================================
```

Table 340: Output fields: MD auto ID service

Label	Description
Start	Displays the start of the range for an automatic service ID, customer ID, or PW template ID.
End	Displays the end of the range for an automatic service ID, customer ID, or PW template ID.
Count	Displays the number of service IDs, customer IDs, or PW template IDs with automatically-assigned IDs.

15.45 mda

mda

Syntax

mda *slot* [/*mda*] [**detail**]

Context

[Tree] (show mda)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show mda

Description

This command displays MDA\XMA information.

If no command line options are specified, a summary output of all MDAs is displayed in table format.

Parameters

slot

Specifies the slot number for which to display MDA information.

Values 1 to 10

mda

Specifies the MDA number in the slot for which to display MDA information.

Values *slot* [/*mda*]

detail

Displays detailed MDA information.

Platforms

All

Output

The following outputs are examples of MDA information, and Table 341: Output fields: MDA describes the output fields for the **show mda** command:

- Output Example: show mda (showing 7450 ESS)
- Output Example: show mda (showing 7950 XRS)
- Table 341: Output fields: MDA
- Output Example: show mda <slot/mda> detail
- Output Example: show mda <slot/mda> detail (showing Channelized MDA on a 7750 SR-7)
- Output Example: show mda <slot/mda> detail (showing 7950 XRS)
- Output Fields: show mda <slot/mda> detail

Output Example: show mda (showing 7450 ESS)

```
A:node-2# show mda
===============================================================================
MDA Summary
===============================================================================
Slot  Mda   Provisioned Type                          Admin     Operational
               Equipped Type (if different)           State     State
-------------------------------------------------------------------------------
1     1     me2-100gb-ms-qsfp28                       up        up
      2     isa2-tunnel                               up        up
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example: show mda (showing 7950 XRS)

```
A:node-2# show mda
===============================================================================
MDA Summary
===============================================================================
Slot  Mda   Provisioned Type                            Admin     Operational
              Equipped Type (if different)              State     State
-------------------------------------------------------------------------------
1     1     x4-100g-cxp                                 up        up
      2     x40-10g-sfp                                 up        up
2     1     x4-100g-cfp2                                up        up
      2     x40-10g-sfp-ptp                             up        up
===============================================================================
```

Table 341: Output fields: MDA

Label	Description
Slot	The chassis slot number.
MDA	The MDA slot number.
Provisioned MDA-type	The MDA type provisioned.
Equipped MDA-type	The MDA type actually installed.
Admin State	Up — Administratively up. Down — Administratively down (e.g., shutdown).
Operational State	Up — Operationally up. Down — Operationally down.

Output Example: show mda <slot/mda> detail

```
A:Dut-G# show mda 1/1 detail
===============================================================================
MDA 1/1 detail
===============================================================================
Slot  Mda   Provisioned Type                            Admin     Operational
              Equipped Type (if different)              State     State
-------------------------------------------------------------------------------
1     1     me2-100gb-ms-qsfp28                         up        up


MDA Specific Data
    Maximum port/connector count  : 2
    Num ports/connectors equipped : 2
    Capabilities                  : Ethernet
    Fail On Error                 : Disabled
    Egress XPL error threshold    : 1000
    Egress XPL error window       : 60
    Ingress XPL error threshold   : 1000
    Ingress XPL error window      : 60

Hardware Data
    Platform type                 : N/A
    Part number                   :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    CLEI code                    :
    Serial number                :
    Manufacture date             :
    Manufacturing deviations     : (Not Specified)
    Manufacturing assembly number :
    Administrative state         : up
    Operational state            : up
    Software boot (rom) version  : (Not Specified)
    Software version             : (Not Specified)
    Time of last boot            : N/A
    Current alarm state          : alarm cleared
    Base MAC address             :
    Firmware version             : N/A
```

Output Example: show mda <slot/mda> detail (showing Channelized MDA on a 7750 SR-7)

```
A:Dut-A# show mda 5/1 detail
===============================================================================
MDA 5/1 detail
===============================================================================
Slot  Mda   Provisioned Type                              Admin     Operational
                Equipped Type (if different)             State     State
-------------------------------------------------------------------------------
5     1     p10-10g-sfp                                  up        up

MDA Specific Data
    Maximum port/connector count  : 10
    Num ports/connectors equipped : 10
    Capabilities                  : Ethernet
    Fail On Error                 : Disabled
    Egress XPL error threshold    : 1000
    Egress XPL error window       : 60
    Ingress XPL error threshold   : 1000
    Ingress XPL error window      : 60
    Min channel size              : Sonet STS-192
    Max channel size              : Sonet STS-192
    Max number of channels        : 10
    Channels in use               : 0
Hardware Data
    Platform type                 : 7750
    Part number                   : 3HE07305AARA01
    CLEI code                     : IPUCA9AFAA
    Serial number                 : NS1249F1339
    Manufacture date              : 01172013
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number :
    Administrative state          : up
    Operational state             : up
    Temperature                   : 50C
    Temperature threshold         : 75C
    Software boot (rom) version   : (Not Specified)
    Software version              : (Not Specified)
    Time of last boot             : 2022/02/14 14:25:55
    Current alarm state           : alarm cleared
    Base MAC address              : 0c:a4:02:bd:df:55
    Firmware version              : I-0.0.I6921
===============================================================================
```

Output Example: show mda <slot/mda> detail (showing 7950 XRS)

```
 A:node-2# show mda 1/1 detail
===============================================================================
MDA 1/1 detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Slot  Mda   Provisioned Type                              Admin     Operational
              Equipped Type (if different)                State     State
-------------------------------------------------------------------------------
1     1     x4-100g-cxp                                   up        up

MDA Specific Data
    Maximum port/connector count  : 4
    Num ports/connectors equipped : 4
    Capabilities                  : Ethernet
    Fail On Error                 : Disabled
    Reset On Recoverable Error    : Disabled
    Egress XPL error threshold    : 1000
    Egress XPL error window       : 60
    Ingress XPL error threshold   : 1000
    Ingress XPL error window      : 60
    Power Priority                : 150

Hardware Data
    Platform type                 : N/A
    Part number                   :
    CLEI code                     :
    Serial number                 :
    Manufacture date              :
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number :
    Administrative state          : up
    Operational state             : up
    Software boot (rom) version   : (Not Specified)
    Software version              : (Not Specified)
    Time of last boot             : N/A
    Current alarm state           : alarm cleared
    Base MAC address              :
    Firmware version              : N/A

Hardware Resources (Power-Zone 1)
    Voltage
        Minimum                   :     0.00 Volts  (N/A)
        Current                   :     0.00 Volts
        Peak                      :     0.00 Volts  (N/A)
    Wattage
        Minimum                   :     0.00 Watts  (N/A)
        Current                   :     0.00 Watts
        Peak                      :     0.00 Watts  (N/A)
        Max Required              :   645.00 Watts
    Amperage
        Minimum                   :     0.00 Amps   (N/A)
        Current                   :     0.00 Amps
        Peak                      :     0.00 Amps   (N/A)

===============================================================================
```

Output Fields: show mda <slot/mda> detail

Table 342: Output fields: MDA detail describes the output fields for the **show mda <slot/mda> detail** command.

Table 342: Output fields: MDA detail

Label	Description
Slot	The chassis slot number.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Mda	The MDA slot number.
Provisioned Mda-type	The provisioned MDA type.
Equipped Mda-type	The MDA type that is physically inserted into this slot in this chassis.
Admin State	Up — The MDA is administratively up. Down — The MDA is administratively down.
Operational State	Up — The MDA is operationally up. Down — The MDA is operationally down.
Failure Reason	This hardware component has failed.
Maximum port count	The maximum number of ports that can be equipped on the MDA card.
Number of ports equipped	The number of ports that are actually equipped on the MDA.
Transmit timing selected	Indicates the source for the timing used by the MDA.
Sync interface timing status	Indicates whether the MDA has qualified one of the timing signals from the CPMs.
Network Ingress Queue Policy	Specifies the network queue policy applied to the MDA to define the queueing structure for this object.
Capabilities	Specifies the minimum size of the port that can exist on the MDA.
Egress XPL error threshold	The Egress XPL Error Threshold value used by the **fail-on-error** feature.
Egress XPL error window	The Egress XPL Error Window value used by the **fail-on-error** feature.
Max channel size	Specifies the maximum size of the channel that can exist on the channelized MDA.
Part number	The hardware part number.
CLEI code	The code used to identify the MDA.
Serial number	The MDA part number. Not user modifiable.
Manufacture date	The MDA manufacture date. Not user modifiable.
Manufacturing string	Factory-inputted manufacturing text string. Not user modifiable.
Administrative state	Up — The MDA is administratively up. Down — The MDA is administratively down.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Operational state	Up — The MDA is operationally up. Down — The MDA is operationally down.
Time of last boot	The date and time the most recent boot occurred.
Current alarm state	Displays the alarm conditions for the specific MDA.
Base MAC address	The base chassis Ethernet MAC address. Special purpose MAC addresses used by the system software are constructed as offsets from this base address.

mda

Syntax

mda *mda-id* [**statistics**]

Context

[Tree] (clear mda)

Full Context

clear mda

Description

This command reinitializes the specified MDA in a particular slot.

Parameters

mda-id

Clears the specified slot and MDA.

Values

slot/mda	slot: 1 to 10 mda: 1, 2
slot/xiom/mda	slot: 1 to 10 xiom: "x1" or "x2" mda: 1, 2

statistics

Clears statistics for the specified MDA.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mda

Syntax

mda [*mda-slot*]

Context

[Tree] (tools>dump>resource-usage>card mda)

Full Context

tools dump resource-usage card mda

Description

This command displays resource information for MDAs.

Parameters

mda-slot

Specifies an MDA slot.

Values 1 to 2

Platforms

All

15.46 mdt-safi

mdt-safi

Syntax

mdt-safi [**rd** *rd*] [**grp-address** *mcast-grp-address*] [**source-ip** *ip-address*] **brief** [**community** *comm-id*] [**aspath-regex** *reg-exp*]

mdt-safi [**rd** *rd*] [**grp-address** *mcast-grp-address*] [**source-ip** *ip-address*] [**detail**] [**community** *comm-id*] [**aspath-regex** *reg-exp*]

mdt-safi [**rd** *rd*] [**grp-address** *mcast-grp-address*] [**source-ip** *ip-address*] [**brief**] **hunt** [**community** *comm-id*] [**aspath-regex** *reg-exp*]

Context

[Tree] (show>router>bgp>routes mdt-safi)

Full Context

show router bgp routes mdt-safi

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays BGP MDT-SAFI routes.

Parameters

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

mcast-grp-address

Specifies the multicast group address.

Values a.b.c.d

ip-address

Specifies the source IP address.

Values a.b.c.d

detail

Displays detailed information.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- **bandwidth** — bandwidth
- *val-in-mbps* — 0 to 16777215
- **ext** — extended
- **ext:4300** — origin verification
- *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
- *value1* — 0000 to FFFF
- *value2* — 0 to FFFFFFFFFFFF
- **flowspec-set —** flow-spec set
- *group-id* — 0 to 16383

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

Platforms

All

15.47 meas-interval

meas-interval

Syntax

meas-interval raw

meas-interval raw [**all** | **bins** | **summary**]

meas-interval {**5-mins** | **15-mins** | **1-hour** | **1-day**} **interval-number** *interval-number*

meas-interval {**5-mins** | **15-mins** | **1-hour** | **1-day**} **interval-number** *interval-number* [**all** | **bins** | **summary**]

Context

[Tree] (show>oam-pm>stats>session>dmm meas-interval)

[Tree] (show>oam-pm>stats>session>slm meas-interval)

[Tree] (show>oam-pm>stats>session>lmm meas-interval)

[Tree] (show>oam-pm>stats>session>dm meas-interval)

Full Context

show oam-pm statistics session dmm meas-interval

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

show oam-pm statistics session slm meas-interval

show oam-pm statistics session lmm meas-interval

show oam-pm statistics session dm meas-interval

Description

This command selects a measurement interval for the statistical display.

Parameters

raw

Keyword that excludes because there is only one raw cumulative bin.

{1-min | 5-mins | 15-mins | 1-hour | 1-day}

Keyword that identifies the measurement interval to query for the statistics.

interval-number

Specifies the numerical reference that indicates the position from the latest sample window. The number 1 is the most recent interval with all higher numbers being that position in the past from current.

Values 1 to 97

[all | bins | summary]

Keyword used to filter the output.

Platforms

All

- show oam-pm statistics session slm meas-interval
- show oam-pm statistics session dmm meas-interval
- show oam-pm statistics session lmm meas-interval

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

- show oam-pm statistics session dm meas-interval

Output

The following outputs are examples of OAM-PM configuration information:

- Output example: OAM-PM meas interval LMM configuration information, Table 343: Output fields: OAM-PM meas-interval configuration information,
- Output example: SLM meas-interval information, Table 343: Output fields: OAM-PM meas-interval configuration information

Output example: OAM-PM meas interval LMM configuration information

```
A:node-2# show oam-pm statistics session "eth-pm-service-1000" lmm meas-interval 15-
mins interval-number 2
-------------------------------------------------------------------------------
Start (UTC)       : 2014/07/08 03:15:00          Status          : completed
Elapsed (seconds) : 900                          Suspect         : no
Frames Sent       : 90                           Frames Received : 90
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------
              Data Frames Sent  Data Frames Received
-------------------------------------------------
Forward                    900                  900
Backward                 18900                18900
-------------------------------------------------

-----------------------------------------
Frame Loss Ratios
-----------------------------------------
              Minimum     Maximum     Average
-----------------------------------------
Forward        0.000%      0.000%      0.000%
Backward       0.000%      0.000%      0.000%
-----------------------------------------

-------------------------------------------------------------------------------
Availability Counters (Und = Undetermined)
-------------------------------------------------------------------------------
           Available   Und-Avail Unavailable Und-Unavail        HLI       CHLI
-------------------------------------------------------------------------------
Forward           90           0           0           0          0          0
Backward          90           0           0           0          0          0
-------------------------------------------------------------------------------

---------------------
         Und-Delta-T
---------------------
Forward            0
Backward           0
---------------------
```

Output example: SLM meas-interval information

```
A:node-2# show oam-pm statistics session "sess1" slm meas-interval 5-mins
 interval-number 1

-------------------------------------------------------------------------------
Start (UTC)       : 2025/11/01 17:06:34          Status          : in-progress
Elapsed (seconds) : 27                           Suspect         : no
Frames Sent       : 139                          Frames Received : 139
-------------------------------------------------------------------------------

-------------------------------------------------------
                     Frames Sent       Frames Received
-------------------------------------------------------
Forward                      108                   108
Backward                     108                   108
-------------------------------------------------------

-----------------------------------------------
Frame Loss Ratios
-----------------------------------------------
              Minimum     Maximum     Average
-----------------------------------------------
Forward        0.000%      0.000%      0.000%
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Backward       0.000%      0.000%      0.000%
-----------------------------------------------


-------------------------------------------------------------------------------
Availability Counters (Und = Undetermined)
-------------------------------------------------------------------------------
           Available   Und-Avail Unavailable Und-Unavail        HLI       CHLI
-------------------------------------------------------------------------------
Forward           54           0           0           0          0          0
Backward          54           0           0           0          0          0
-------------------------------------------------------------------------------
```

Table 343: Output fields: OAM-PM meas-interval configuration information

Label	Description
Start	The start time of the session
Status	The status of the session
Elapsed (seconds)	The elapsed time of the session
Suspect	Indicates if something is suspect
Frames Sent	The frames sent
Frames Received	The frames received
Forward	The frames sent forward
Backward	The frames sent backward
Frame Loss Ratios	
Minimum	The minimum frame loss ratio
Maximum	The maximum frame loss ratio
Average	The average frame loss ratio
Forward	The frames sent forward
Backward	The frames sent backward
Availability Counters	
Available	The available events
Und-Avail	The undetermined available events
Unavailable	The unavailable events
Und-Unavailable	The undetermined unavailable events

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
HLI	The high loss interval
CHLI	The consecutive high loss interval
Und-Delta-T	The undetermined Delta-T events
Forward	The frames sent forward
Backward	The frames sent backward

meas-interval

Syntax

meas-interval raw [**loss**]

meas-interval raw [**all** | **bins** | **summary**]

meas-interval {**5-mins** | **15-mins** | **1-hour** | **1-day**} **interval-number** *interval-number* [**loss**]

meas-interval {**5-mins** | **15-mins** | **1-hour** | **1-day**} **interval-number** *interval-number* **delay** [**all** | **bins** | **summary**]

Context

[Tree] (show>oam-pm>stats>session>twamp-light meas-interval)

Full Context

show oam-pm statistics session twamp-light meas-interval

Description

This command selects a measurement interval for the statistical display.

Parameters

raw

Specifies that the interval number is not to be included because there is only one raw cumulative bin.

{5-mins | 15-mins | 1-hour | 1-day}

Identifies the measurement interval to query for the statistics.

interval-number

Specifies the numerical reference that indicates the position from the latest sample window. The number 1 is the most recent interval with all higher numbers being that position in the past from current.

Values 1 to 97

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

delay

Indicates that the statistics being queried are for delay. TWAMP-light PDUs carry both delay and loss informational elements and it is not clear from only the test type name which statistic the operator requires.

loss

Indicates the statistics being queried are for loss. TWAMP-light PDUs carry both delay and loss informational elements and it is not clear from only the test type name which statistic the operator requires.

[all | bins | summary]

Specifies a keyword to filter the output.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.48 measurement-template

measurement-template

Syntax

measurement-template [*measurement-template*]

Context

[Tree] (show>test-oam>link-measurement measurement-template)

Full Context

show test-oam link-measurement measurement-template

Description

This command displays basic link measurement template information, such as the administrative state and number of interfaces referencing the template.

The base command can filter and produce output for a single measurement template. When the measurement template name is specified, delayed information about the template is displayed.

Parameters

measurement-template

Specifies the link measurement template name, up to 64 characters, for which to display a filtered list.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following outputs are examples of link measurement template information. The associated tables describe the output fields.

Output Example

```
show test-oam link-measurement measurement-template
===============================================================================
Measurement Templates
===============================================================================
Name                                                            Admin    Refs
                                                                        Act/Tot
-------------------------------------------------------------------------------
non-standard                                                     Down    0/0
standard-direct                                                    Up    3/3
replace-standard-direct                                            Up    1/1
-------------------------------------------------------------------------------
No. of measurement templates: 3
===============================================================================
```

Table 344: Output fields: measurement template

Label	Description
Name	Displays the name of the link measurement template
Admin	Displays the administrative state of the measurement template
Refs Act	Displays the number of interfaces actively (Oper Up) referencing this link measurement template
Refs Total	Displays the number of interfaces referencing this link measurement template, regardless of the operational state
No. of measurement templates	Displays the total number of configured measurement templates

Output Example (Template Specified)

```
show test-oam link-measurement measurement-template "standard-direct"
===============================================================================
Template Name: standard-direct
===============================================================================
Description               : standard delay link template
Admin State               : Up
Unidirectional Measurement: derived
Delay Measurement         : max
Interval                  : 1s
Last Reported Delay Hold  : 0s
-------------------------------------------------------------------------------
Protocol: TWAMP Light
-------------------------------------------------------------------------------
Destination UDP Port: 862                       Timestamp Format   : ntp
DSCP                : nc1                       FC                 : h1
Profile             : in                        Allow Egress Remark: No
TTL                 : 1                         IPv6 UDP Checksum 0: Disallow
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Sample Window
-------------------------------------------------------------------------------
Interval Multiplier : 60                        Duration           : 60s
Relative Threshold  : 100%                      Absolute Threshold : 100us
Window Integrity    : 90%
-------------------------------------------------------------------------------
Aggregate Sample Window
-------------------------------------------------------------------------------
Sample Multiplier   : 3                         Duration           : 180s
Relative Threshold  : 50%                       Absolute Threshold : 50us
Window Integrity    : 0%
-------------------------------------------------------------------------------
Active Interfaces: 3
Total Interfaces : 3
===============================================================================
```

Table 345: Output fields: measurement template with template name specified

Label	Description
Template Name	Displays the name of the link measurement template
Description	Displays the configured description of the link measurement template
Admin State	Displays the administrative state of the measurement template
Unidirectional Measurement	Displays the computational method used to calculate the delay metric actual — forward delay derived — half the roundup
Delay Measurement	Displays the delay metric compared to the threshold min — minimum recorded value max — maximum recorded value avg — average recorded value
Interval	Displays the probe frequency of the test packet
Last Reported Delay Hold	Displays the configured value that determines the time a reported delay measurement should be cleared if the operational state of the test transitions to down and remains there at least the length of this timer
Protocol	Displays the type of test packet used to report delay
Destination UDP Port	Displays the configured destination UDP port for test packets
Timestamp Format	Displays the format of the timestamp encoded in the test packetntp — Network Time Protocol format 32 seconds, 32 fractional

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	secondsptp — Truncated Precision Time Protocol format 32 seconds, 32 nanoseconds
DSCP	Displays the configured DSCP in the IP header of the test packet
FC	Displays the configured forwarding class in the local node
Profile	Displays the profile of the test packet in the local node
Allow Egress Remark	Displays whether the egress QoS policy can remark the DSCP of the test packetNo — the egress QoS policy is bypassed unless **force-remark** is enabled Yes — the egress QoS policy is applied
TTL	Displays the IP header time to live (IPv4) or hop limit (IPv6)
IPv6 UDP Checksum 0	Displays whether processing of IPv6 packets that arrive with UDP checksum 0 is allowed or disallowed Disallow — packets are discarded Allow — the arriving packets are processed
Sample Window	Displays the header for sample window objects
Interval Multiplier	Displays the number of probes in the sample window, multiplying this value and the interval
Aggregate Sample Window	Displays the calculated length of the window in seconds
Sample Multiplier	Displays the number of sample windows in the aggregate sample window
Duration	Displays the calculated length of the window, in seconds
Relative Threshold	Displays the configured percentage difference comparing the current and previously reported measurements
Absolute Threshold	Displays the configured microsecond difference comparing the current and previously reported measurements
Window Integrity	Displays the minimum number of measurements, expressed as a percentage, before the window is consider integral
Active Interfaces	Displays the number of interfaces actively (Oper Up) referencing the link measurement template

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Total Interfaces	Displays the number of interfaces referencing the link measurement template, regardless of operational state

15.49 measurement-template-using

measurement-template-using

Syntax

measurement-template-using [*measurement-template*]

Context

[Tree] (show>test-oam>link-measurement measurement-template-using)

Full Context

show test-oam link-measurement measurement-template-using

Description

This command displays the link measurement templates and the IP interfaces associated with those templates.

The base command provides a single list of all measurement templates, but the command can filter and produce output for a single measurement template.

Parameters

measurement-template

Specifies the link measurement template name, up to 64 characters, for which to display a filtered list.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of link measurement template information, and Table 346: Output fields: measurement template using describes the output fields.

Output Example

```
show test-oam link-measurement measurement-template-using
===============================================================================
Measurement Templates
===============================================================================
Template Name
 Interface Name                                                 Protocol
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
standard-direct
 int-PE-1-PE-2                                                              IPv6
 int-PE-1-PE-3                                                              IPv4
 int-PE-1-PE-4                                                              IPv4
===============================================================================
```

Table 346: Output fields: measurement template using

Label	Description
Template Name	The name of the link measurement template
Interface Name	The name of the interface using the link measurement template
Protocol	The IP protocol enabled under the dynamic delay section of the interface: IPv4, IPv6, or None. None indicates no protocol is enabled

15.50 megapools

megapools

Syntax

megapools *slot-number* **fp** *fp-number* **wred** [**detail**] **queue-group** *queue-group-name* [**instance** *instance-id*]

megapools *slot-number* **fp** *fp-number*

megapools *slot-number* **fp fp-number wred** [**detail**] [**service-id** *service-id*]

Context

[Tree] (show megapools)

Full Context

show megapools

Description

This command displays megapool information. A megapool is a mechanism the forwarding plane uses to allow over subscription of buffer pools. Every buffer pool is created in the context of a megapool.

By default, all buffer pools are associated with a single megapool and the pools are not oversubscribed. When WRED queue support is enabled on the FP, three megapools are used.

- The original megapool services the default pools.
- The second megapool services the system internal use pools.
- The third megapool is used by the buffer pools used by the WRED queues.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The traffic manager buffers are allocated to the three megapools without oversubscription. The WRED queue pools are allowed to oversubscribe their megapool, but the megapool protects the pools associated with the other megapools from buffer starvation that could be caused by that over subscription.

Parameters

slot-number

Displays information for the specified card slot.

Values 1 to 10

fp-number

Displays information for the specified FP.

Values 1 to 8

wred

Displays WRED queue pool information.

detail

Displays detailed information.

queue-group-name

Displays information for the specified port queue group name, up to 32 characters.

instance-id

Specifies the identification of a specific instance of the queue group.

Values 1 to 65535

service-id

Specifies the service ID.

Values 1 to 2148278381

service-name

Specifies a service name up to 64 characters.

Platforms

All

15.51 memory-allocation-failure-rate

memory-allocation-failure-rate

Syntax

memory-allocation-failure-rate *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

memory-allocation-failure-rate *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**] **esa-vm** *esa-id/vm-id*

Context

[Tree] (show>isa>stats>tunnel-isa memory-allocation-failure-rate)

Full Context

show isa statistics tunnel-isa memory-allocation-failure-rate

Description

This command displays memory allocation failure rate of the specified ISA. The system collects usage information every hour for last 24 hours. The output also includes a current value.

Parameters

mda

Displays information about the specified ISA.

Values slot/mda

count

Displays information for the number of statistics intervals to be displayed (starting with the most recent).

Values 1 to 24

minutes

Displays information about the specified period covered by the statistics to be displayed (starting with the most recent).

Values 1 to 1440

current

Displays information about the current statistic value. The values of count and minutes are ignored by the system after this parameter is specified.

show-oid

Displays information about the Object Identifier (OID) of the current statistical value.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of the **show isa stats tunnel-isa memory-allocation-failure-rate** configuration.

Output Example

```
show>isa>stats>tunnel-isa# memory-allocation-failure-rate 1/2
===============================================================================
STATISTICS FOR ISA 1/2
===============================================================================
INDEX        VALUE                     START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
ISA MEMORY ALLOCATION FAILURE RATE (FAILURES/HOUR)
1 (CURRENT)  0                         2017/05/24 03:00:00 MIN 47 SEC 47
2            0                         2017/05/24 02:00:00 HRS 1
3            0                         2017/05/24 01:00:00 HRS 1
4            0                         2017/05/24 00:00:00 HRS 1
5            0                         2017/05/23 23:00:00 HRS 1
6            0                         2017/05/23 22:00:00 HRS 1
7            0                         2017/05/23 21:00:00 HRS 1
8            0                         2017/05/23 20:00:00 HRS 1
9            0                         2017/05/23 19:00:00 HRS 1
10           0                         2017/05/23 18:00:00 HRS 1
11           0                         2017/05/23 17:50:48 MIN 9 SEC 12
-------------------------------------------------------------------------------
NO. OF ENTRIES: 11
===============================================================================
```

15.52 memory-pools

memory-pools

Syntax

memory-pools

Context

[Tree] (show>system memory-pools)

Full Context

show system memory-pools

Description

This command displays system memory status.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of memory pool information, and Table 347: Output fields: memory pools describes the output fields.

Output Example

```
A:ALA-1# show system memory-pools
===============================================================================
Memory Pools
===============================================================================
Name                Max Allowed    Current Size      Max So Far          In Use
-------------------------------------------------------------------------------
System                No limit      24,117,248      24,117,248      16,974,832
Icc                 8,388,608       1,048,576       1,048,576          85,200
RTM/Policies          No limit       5,242,912       5,242,912       3,944,104
OSPF                  No limit       3,145,728       3,145,728       2,617,384
MPLS/RSVP             No limit       9,769,480       9,769,480       8,173,760
LDP                   No limit               0               0               0
IS-IS                 No limit               0               0               0
RIP                   No limit               0               0               0
VRRP                  No limit       1,048,576       1,048,576              96
BGP                   No limit       2,097,152       2,097,152       1,624,800
BGP                   No limit       2,097,152       2,097,152       1,624,800
Services              No limit       2,097,152       2,097,152       1,589,824
IOM                   No limit     205,226,800     205,226,800     202,962,744
SIM                   No limit       1,048,576       1,048,576             392
CFLOWD                No limit               0       1,048,576               0
CFLOWD                No limit               0       1,048,576               0
IGMP                  No limit               0               0               0
PIM                   No limit               0               0               0
ATM                   No limit       2,872,648       2,872,648       2,790,104
PIM                   No limit               0               0               0
MMPI                  No limit               0               0               0
MFIB                  No limit               0               0               0
PIP                   No limit      79,943,024      79,943,024      78,895,248
MBUF                67,108,864       5,837,328       5,837,328       4,834,280
-------------------------------------------------------------------------------
Current Total Size :    343,495,200 bytes
Total In Use       :    324,492,768 bytes
Available Memory   :    640,178,652 bytes
===============================================================================
A:ALA-1#
```

Table 347: Output fields: memory pools

Label	Description
Name	The name of the system or process.
Max Allowed	Integer — The maximum allocated memory size. No Limit — No size limit.
Current Size	The current size of the memory pool.
Max So Far	The largest amount of memory pool used.
In Use	The current amount of the memory pool currently in use.
Current Total Size	The sum of the Current Size column.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Total In Use	The sum of the In Use column.
Available Memory	The amount of available memory.

15.53 memory-usage

memory-usage

Syntax

memory-usage

Context

[Tree] (tools>dump>router>ldp memory-usage)

Full Context

tools dump router ldp memory-usage

Description

This command dumps memory usage information for LDP.

Platforms

All

memory-usage

Syntax

memory-usage

Context

[Tree] (tools>dump>router>mpls memory-usage)

Full Context

tools dump router mpls memory-usage

Description

This command dumps memory usage information for MPLS.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.54 mep

mep

Syntax

mep *mep-id* **domain** {*md-index* | *md-admin-name*} **association** {*ma-index* | *ma-admin-name*} [**loopback**] [**linktrace**] [**statistics**]

mep *mep-id* **domain** {*md-index* | *md-admin-name*} **association** {*ma-index* | *ma-admin-name*} **remote-mepid** *mep-id*

mep *mep-id* **domain** {*md-index* | *md-admin-name*} **association** {*ma-index* | *ma-admin-name*} **remote-mepid all-remote-mepids**

mep *mep-id* **domain** {*md-index* | *md-admin-name*} **association** {*ma-index* | *ma-admin-name*} **eth-test-results** [**remote-peer** *mac-address*]

mep *mep-id* **domain** {*md-index* | *md-admin-name*} **association** {*ma-index* | *ma-admin-name*} **one-way-delay-test** [**remote-peer** *mac-address*]

mep *mep-id* **domain** {*md-index* | *md-admin-name*} **association** {*ma-index* | *ma-admin-name*} **two-way-delay-test** [**remote-peer** *mac-address*]

mep *mep-id* **domain** {*md-index* | *md-admin-name*} **association** {*ma-index* | *ma-admin-name*} **two-way-slm-test** [**remote-peer** *mac-address*]

Context

[Tree] (show>eth-cfm mep)

Full Context

show eth-cfm mep

Description

This command displays MEP information.

The **show eth-cfm mep domain association** command does not display CCM ERROR, CCM XCON frames in the output.

The **show eth-cfm mep domain association remote-mep** command does not display some TLVs details.

Parameters

mep *mep-id*

Keyword used to specify the integer that is unique among all the MEPs in the same MA.

Values 1 to 8191

domain *md-index*

Keyword used to specify the index of the MD to which the MP is associated, or 0, if none.

Values 1 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

md-admin-name

Keyword used to specify the MD name, up to 64 characters.

association *ma-index*

Keyword used to specify the index to which the MP is associated, or 0, if none.

Values 1 to 4294967295

ma-admin-name

Keyword used to specify the MA name, up to 64 characters.

loopback

Keyword used to display loopback information for the specified MEP.

linktrace

Keyword used to display linktrace information for the specified MEP.

eth-bn-notification

Keyword used to display ETH-bandwidth information for the specified MEP.

statistics

Keyword used to display statistics information for the specified MEP.

remote-mepid *mep-id*

Keyword used to display specified remote MEP ID information for specified the MEP.

all-remote-mepids

Keyword used to display all remote MEP ID information for the specified MEP.

eth-test-results

Keyword used to display eth-test-result information for the specified MEP.

one-way-delay-test

Keyword used to display one-way-delay-test information for the specified MEP.

two-way-delay-test

Keyword used to display two-way-delay-test information for the specified MEP.

two-way-slm-test

Keyword used to display two-way-slm-test information for the specified MEP.

remote-peer *mac-address*

Keyword used to include remote MEP ID information for the specified MEP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following outputs are examples of ETH-CFM MEP information, and the associated tables describe the output fields.

- Output example: ETH-CFM MEP configuration information, Table 348: Output fields: MEP, linktrace, and loopback

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output example: ETH-CFM MEP configuration linktrace information, Table 348: Output fields: MEP, linktrace, and loopback
- Output example: ETH-CFM MEP configuration loopback information, Table 348: Output fields: MEP, linktrace, and loopback
- Output Example (MEPs, linktrace, and loopback), Table 348: Output fields: MEP, linktrace, and loopback
- Output Example (delay test), Table 349: Output fields: ETH-CFM MEP delay test

Output example: ETH-CFM MEP configuration information

```
show eth-cfm mep 2 domain 10 association 11400115
===============================================================================
Eth-Cfm MEP Configuration Information
===============================================================================
Md-index          : 10                        Direction         : Down
Ma-index          : 11400115                  Admin             : Enabled
Md-admin-name     : 10
Ma-admin-name     : 11400115
MepId             : 2                         CCM-Enable        : Enabled
Port              : 1/1/4                     VLAN              : 0
Description       : (Not Specified)
FngAlarmTime      : 0                         FngResetTime      : 0
FngState          : fngReset                  ControlMep        : False
LowestDefectPri   : macRemErrXcon             HighestDefect     : none
Defect Flags      : None
Mac Address       : 00:00:00:00:00:28         Collect LMM Stats : disabled
LMM FC Stats      : None
LMM FC In Prof    : None
TxAis             : noTransmit                TxGrace           : noTransmit
Facility Fault    : disabled
CcmLtmPriority    : 7                         CcmPaddingSize    : 0 octets
CcmTx             : 2760850                   CcmSequenceErr    : 8394
CcmTxIfStatus     : Absent                    CcmTxPortStatus   : Absent
CcmTxRdi          : False                     CcmTxCcmStatus    : transmit
CcmIgnoreTLVs     : (Not Specified)
Fault Propagation: disabled                   FacilityFault     : Ignore
MA-CcmInterval    : 1                         MA-CcmHoldTime    : 0ms
MA-Primary-Vid    : Disabled
Eth-1Dm Threshold: 3(sec)                     MD-Level          : 0
Eth-1Dm Last Dest: 00:00:00:00:00:00
Eth-Dmm Last Dest: 00:00:00:00:00:00
Eth-Ais           : Disabled
Eth-Ais Tx defCCM: allDef
Eth-Tst           : Enabled                   Eth-Tst Pattern   : allZerosCrc
Eth-Tst dataLeng*: 64                         Eth-Tst Priority  : 7
Eth-Tst Dest Mac : 00:00:00:00:00:00          Eth-Tst Dest MEP  : 0
Eth-Tst Threshold: 1(bitError)
Eth-Tst Last Dest: 00:00:00:00:00:00
Eth-CSF           : Disabled

Eth-Cfm Grace Tx : Enabled                    Eth-Cfm Grace Rx  : Enabled
Eth-Cfm ED Tx     : Disabled                  Eth-Cfm ED Rx     : Enabled
Eth-Cfm ED Rx Max: 0
Eth-Cfm ED Tx Pri: CcmLtmPri (7)

Eth-BNM Receive   : Disabled                  Eth-BNM Rx Pacing : 5

Eth-Cfm Vlan Tag : n/a

Monitor-Oper-Group: <n/a|name>                Oper-group state  : (n/a|up|Down)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Redundancy:
    MC-LAG State : n/a

CcmLastFailure Frame:
    None

XconCcmFailure Frame:
    None
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example: ETH-CFM MEP configuration linktrace information

```
*A:dut-a# show eth-cfm mep 10 domain 1 association 1 linktrace
===============================================================================
Eth-Cfm MEP Configuration Information
===============================================================================
Md-index         : 1                        Direction         : Down
Ma-index         : 1                        Admin             : Enabled
MepId            : 10                       CCM-Enable        : Enabled
IfIndex          : 36241408                 PrimaryVid        : 0
Description      : (Not Specified)
FngAlarmTime     : 0                        FngResetTime      : 0
FngState         : fngReset                 ControlMep        : False
LowestDefectPri  : macRemErrXcon
HighestDefect     : none
Defect Flags     : None
Mac Address      : 40:7c:7d:4b:38:f2        Collect LMM Stats : enabled
CcmLtmPriority   : 7                        CcmPaddingSize    : 0 octets
CcmTx            : 0                        CcmSequenceErr    : 0
CcmIgnoreTLVs    : (Not Specified)
Fault Propagation: disabled                 FacilityFault     : n/a
MA-CcmInterval   : 1                        MA-CcmHoldTime    : 0ms
MA-Primary-Vid   : Disabled
Eth-1Dm Threshold: 3(sec)                   MD-Level          : 1
Eth-Ais          : Disabled
Eth-Ais Tx defCCM: allDef
Eth-Tst          : Disabled
Eth-CSF          : Disabled
Redundancy:
    MC-LAG State : n/a
CcmLastFailure Frame:
    None
XconCcmFailure Frame:
    None
-------------------------------------------------------------------------------
Mep Linktrace Message Information
-------------------------------------------------------------------------------
LtRxUnexplained  : 0                        LtNextSequence    : 2
LtStatus         : False                    LtResult          : False
TargIsMepId      : False                    TargMepId         : 0
TargMac          : 00:00:00:00:00:00        TTL               : 64
EgressId         : 00:00:40:7c:7d:4b:38:f2  SequenceNum       : 1
LtFlags          : useFDBonly
-------------------------------------------------------------------------------
Mep Linktrace Replies
-------------------------------------------------------------------------------
SequenceNum      : 1                        ReceiveOrder      : 1
Ttl              : 63                       Forwarded         : False
LastEgressId     : 00:00:40:7c:7d:4b:38:f2  TerminalMep       : True
NextEgressId     : n/a                      Relay             : rlyHit
IngressMac       : 0c:54:b9:ac:0e:b7        IngressAction     : ingOk
IngrPortIdSubType: unknown value (0)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IngressPortId:   :
    None
EgressMac        : 00:00:00:00:00:00        EgressAction      : egrNoTlv
EgrPortIdSubType : unknown value (0)
EgressPortId:    :
    None
Org Specific TLV : (Not Specified)
-------------------------------------------------------------------------------
```

Output example: ETH-CFM MEP configuration loopback information

```
*A:dut-a# show eth-cfm mep 10 domain 1 association 1 loopback
===============================================================================
Eth-Cfm MEP Configuration Information
===============================================================================
Md-index         : 1                        Direction         : Down
Ma-index         : 1
Admin             : Enabled
MepId            : 10                       CCM-Enable        : Enabled
IfIndex          : 36241408                 PrimaryVid        : 0
Description      : (Not Specified)
FngAlarmTime     : 0                        FngResetTime      : 0
FngState         : fngReset                 ControlMep        : False
LowestDefectPri  : macRemErrXcon            HighestDefect     : none
Defect Flags     : None
Mac Address      : 40:7c:7d:4b:38:f2        Collect LMM Stats : enabled
CcmLtmPriority   : 7                        CcmPaddingSize    : 0 octets
CcmTx            : 0                        CcmSequenceErr    : 0
CcmIgnoreTLVs    : (Not Specified)
Fault Propagation: disabled                 FacilityFault     : n/a
MA-CcmInterval   : 1                        MA-CcmHoldTime    : 0ms
MA-Primary-Vid   : Disabled
Eth-1Dm Threshold: 3(sec)                   MD-Level          : 1
Eth-Ais          : Disabled
Eth-Ais Tx defCCM: allDef
Eth-Tst          : Disabled
Eth-CSF          : Disabled
Redundancy:
    MC-LAG State : n/a
CcmLastFailure Frame:
    None
XconCcmFailure Frame:
    None
-------------------------------------------------------------------------------
Mep Loopback Information
-------------------------------------------------------------------------------
LbRxReply        : 1                        LbRxBadOrder      : 0
LbRxBadMsdu      : 0                        LbTxReply         : 0
LbSequence       : 1                        LbNextSequence    : 2
LbStatus         : False                    LbResultOk        : False
DestIsMepId      : False                    DestMepId         : 0
DestMac
```

Table 348: Output fields: MEP, linktrace, and loopback

Label	Description
Mep Information	
Md-index	Displays the MD index of the domain

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Direction	Displays the direction of OAMPDU transmission
Ma-index	Displays the MA index of the association
Admin	Displays the administrative status of the MEP
Md-admin-name	Displays the administrative MD name.
Ma-admin-name	Displays the administrative MA name.
MepId	Displays the MEP identifier
CCM-Enable	Displays the status of the CCM (enabled or disabled)
IfIndex	Displays the index of the interface
PrimaryVid	Displays the identifier of the primary VLAN
FngState	Indicates the different states of the Fault Notification Generator
LowestDefectPri	Displays the lowest priority defect (a configured value) that is allowed to generate a fault alarm
HighestDefect	Identifies the highest defect that is present For example, if defRDICCM and defXconCCM are present, the highest defect is defXconCCM.
Defect Flags	Displays the number of defect flags
Mac Address	Displays the MAC address of the MEP
CcmLtmPriority	Displays the priority value transmitted in the linktrace messages (LTM)s and CCMs for this MEP The MEP must be configured on a VLAN.
CcmTx	Displays the number of Continuity Check Messages (CCM) sent The count is taken from the last polling interval (every 10 s).
CcmSequenceErr	Displays the number of CCM errors
Eth-1DM Threshold	Displays the one-way-delay threshold value
Eth-Ais	Displays the state of the ETH-AIS test (enabled or disabled)
Eth-Tst	Displays the state of the ETH-Test (enabled or disabled)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Monitor-Oper-Group	Displays the name of the operational group the MEP is monitoring. If "N/A" is displayed, no operational group is configured for the MEP.
Oper-group state	Displays the state of the operational group. If "N/A" is displayed, no operational group is configured for the MEP.
CcmLastFailure Frame	Displays the frame that caused the last CCM failure
XconCcmFailure Frame	Displays the frame that caused the XconCCMFailure
Mep Linktrace Message Information	
LtRxUnexplained	Displays the number of unexplained linktrace messages (LTM) that have been received
LtNextSequence	Displays the sequence number of the next linktrace message
LtStatus	Displays the status of the linktrace
LtResult	Displays the result of the linktrace
TargIsMepId	Identifies whether the target interface has a MEP-ID (true or false)
TargMepId	Displays the MEP-ID of the target interface
TargMac	Displays the MAC address of the target interface
TTL	Displays the TTL value
EgressId	Displays the egress ID of the linktrace message
SequenceNum	Displays the sequence number of the linktrace message
LtFlags	Displays the linktrace flags
Mep Linktrace Replies	
SequenceNum	Displays the sequence number returned by a previous transmit linktrace message, indicating which linktrace message response is returned
ReceiveOrder	Displays the order in which the linktrace initiator received the linktrace replies
Ttl	Displays the TTL field value for a returned linktrace reply
Forwarded	Indicates whether the linktrace message was forwarded by the responding MEP
LastEgressId	Displays the last egress identifier returned in the linktrace reply egress identifier TLV of the linktrace reply

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	The last egress identifier identifies the MEP linktrace initiator that initiated, or the linktrace responder that forwarded, the linktrace message for which this linktrace reply is the response. This is the same value as the egress identifier TLV of that linktrace message.
TerminalMep	Indicates whether the forwarded linktrace message reached a MEP enclosing its MA
NextEgressId	Displays the next egress identifier returned in the linktrace reply egress identifier TLV of the linktrace reply The next egress identifier identifies the linktrace responder that transmitted this linktrace reply and can forward the linktrace message to the next hop. This is the same value as the egress identifier TLV of the forwarded linktrace message, if any.
Relay	Displays the value returned in the Relay Action field
IngressMac	Displays the MAC address returned in the ingress MAC address field
Ingress Action	Displays the value returned in the Ingress Action field of the linktrace message
IngressPortIdSubType	Displays the format of the ingress port ID
IngressPortId	Displays the ingress port ID; the format is determined by the value of the IngressPortIdSubType
EgressMac	Displays the MAC address returned in the egress MAC address field
Egress Action	Displays the value returned in the Egress Action field of the linktrace message
EgressPortIdSubType	Displays the format of the egress port ID
EgressPortId	Displays the egress port ID; the format is determined by the value of the EgressPortIDSubType
Org Specific TLV	Displays all organization-specific TLVs returned in the linktrace reply, if any Includes all octets including and following the TLV length field of each TLV, concatenated
Mep Loopback Information	
LbRxReply	Displays the number of received loopback (LB) replies

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
LbRxBadOrder	Displays the number of received loopback messages that are in a bad order
LbRxBadMsdu	Displays the number of loopback replies that have been received with the wrong destination MAC address (MSDU = MAC Service Data Unit)
LbTxReply	Displays the number of loopback replies transmitted out this MEP
LbSequence	Displays the sequence number in the loopback message
LbNextSequence	Displays the next loopback sequence
LbStatus	True — Loopback is in progress False — No loopback is in progress
LbResultOk	Displays the result of the loopback test
DestIsMepId	Identifies whether the destination interface has a MEP-ID (true or false)
DestMepId	Displays the MEP-ID of the destination interface
DestMac	Displays the MAC address of the destination interface

Output example: two-way-slm-test information

```
*A:node-2# show eth-cfm mep 10 domain 1 association 1 two-way-slm-test
===============================================================================
Eth CFM Two-way SLM Test Result Table (Test-id: 2147483649)
===============================================================================
Peer Mac Addr      Remote MEP       Count     In Loss    Out Loss         Unack
-------------------------------------------------------------------------------
0c:54:b9:ac:0e:b7          11           1           0           0             0
===============================================================================
*A:dut-a#
```

```
*A:node-3# show eth-cfm mep 1 domain 4 association 4 two-way-delay-test remote-
peer 00:25:ba:00:5e:bf
===============================================================
Eth CFM Two-way Delay Test Result Table
===============================================================
Peer Mac Addr         Delay (us)          Delay Variation (us)
---------------------------------------------------------------
00:25:ba:00:5e:bf     507                 507
===============================================================

*A:dut-3# show eth-cfm mep 1 domain 4 association 4 two-way-delay-test
===============================================================
Eth CFM Two-way Delay Test Result Table
===============================================================
Peer Mac Addr         Delay (us)          Delay Variation (us)
---------------------------------------------------------------
00:25:ba:00:5e:bf     507                 507
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================

*A:node-2# show eth-cfm mep 2 domain 4 association 4  eth-test-results remote-
peer 00:25:ba:01:c3:6a
===============================================================
Eth CFM ETH-Test Result Table
===============================================================
                                Current        Accumulate
                  FrameCount    ErrBits        ErrBits
Peer Mac Addr     ByteCount     CrcErrs        CrcErrs
---------------------------------------------------------------
00:25:ba:01:c3:6a 6             0              0
                  384           0              0
===============================================================

*A:node-2# show eth-cfm mep 2 domain 4 association 4  eth-test-results
===============================================================
Eth CFM ETH-Test Result Table
===============================================================
                                Current        Accumulate
                  FrameCount    ErrBits        ErrBits
Peer Mac Addr     ByteCount     CrcErrs        CrcErrs
---------------------------------------------------------------
00:25:ba:01:c3:6a 6             0              0
                  384           0              0
===============================================================

*A:node-2# show eth-cfm mep 2 domain 4 association 4 one-way-delay-test remote-
peer 00:25:ba:01:c3:6a
===================================================================
Eth CFM One-way Delay Test Result Table
===================================================================
Peer Mac Addr         Delay (us)          Delay Variation (us)
-------------------------------------------------------------------
00:25:ba:01:c3:6a     402                 402
===================================================================

*A:node-2# show eth-cfm mep 2 domain 4 association 4 one-way-delay-test
===================================================================
Eth CFM One-way Delay Test Result Table
===================================================================
Peer Mac Addr         Delay (us)          Delay Variation (us)
-------------------------------------------------------------------
00:25:ba:01:c3:6a     402                 402
===================================================================
```

Table 349: Output fields: ETH-CFM MEP delay test

Label	Description
Peer Mac Addr	Displays the MAC address of the peer (remote) entity
Delay (us)	Displays the measured delay (in microseconds) for the DM test
Delay Variation (us)	Displays the measured delay variation (in microseconds) for the DV test

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mep

Syntax

mep *mep-id* **domain** *md-index* **association** *ma-index* **statistics**

Context

[Tree] (clear>eth-cfm mep)

Full Context

clear eth-cfm mep

Description

This command clears the MEP parameters.

Parameters

mep-id

Specifies the MEP ID.

Values 1 to 8191

md-index

Specifies the MD index.

Values 1 to 4294967295

ma-index

Specifies the MA index.

Values 1 to 4294967295

statistics

Clears the MEP statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.55 mesh-sdp

mesh-sdp

Syntax

mesh-sdp *sdp-id*[*:vc-id*] { **all** | **counters** | **stp** | **mrp**}

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>service>statistics>id mesh-sdp)

Full Context

clear service statistics id mesh-sdp

Description

This command clears the statistics for a particular mesh SDP bind.

Parameters

sdp-id

Specifies the SDP ID for which to display information

Default All SDPs.

Values 1 to 17407

vc-id

Displays information about the virtual circuit identifier.

Values 1 to 4294967295

all

Clears all queue statistics and STP statistics associated with the SDP

counters

Clears all queue statistics associated with the SDP

stp

Clears all STP statistics associated with the SDP

mrp

Clears all MRP statistics associated with the SDP

Platforms

All

mesh-sdp

Syntax

mesh-sdp *sdp-id*[:*vc-id*] **ingress-vc-label**

mesh-sdp *sdp-id*[:*vc-id*] **vccv-bfd** {**session** | **statistics**}

Context

[Tree] (clear>service>id mesh-sdp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear service id mesh-sdp

Description

This command clears and resets the mesh SDP binding.

Parameters

sdp-id

The spoke-SDP ID for which to clear statistics.

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID to be reset.

Values 1 to 4294967295

ingress-vc-label

Specifies to clear the ingress VC label.

vccv-bfd session

Specifies to clear the session mismatch flag on the mesh-SDP binding after the flag was set to true by a detected mismatch between the configured parameters and the received parameters.

vccv-bfd statistics

Specifies to clear a VCCV BFD session statistics for a specified mesh-SDP.

Platforms

All

15.56 mfib

mfib

Syntax

mfib [**ipv4** | **ipv6** | **mac**]

mfib brief

mfib group *group-address* [**statistics**]

mfib statistics [**ipv4** | **ipv6** | **mac**]

Context

[Tree] (show>service>id mfib)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id mfib

Description

This command displays the multicast FIB on the VPLS service.

Parameters

brief

Displays a brief output

statistics

Displays statistics on the multicast FIB

ipv4

Displays IPv4 address information

ipv6

Displays IPv6 address information

mac

Displays MAC address information

group-address

Displays the multicast FIB for a specific multicast group address

Platforms

All

Output

The following command displays multicast FIB information and Table 350: Output fields: multicast FIB describes the output fields.

```
show service id mfib
```

Output Example

```
===============================================================================
Multicast FIB, Service 1
===============================================================================
Source Address  Group Address         Port Id                     Svc Id   Fwd
                                                                         Blk
-------------------------------------------------------------------------------
10.0.0.2        233.252.0.1           sap:1/1/1                   Local    Fwd
                                      sap:1/1/2                   Local    Fwd
2001:db8:1000:* ff0e:db8:1000::1      sap:1/1/1                   Local    Fwd
                                      sap:1/1/2                   Local    Fwd
2001:db8:1001:* ff0e:db8:1001::1      sap:1/1/1                   Local    Fwd
                                      sap:1/1/2                   Local    Fwd
-------------------------------------------------------------------------------
Number of entries: 3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following command displays multicast FIB IPv4 information and Table 350: Output fields: multicast FIB describes the output fields.

```
show service id mfib ipv4
```

Output Example

```
===============================================================================
Multicast FIB, Service 1
===============================================================================
Source Address  Group Address         Port Id                     Svc Id   Fwd
                                                                         Blk
-------------------------------------------------------------------------------
10.0.0.2        233.252.0.1           sap:1/1/1                   Local    Fwd
                                      sap:1/1/2                   Local    Fwd
-------------------------------------------------------------------------------
Number of entries: 1
```

The following command displays multicast FIB IPv6 information and Table 350: Output fields: multicast FIB describes the output fields.

```
show service id mfib ipv6
```

Output Example

```
===============================================================================
Multicast FIB, Service 1
===============================================================================
Source Address
                Group Address
                                      Port Id                     Svc Id   Fwd
                                                                         Blk
-------------------------------------------------------------------------------
2001:db8:1000::1
                ff0e:db8:1000::1
                                      sap:1/1/1                   Local    Fwd
                                      sap:1/1/2                   Local    Fwd
2001:db8:1001::1
                ff0e:db8:1001::1
                                      sap:1/1/1                   Local    Fwd
                                      sap:1/1/2                   Local    Fwd
-------------------------------------------------------------------------------
Number of entries: 2
```

The following command displays multicast FIB statistics information and Table 350: Output fields: multicast FIB describes the output fields.

```
show service id mfib statistics
```

Output Example

```
===============================================================================
Multicast FIB Statistics, Service 10000
===============================================================================
Source Address  Group Address       Matched Pkts          Matched Octets
                                                          Forwarding Rate
-------------------------------------------------------------------------------
10.0.0.4        239.0.0.4           10914                 1069572
                                                          24.696 kbps
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*               * (mac)             0                    0
                                                         0.000 kbps
-------------------------------------------------------------------------------
Number of entries: 2
===============================================================================
```

The following command shows which ISIDs are local and Table 350: Output fields: multicast FIB describes the output fields. The **mfib** command option displays ISIDs that are local and advertised. Static ISIDs are included in this display. However, ISID policy can override the ISIDs that are designated to use the default multicast tree and these do not show up in the MFIB. This is displayed on a B-VPLS control service.

```
show service id mfib
```

Output Example

```
===============================================================================
Multicast FIB, Service 510
===============================================================================
Source Address  Group Address         Sap/Sdp Id               Svc Id   Fwd/Blk
-------------------------------------------------------------------------------
*               01:1E:83:00:01:F4     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:F5     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:F6     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:F7     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:F8     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:F9     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:FA     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:FB     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:FC     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:FD     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:FE     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:01:FF     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:02:00     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:02:01     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:02:02     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:02:03     b-sap:1/1/22:510         Local    Fwd
*               01:1E:83:00:02:04     b-sap:1/1/22:510         Local    Fwd
-------------------------------------------------------------------------------
Number of entries: 21
===============================================================================
```

The following command shows the ISID policy under a B-VPLS and Table 350: Output fields: multicast FIB describes the output fields.

```
show service id isid-policy
```

Output Example

```
=======================================================
Isid Policy Range
=======================================================
Entry     Range               AdvLocal  UseDefMCTree
-------------------------------------------------------
2         1500-1600           Disabled  Enabled
=======================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following command shows the MFIB for an EVPN-MPLS service and Table 350: Output fields: multicast FIB describes the output fields.

```
show service id mfib
```

Output Example

```
===============================================================================
Multicast FIB, Service 1
===============================================================================
Source Address  Group Address         Sap/Sdp Id                  Svc Id   Fwd
                                                                         Blk
-------------------------------------------------------------------------------
*               239.0.0.1             sap:1/1/9:1                 Local    Fwd
                                      eMpls:1.1.1.2:262141        Local    Fwd
                                      eMpls:1.1.1.3:262141        Local    Fwd
-------------------------------------------------------------------------------
Number of entries: 1
===============================================================================
*A:PE#
```

Table 350: Output fields: multicast FIB

Label	Description
Multicast FIB, Service	
Source Address	IPv4 unicast source address
Group Address	IPv4 multicast group address
SAP ID	Indicates the SAP/SDP to which the corresponding multicast stream are forwarded or blocked
Forwarding/Blocking	Indicates whether the corresponding multicast stream is blocked or forwarded
Number of Entries	Specifies the number of entries in the MFIB
Forwarded Packets	Indicates the number of multicast packets forwarded for the corresponding source/group
Forwarded Octets	Indicates the number of octets forwarded for the corresponding source/group
Svc ID	Indicates the service to which the corresponding multicast stream is forwarded or blocked. Local means that the multicast stream is forwarded or blocked to a SAP or SDP local to the service.
Multicast FIB Statistics, Service	
Matched Pkts	The number of matched packets
Matched Octets	The number of matched octets
Forwarding Rate	The forwarding rate

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Isid Policy Range	
Entry	ISID policy entry number
Range	ISID policy range
AdvLocal	The AdvLocal state
UseDefMCTree	The UseDefMCTree state

mfib

Syntax

mfib [**group-mac** *ieee-address*] [**isid** *isid*]

Context

[Tree] (show>service>id>spb mfib)

Full Context

show service id spb mfib

Description

This command displays multicast forwarding data-base (MFIB) information.

Parameters

ieee-address

Specifies a MAC address

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

isid

Specifies an I-SID

Values 0 to 16777215

Platforms

All

Output

The following output is an example of service SPB MFIB information.

Output Example

```
*A:Dut-A# show service id 100001 spb mfib
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
User service MFIB information
===============================================================================
MacAddr           ISID     Status
-------------------------------------------------------------------------------
01:1E:83:00:27:11 10001    Ok
-------------------------------------------------------------------------------
Entries found: 1
===============================================================================
```

mfib

Syntax

mfib

Context

[Tree] (clear>service>id mfib)

Full Context

clear service id mfib

Description

Commands in this context clear multicast FIB info for the VPLS service.

Platforms

All

15.57 mgmt-ethernet

mgmt-ethernet

Syntax

mgmt-ethernet

Context

[Tree] (show>redundancy mgmt-ethernet)

Full Context

show redundancy mgmt-ethernet

Description

This command displays the management Ethernet port redundancy status. The **show router "management" interface** command can also display the CPM Ethernet port used by the management

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

interface. If the port of the primary CPM is active, it shows "A/1” under the Port/SapId field. If the port of the secondary CPM is active, it shows "B/1 -> A/1” in the Port/SapId field.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

Output

The following output is an example of management Ethernet port redundancy information, and Table 351: Output fields: redundancy management Ethernet describes the output fields.

Output example

```
show redundancy mgmt-ethernet
===============================================================================
Management Ethernet Redundancy
===============================================================================
Admin Status  : Enabled
Oper Status   : Management port operating on active CPM
Revert Time   : 5 seconds
===============================================================================
```

Table 351: Output fields: redundancy management Ethernet

Label	Description
Admin Status	Enabled — Administrative status is enabled Disabled — Administrative status is disabled
Oper Status	Up — The interface is operationally enabled Down — The interface is operationally shutdown
Revert Time	The wait duration (in seconds) before reverting to the management Ethernet port of the primary CPM

Output example - show router "management” interface

The following output is an example of CPM’s Ethernet port information, and Table 352: Output fields: router "management” interface describes the output fields. When the primary CPM Ethernet port is active, the output displays the Port/SapId information as "A1". When the port of the secondary CPM is active, the output displays the Port/SapId information as "B/1 -> A/1".

```
show router "management" interface
===============================================================================
Interface Table (Router: management)
===============================================================================
Interface-Name                   Adm         Opr(v4/v6)  Mode    Port/SapId
   IP-Address                                                    PfxState
-------------------------------------------------------------------------------
management                       Up          Up/Up       Network B/1 -> A/1
   192.168.186.219/24                                            n/a
   2001:db8::8a78:badb/96                                        PREFERRED
   fe80::221:5ff:fece:df49/64                                    PREFERRED
-------------------------------------------------------------------------------
Interfaces : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Table 352: Output fields: router "management" interface

Label	Description
Interface-Name	The interface name
Adm	Up — The interface is administratively enabled Down — The interface is administratively shutdown
Opr (v4/v6)	Up — The interface is operationally enabled Down — The interface is operationally shutdown
Mode	Network — the IP interface is a network/core IP interface Service — the IP interface is a service IP interface
Port/SapId	The physical network port or the SAP identifier associated with the interface
IP-Address	The IP address of the interface
PfxState	The prefix state associated with the interface

Output example - show port "A1"

The following output is an example of CPM Ethernet port information when management Ethernet port redundancy is active, and Table 353: Output fields: port "A1" describes the output fields.

```
show port A/1

===============================================================================
Ethernet Interface
===============================================================================
Description        : 10/100/Gig Ethernet TX
Interface          : A/1 -> B/1                Oper Speed       : A/1 -> B/1
Link-level         : Ethernet                  Config Speed     : 1 Gbps
Admin State        : up                        Oper Duplex      : A/1 -> B/1
Oper State         : A/1 -> B/1
Config Duplex      : full
Physical Link      : A/1 -> B/1                MTU              : 1514
…
```

Table 353: Output fields: port "A1"

Label	Description
Description	A text description for the entity
Interface	Displays the physical port ID in the form *slot*/*mda*/*port* for all ports except QSFP28 and QSFP-DD ports, or *slot*/*mda*/**c***connector*/*port* for QSFP28 and QSFP-DD ports Displays the status of the Ethernet link behavior if management port redundancy is enabled (for example, `A/1 -> B/1`)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Link-level	Ethernet — The port is configured as Ethernet
Oper Duplex	full — The link is set to full duplex mode half — The link is set to half duplex mode Displays the status of the Ethernet link behavior if management port redundancy is enabled (for example, `A/1 -> B/1`)
Admin State	Up — The entity is administratively up Down — The entity is administratively down
Oper Speed	The operating speed of the interface Displays the status of the Ethernet link behavior if management port redundancy is enabled (for example, `A/1 -> B/1`)
Oper State	up — The entity is operationally up down — The entity is operationally down Additionally, the *lag-id* of the LAG it belongs to in addition to the status of the LAG member (active or standby) is specified Displays the status of the Ethernet link behavior if management port redundancy is enabled (for example, `A/1 -> B/1`)
Config Duplex	Full — The link is set to full duplex mode Half — The link is set to half duplex mode
Physical Link	Yes — A physical link is present No — A physical link is not present Displays the status of the Ethernet link behavior if management port redundancy is enabled (for example, `A/1 -> B/1`)
MTU	Displays the size of the largest packet which can be sent/received on the Ethernet physical interface, specified in octets

mgmt-ethernet

Syntax

mgmt-ethernet

Context

[Tree] (tools>perform>redundancy mgmt-ethernet)

Full Context

tools perform redundancy mgmt-ethernet

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command triggers the redundancy mode, which causes the router to act as if the management Ethernet port of the primary CPM has gone down. The router reverts if the management Ethernet port of the primary CPM has been up for the revert duration.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

15.58 mgw-address-cache

mgw-address-cache

Syntax

mgw-address-cache

Context

[Tree] (clear>router>gtp>uplink mgw-address-cache)

Full Context

clear router gtp uplink mgw-address-cache

Description

This command clears the DNS resolution cache for all APNs known in this router. After execution, every APN to address mapping is learned again using DNS.

Platforms

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

mgw-address-cache

Syntax

mgw-address-cache

Context

[Tree] (clear>router>wlan-gw mgw-address-cache)

Full Context

clear router wlan-gw mgw-address-cache

Description

This command clears the mobile gateway's DNS lookup address cache.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

mgw-address-cache

Syntax

mgw-address-cache [**arec**] [**snaptr**] [**srv**]

mgw-address-cache apn *apn-domain-string*

Context

[Tree] (show>router>gtp>uplink mgw-address-cache)

Full Context

show router gtp uplink mgw-address-cache

Description

This command displays the DNS lookup address cache of the mobile gateway.

Parameters

apn-domain-string

Specifies the Access Point Name (APN) of this DNS cache entry, up to 108 characters.

arec

Displays A-records.

snaptr

Displays Straightforward-NAPTR information.

srv

Displays SRV records.

Platforms

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

15.59 micro-segment-local-sid

micro-segment-local-sid

Syntax

micro-segment-local-sid [*ipv6-prefix*[/*prefix-length*]] [**longer**] [**micro-segment-locator** *ms-locator-name*] [**context** *context*] [**ua**] [**udt4**] [**udt6**] [**udt46**] [**udx2**] [**udt2u**] [**udt2m**] [**un**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>srv6 micro-segment-local-sid)

Full Context

show router segment-routing-v6 micro-segment-local-sid

Description

This command displays SRv6 locally-configured micro-SID information.

Parameters

ipv6-prefix[/prefix-length]

Displays routes only matching the specified IP address and length.

Values *ipv6-prefix*[/*prefix*]: x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D
prefix-length: 1 to 128

longer

Displays the specified route and subsets of the route.

ms-locator-name

Specifies the micro-segment locator name, up to 64 characters.

context

Specifies the context for which to display micro-segment local micro-SID information.

Values *vprn-svc-name*, *vprn-svc-id*, 'Base'

ua

Displays the uA SID associated with a P2P interface.

udt4

Displays the uDT4 function associated with the specified context.

udt6

Displays the uDT6 function associated with the specified context.

udt46

Displays the uDT46 function associated with the specified context.

udx2

Displays the uDX2 function associated with the SRv6 instance in the service.

udt2u

Displays the uDT2U function associated with the SRv6 instance in the service.

udt2m

Displays the uDT2M function associated with the SRv6 instance in the service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

un

Displays the uN SID function of a locator.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

15.60 micro-segment-locator

micro-segment-locator

Syntax

micro-segment-locator [**mt** {**0** | **2**}] [**prefix** *ipv6-prefix*[/*prefix-length*]] [**adv-router** *system-id* | *hostname*] [**algo** *algo-id*]

Context

[Tree] (show>router>isis>srv6 micro-segment-locator)

Full Context

show router isis segment-routing-v6 micro-segment-locator

Description

This command displays the IS-IS SRv6 micro-segment locators.

Parameters

ipv6-prefix[/prefix-length]

Displays routes only matching the specified *ip-address* and length.

Values *ipv6-prefix*[/*prefix*]: x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D
prefix-length: 1 to 128

system-id* | *hostname

Displays information for the specific IS-IS advertising router. The host name can be up to 38 characters.

algo-id

Displays information for the specified algorithm.

Values 0 to 255

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

Output

Table 354: Output fields: micro-segment locator describes the micro-segment locator output fields.

Use the following command to display micro-segment locator information.

```
show router isis segment-routing-v6 micro-segment-locator
```

Output Example

```
===============================================================================
Rtr Base ISIS Instance 0 SRv6 Micro Segment Locator Table
===============================================================================
Prefix                            AdvRtr                         MT     Lvl/Typ
 AttributeFlags                    Tag                            Flags  Algo
-------------------------------------------------------------------------------
300::/96                          Dut-C                          2      1/Int.
  -                                 0                              -      0
-------------------------------------------------------------------------------
No. of Micro Segment Locators: 1
-------------------------------------------------------------------------------
AttributeFlags: X    = External Prefix
                R    = Re-advertisement
                N    = Node
                E    = ELC
                A    = Anycast
Flags:          D    = Down
===============================================================================
```

Table 354: Output fields: micro-segment locator

Label	Description
Prefix	Displays the prefix
AdvRtr	Displays the advanced router information
MT	Displays the MT information
Lvl/Typ	Displays the level or type information
AttributeFlags	Displays the attribute flag information
Tag	Displays the tag information
Flag	Displays the flag information
Algo	Displays the algorithm information
No. of Micro Segment Locators	Displays the number of micro-segment locators

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.61 migration

migration

Syntax

migration [**interface** *ip-int-name*]

Context

[Tree] (tools>dump>router>ipoe-session migration)

Full Context

tools dump router ipoe-session migration

Description

This command displays details on the IPoE session migration progress. It shows per group interface the number of hosts per type (DHCPv4, DHCPv6 and SLAAC) that are associated with an IPoE session or that are not associated with an IPoE session.

Platforms

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

Output

The following output is an example of IPoE session migration information.

Output Example

```
# tools dump router ipoe-session migration interface group-int-1-1
===============================================================================
 Type                Total     IPoE session     Non IPoE session
===============================================================================
 Group-interface: group-int-1-1 (IPoE session enabled)
-------------------------------------------------------------------------------
 DHCPv4              2         1                1
 DHCPv6              3         2                1
 SLAAC               0         0                0
-------------------------------------------------------------------------------
 IPoE sessions       1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.62 mip

mip

Syntax

mip

Context

[Tree] (show>eth-cfm mip)

Full Context

show eth-cfm mip

Description

This command displays provisioned entities that allow MIP creation.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of ETH-CFM MIP information. The following table describes the output fields.

Output Example

```
show eth-cfm mip
===============================================================================
CFM SAP MIP Table
===============================================================================
Sap                 Qtag1 Qtag2 PVLAN Enabled           MAC Address
-------------------------------------------------------------------------------
1/1/9:500.500       500   500   n/a   yes               00:00:00:00:01:28
1/1/9:501.501       n/a   n/a   n/a   yes               Not Configured
1/1/9:502.502       n/a   n/a   n/a   yes               Not Configured
1/1/9:100.*         n/a   n/a   n/a   yes               00:00:00:00:01:28
1/1/9:100.*         n/a   n/a   7     yes               Not Configured
1/1/9:600.*         n/a   n/a   n/a   yes               Not Configured
1/1/9:600.*         600   n/a   1     yes               Not Configured
1/1/9:601.*         n/a   n/a   1     yes               Not Configured
1/1/9:601.*         n/a   n/a   2     yes               Not Configured
1/1/9:703.*         n/a   n/a   777   yes               Not Configured
===============================================================================
===============================================================================
CFM SDP MIP Table
===============================================================================
Sdp                 Qtag1 Qtag2 PVLAN Enabled           MAC Address
-------------------------------------------------------------------------------
2829:4000           n/a   n/a   4000  yes               Not Configured
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 355: Output fields: ETH-CFM MIP

Label	Description
Sap	The service SAP ID
qtag1	The outer CFM VLAN tag
qtag2	The inner CFM VLAN tag
PVLAN	The configured primary VLAN
Enabled	The state of the MIP
Mac Address	The configured MAC address of the MIP
Sdp	The service SDP ID
SvcId	The service ID
Type	The SDP type
Far End	The IP address of the far-end peer for the SDP

15.63 mip-instantiation

mip-instantiation

Syntax

mip-instantiation [**level** *level*] [{**sap** *sap-id* | **sdp** *sdp-id*}]

Context

[Tree] (show>eth-cfm mip-instantiation)

Full Context

show eth-cfm mip-instantiation

Description

This command displays the active MIPs created on the node, their related object values, and the SAP or SDP binding. The attributes include a column that indicates which MIP table was responsible and authoritative for the specific active attribute. Authorities can be the association (asn), default-domain (def), or the global read-only values (sys).

Parameters

level

The level for which all created MIPs will be displayed

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0 to 7

sap-id

The SAP for which created MIPs will be displayed

sdp-id

The SDP binding for which created MIPs will be displayed

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of ETH CFM MIP instantiation information.

Table 356: Output fields: ETH-CFM MIP instantiation describes the show MIP instantiation command output fields.

Output Example

```
show eth-cfm mip-instantiation
===============================================================================
CFM SAP MIP Instantiation Information
===============================================================================
SAP                       Lvl  LA   Creation    CA   IdPerm     IdA  Pri  PA
-------------------------------------------------------------------------------
1/2/1:2000.2000           4    asn  default     asn  chassis    asn  7    asn
1/2/1:3000.3000           4    def  default     def  none       sys  7    sys
-------------------------------------------------------------------------------
No. of SAP MIPs: 2
===============================================================================

===============================================================================
CFM SAP Primary VLAN MIP Instantiation Information
===============================================================================
SAP                  VLAN  Lvl  LA   Creation    CA   IdPerm     IdA  Pri  PA
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
CFM SDP MIP Instantiation Information
===============================================================================
SDP                       Lvl  LA   Creation    CA   IdPerm     IdA  Pri  PA
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```

Table 356: Output fields: ETH-CFM MIP instantiation

Label	Description
VLAN	Displays the primary *vlan-id* associated with the MIP, or "none" if primary-vlan-enable is not configured
L	Displays the numerical value indicating the CFM level of the MIP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
LA	Displays the level authority indicating the creation routine responsible for the level
Creation	Displays the MHF creation mode that was used to create the MIP
CA	Displays the creation authority
IdPerm	Indicates whether the SenderID TLV is being included (chassis) or not (none)
IdA	Displays the IdPermission authority
Pri	Displays the numerical value that indicates the **mip-ltr-priority**
PA	Displays the **mip-ltr-priority** authority

15.64 mirror

mirror

Syntax

mirror mirror-dest *service-id*

mirror global-sampling-rate

mirror mirror-source *service-id*

Context

[Tree] (show mirror)

Full Context

show mirror

Description

This command displays mirror configuration and operation information.

Parameters

service-id

Specify the mirror service ID.

Values 1 to 2148278385

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

global-sampling-rate

Displays the global sampling rate as well as all mirror destination services that use the global sampling rate.

Platforms

All

Output

The following output is an example of mirror destination information.

Output Example

```
A:SR7# show mirror mirror-dest 1000
===============================================================================
Mirror Service
===============================================================================
Service Id       : 1000                Type          : Ether
Admin State      : Up                  Oper State    : Down
Forwarding Class : be                  Remote Sources: No
Slice            : 0
Destination SAP  : 1/1/1               Egr QoS Policy: 1
-------------------------------------------------------------------------------
Local Sources
-------------------------------------------------------------------------------
Admin State      : Up
 - Port            1/1/2                          Egress Ingress
===============================================================================
A:SR7#


A:ALA-123>config>mirror# show mirror mirror-dest 500
===============================================================================
Mirror Service
===============================================================================
Service Id       : 500                 Type          : Ether
Admin State      : Up                  Oper State    : Up
Forwarding Class : be                  Remote Sources: Yes
Destination SAP  : 1/1/2               Egr QoS Policy: 1
-------------------------------------------------------------------------------
Remote Sources
-------------------------------------------------------------------------------
Far End          : 10.20.1.45          Ingress Label : 131070
-------------------------------------------------------------------------------
Local Sources
-------------------------------------------------------------------------------
Admin State      : Up
No Mirror Sources configured
===============================================================================
A:ALA-123>config>mirror#


A:ALA-456# show mirror mirror-dest 500
===============================================================================
Mirror Service
===============================================================================
Service Id       : 500                 Type          : Ether
Admin State      : Up                  Oper State    : Up
Forwarding Class : be                  Remote Sources: No
Destination SDP  : 144 (10.20.1.44)    Egress Label  : 131070
Signaling:       : TLDP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Local Sources
-------------------------------------------------------------------------------
Admin State      : Up
No Mirror Sources configured
===============================================================================
A:ALA-456#


A:NS042650115# show mirror mirror-dest 100
===============================================================================
Mirror Service
===============================================================================
Service Id       : 100                 Type          : PPP
Admin State      : Up                  Oper State    : Up
Forwarding Class : be                  Remote Sources: No
Slice            : 0Enable Port Id: Yes
Destination SDP  : 100 (2.2.2.2) Egress Label  : 131070
Signaling:       : TLDP
-------------------------------------------------------------------------------
Local Sources
-------------------------------------------------------------------------------
Admin State      : Up
No Mirror Sources configured
===============================================================================
A:NS042650115#


*A:EsrC# show mirror mirror-dest 100
===============================================================================
Mirror Service
===============================================================================
Service Id       : 100                 Type          : Ether
Description      : Added by createMirrorDestination 100
Admin State      : Up                  Oper State    : Up
Forwarding Class : be                  Remote Sources: No
Slice            : 0
Destination SAP  : 1/1/5:100           Egr QoS Policy: 1
-------------------------------------------------------------------------------
Local Sources
-------------------------------------------------------------------------------
Admin State      : Up
-Subs  user1                                                          Ing
-Subs  user2                                                  Egr
                                             FC  be h2 h1 nc
-Subs  user3                                                  Egr Ing
-Subs  user4                           1/1/2:1                    Ing
                                             FC  af ef nc
-Subs  user5                           1/1/2:1                Egr
-Subs  user6                           1/1/2:1                Egr Ing
                                             FC  be l2 af h2 ef nc
-Subs  user7                           1/1/2:1                    Ing
          IP 1.1.0.7                         FC  l1 h2
-Subs  user8                           1/1/2:1                Egr
          IP 1.1.0.8                         FC  af l1 h2 ef nc
-Subs  user9                           1/1/2:1                Egr Ing
          IP 1.1.0.9
-Subs  user10                          1/1/2:1                    Ing
                          MAC 00:00:01:00:00:01 FC  be l2 l1 h1 nc
-Subs  user11                          1/1/2:1                Egr
                          MAC 00:00:01:00:00:02 FC  be l1 h2 ef h1
-Subs  user12                          1/1/2:1                Egr Ing
                          MAC 00:00:01:00:00:03 FC  be ef
-Subs  user13                          1/1/2:1                    Ing
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
          IP 1.1.0.13        MAC 00:00:01:00:00:01 FC  be ef h1
-Subs  user14                          1/1/2:1                         Egr
          IP 1.1.0.14        MAC 00:00:01:00:00:02
-Subs  user15                          1/1/2:1                         Egr Ing
          IP 1.1.0.15        MAC 00:00:01:00:00:03 FC  af l1 ef nc
-Subs  user16                          SLA sla1                            Ing
-Subs  user17                          SLA sla2                        Egr
-Subs  user18                          SLA sla3                        Egr Ing
                                                FC  be af h2
===============================================================================
A:EsrC#
```

Table 357: Output fields: mirror lists and describes the mirroring output fields:

Table 357: Output fields: mirror

Label	Description
Service Id	The service ID associated with this mirror destination.
Type	Entries in this table have an implied storage type of "volatile”. The configured mirror source information is not persistent.
Admin State	Up — The mirror destination is administratively enabled.
	Down — The mirror destination is administratively disabled.
Oper State	Up — The mirror destination is operationally enabled.
	Down — The mirror destination is operationally disabled.
Forwarding Class	The forwarding class for all packets transmitted to the mirror destination.
Remote Sources	Yes — A remote source is configured.
	No — A remote source is not configured.
Enable Port Id	Yes — PPP Port ID Mirroring is enabled.
	No — PPP Port ID Mirroring is disabled.
Slice	The value of the slice-size, the maximum portion of the mirrored frame that will be transmitted to the mirror destination. Any frame larger than the slice-size will be truncated to this value before transmission to the mirror destination. A value of 0 indicates that mirrored packet truncation based on slice size is disabled.
Destination SAP	The ID of the access port where the Service Access Point (SAP) associated with this mirror destination service is defined.
Egr QoS Policy	This value indicates the egress QoS policy ID. A value of 0 indicates that no QoS policy is specified.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following output is an example of global-sampling-rate information, and Table 358: Output fields: mirror global sampling rate describes the output fields.

```
show mirror global-sampling-rate
```

Output Example

```
===============================================================================
Global Sampling Rate : 10

===============================================================================
Mirror Dest Services using global sampling rate
===============================================================================
Id              Name
-------------------------------------------------------------------------------
6               example
===============================================================================
```

Table 358: Output fields: mirror global sampling rate

Label	Description
Global Sampling Rate	Specifies the configured global sampling rate
Id	Specifies the mirror destination services that use the global sampling rate by ID
Name	Specifies the mirror destination services that use the global sampling rate by name

15.65 mirror-dest

mirror-dest

Syntax

mirror-dest [*service-id*]

Context

[Tree] (show>li mirror-dest)

Full Context

show li mirror-dest

Description

This command displays LI mirror destination information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

service-id

Identifies the service in the service domain. This ID is unique to this service and cannot be used by any other service, regardless of service type. The same service ID must be configured on every router that this particular service is defined on.

Values

service-id: 1 to 2148278381

svc-name: 64 characters maximum

Platforms

All

Output

Output Example

```
A:BNG-1# show li mirror-dest
===============================================================================
Mirror Services
===============================================================================
Id          Type   Adm    Opr    Destination                  SDP Lbl/   Slice
                                                             SAP QoS
-------------------------------------------------------------------------------
995         Ether  Up     Up     SAP 1/1/20:998               1          0
996         Ether  Up     Up     SDP 10 (192.168.40.1)        999        0
997         ipOnly Up     Up     None                         n/a        0
[998]       Ether  Up     Up     ip-udp-shim (147.133.122.111) n/a        0
[999]       Ether  Up     Up     ip-gre (10.1.1.1)            n/a        0
-------------------------------------------------------------------------------
RADIUS LI mirror dest: indicated by [<svc-id>]
```

mirror-dest

Syntax

mirror-dest [*service-id*]

Context

[Tree] (clear>li>radius mirror-dest)

Full Context

clear li radius mirror-dest

Description

This command deletes the mirror destination created by RADIUS.

LI configuration changes, such as updating or replacing a mirror-destination template, may prevent the RADIUS VSA "Alc-li-action" from deleting a mirror destination. To remove the mirror destination from RADIUS, the parameters for the mirror destination (a combination of the RADIUS LI VSAs and the mirror

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

destination template) must match the parameters used during the mirror destination creation. This CLI command removes LI destinations in these cases.

Parameters

service-id

Specifies the mirror destination service that was created through RADIUS, which can be displayed with the **show li mirror-dest** command.

Values 1 to 2148278385

Platforms

All

15.66 mka-session

mka-session

Syntax

mka-session [**port** *port-id*]

mka-session [**port** *port-id*] **detail**

mka-session [**port** *port-id*] **statistics**

Context

[Tree] (show>macsec mka-session)

Full Context

show macsec mka-session

Description

This command displays MACsec MKA session information.

Parameters

port-id

Specifies the port ID, up to 17characters.

detail

Displays MACsec MKA session detailed information.

statistics

Displays MACsec MKA session statistical information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

See the following output examples:

- Output Example: show macsec mka-session port
- Output Fields: show macsec mka-session port
- Output Example: show macsec mka-session port detail
- Output Fields: show macsec mka-session port detail
- Output Example: show macsec mka-session detail
- Output Example: show macsec mka-session statistics

Output Example: show macsec mka-session port

```
A:Dut-C# show macsec mka-session port 2/1/11
===============================================================================
MKA Session for port 2/1/11
===============================================================================
Port               : 2/1/11
Security Zone      : 3
===============================================================================
===============================================================================
Live Peer List
===============================================================================
Member Identifier             Mesg Num  Rx-SCI                      KS priority
-------------------------------------------------------------------------------
bf4102704294fa1057022bdf      28322     a47b2ce112ef0000            16
===============================================================================
===============================================================================
Potential Peer List
===============================================================================
Member Identifier             Mesg Num  Rx-SCI                      KS priority
-------------------------------------------------------------------------------
===============================================================================
```

Output Fields: show macsec mka-session port

Table 359: Output fields: MACsec MKA session port describes the output fields for the following **show macsec mka-session port** command.

Table 359: Output fields: MACsec MKA session port

Label	Description
MKA Session for port	Display the MKA session for the current port
Port	Specifies the MKA session current port.
Security Zone	Specifies Security Zone does this port belongs to.
Live Peer List	Specifies Peers (Participants) which have provided their MI and MN via KMA. The peer entry is in the Live Peer List.
Member Identifier	Specifies the MI of the peer entry.
Mesg Num	Specifies the latest Member Number of the peer entry.
Rx-SCI	Specifies the Peer Rx-SCI.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
KS-priority	Specifies the Peer Key server priority.
Potential Peer List	Peers (Participants) which have Potential Peers List includes all the other peers that have transmitted an MKPDU that has been directly received by the participant or that were included in the Live Peers List of a MKPDU transmitted by a peer that has proved liveness, an MKA PDU. The peer entry is in the Potential Peer List.

Output Example: show macsec mka-session port detail

```
A:Dut-C# show macsec mka-session port 2/1/11 detail
===============================================================================
MKA Session for port 2/1/11
===============================================================================
Port               : 2/1/11
Security Zone      : 3
MKA Oper State     : unknown value
Oper Cipher Suite  : unknown value
Oper Encrypt Offset: 0
CAK Type           : keychain
CAK Name           : 11223344556677889900aabbccddeeff11223344556677889900aabbc*
MKA Member ID      : f134218784b114eb61dbe834
Transmit Interval  : 2000
Outbound SCI       : a4:7b:2c:e1:12:8f
Message Number     : 28298
Key Number         : 878
Key Server         : yes
Key Server Priority: 16
Latest SAK AN      : 3
Latest SAK KI      : f134218784b114eb61dbe8340000036d
Previous SAK AN    : 2
Previous SAK KI    : f134218784b114eb61dbe83400000000
===============================================================================
* indicates that the corresponding row element may have been truncated.
===============================================================================
Live Peer List
===============================================================================
Member Identifier            Mesg Num  Rx-SCI                     KS priority
-------------------------------------------------------------------------------
bf4102704294fa1057022bdf      28323     a47b2ce112ef0000           16
===============================================================================
===============================================================================
Potential Peer List
===============================================================================
Member Identifier            Mesg Num  Rx-SCI                     KS priority
-------------------------------------------------------------------------------
===============================================================================
===============================================================================
MKA Session Statistics for port 2/1/11
===============================================================================
Peer Removed Due to Timeout  : 0
CKN Not Found                : 0
New Live peer                : 0
SAK Generated by Server      : 0
SAK Installed for TX         : 0
SAK Installed for RX         : 0
PDU Too Small                : 0
PDU Too Big                  : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PDU Not Quad Size            : 0
PDU Message Number Invalid   : 0
PDU Param Set Size Invalid   : 0
PDU Liveness Check Fail      : 0
Param Set Not Quad Size      : 0
Unsupported Agility          : 0
Invalid CAK Name Length      : 0
ICV Check Failed             : 0
Peer Using Same MID          : 0
SAK From Non-Live Peer       : 0
SAK From Non-Key Server      : 0
SAK Decrypt Fail             : 0
SAK Encrypt Fail             : 0
Key Number Invalid           : 0
SAK Installation Failed      : 0
CAK Info Missing             : 0
Max Peers Set as Zero        : 0
===============================================================================
```

Output Fields: show macsec mka-session port detail

Table 360: Output fields: MACsec MKA session port detail describes the output fields for the following commands:

- **show macsec mka-session port**
- **show macsec mka-session detail**
- **show macsec mka-session statistics**

Table 360: Output fields: MACsec MKA session port detail

Label	Description
MKA Oper State	Specifies the operational state of the MKA participant on this port. The operational MKA state will be up if MKA hellos are received on this port and have a valid session.
Oper Cipher Suite	Specifies the operational encryption algorithm used for data path PDUs when all parties in the CA have the (SAK). This value is specified by the key server:gcm-aes-128, gcm-aes-256, gcm-aes-xpn-128, gcm-aes-xpn-256.
Oper Encrypt Offset	Specifies the operational encryption offset used for the data path PDUs when all parties in the CA have the SAK. This value is specified by the key server: 0, 30, 50.
CAK Type	Specifies the type of the CAK in use by this MKA.
CAK Name	Specifies the name of the CAK in use by this MKA which is used to find the correct CAK.
MKA Member ID	Specifies indicates the Member Identifier (MI) for the MKA instance.
Transmit Interval	Specifies the time interval (in ms) at which the MKA broadcasts its liveliness to its peers and is non-configurable.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Outbound SCI	Specifies the Secure Channel Identifier (SCI) information for transmitting MACsec frames and consists of the outgoing port MAC Address and a port identifier.
Message Number	Specifies the current count of MKA messages that is attached to MKA PDUs.
Key Number	Specifies the number of the currently assigned CAK. When a new CAK is generated, this number is incremented. A SAK is identified by 128-bit Key Identifier (KI) and 32-bit Key-Number (KN).
Key Server	Specifies whether this server is the highest priority server in the peer group: no, yes.
Key Server Priority	Specifies the priority of the active key server: 0-255 (default 16).
Latest SAK AN	Specifies the Association Number (AN) of the latest Secure Association Key (SAK). This number is concatenated with an SCI to identify a Secure Association (SA). In SR OS, only 2 SAKs are supported.
Latest SAK KI	Specifies the Key Identifier (KI) of the latest SAK. This number is derived from the MI of the key server and the key number.
Previous SAK AN	Specifies the AN of the previous SAK. This number is concatenated with an SCI to identify an SA.
Previous SAK KI	Specifies the KI of the previous SAK. This number is derived from the MI of the key server and the key number.
Peer Removed Due to Timeout	Specifies the number of peers removed from the live/potential peer list due to not receiving an MKPDU within the MKA Live Time (6.0 seconds) and is not configurable.
CKN Not Found	Specifies the number of MKPDUs received with a CKN that does not match the CA configured for the port.
New Live Peer	Specifies the number of validated peers that have been added to the live peer list.
SAK Generated by Server	Specifies the number of SAKs generated by this MKA instance.
SAK Installed for TX	Specifies the number of SAKs installed for transmitting.
SAK Installed for RX	Specifies the number of SAKs installed for receiving.
PDU Too small	Indicates that the number of MKPDUs received that are less than 32 octets.
PDU Too big	Indicates the number of MKPDUs received where the EAPOL header indicates a size larger than the received packet.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
PDU Not Quad Size	Indicates the number of MKPDUs received with a size that is not a multiple of 4 octets long.
PDU Message Number Invalid	Indicates the number of MKPDUs received out of order as indicated by the Message Number.
PDU Param Set Size Invalid	Indicates the number of MKPDUs received which contain a parameter set body length that exceeds the remaining length of the MKPDU.
PDU Liveness Check Fail	Indicates the number of MKPDUs received which contain an MN that is not acceptably recent.
Param Set Not Quad Size	Indicates the number of MKPDUs received which contain a parameter set that is not a multiple of 4 octets long.
Unsupported Agility	Indicates the number of MKPDUs received which contain an unsupported Algorithm Agility value.
Invalid CAK Name Length	Indicates the number of MKPDUs received which contain a CAK name that exceeds the maximum CAK name length.
ICV Check Failed	Indicates the number of MKPDUs received which contain an ICV value that does not authenticate.
Peer Using Same MID	Indicates the number of MKPDUs received which contain a peer list with an MI entry which conflicts with the local MI.
SAK From Non-Live Peer	Indicates the number of SAKs received from peer that is not a member of the Live Peers List.
SAK From Non-Key Server	Indicates the number of SAKs received from an MKA participant that has not been designated as the Key Server. Only the key server should distribute SAK.
SAK Decrypt Fail	Indicates the number of AES Key Wrap SAK decryption failures that have occurred.
SAK Encrypt Fail	Indicates the number of AES Key Wrap SAK encryption failures that have occurred.
Key Number Invalid	Indicates the number of SAKs received with an invalid Key Number.
SAK Installation Failed	Indicates the number of Secy SAK installation failures that have occurred.
CAK Info Missing	Indicates the number of times internal CAK data is not available for the generation of the SAK.
Max Peers Set as Zero	Indicates the number of Secy SAK installations that have failed due to the max peer entry being set to 0.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example: show macsec mka-session detail

```
A:Dut-C# show macsec mka-session detail
===============================================================================
MKA Session for port 2/1/11
===============================================================================
Port               : 2/1/11
Security Zone      : 3
MKA Oper State     : unknown value
Oper Cipher Suite  : unknown value
Oper Encrypt Offset: 0
CAK Name           : 11223344556677889900aabbccddeeff11223344556677889900aabbc*
MKA Member ID      : f134218784b114eb61dbe834
Transmit Interval  : 2000
Outbound SCI       : a4:7b:2c:e1:12:8f
Message Number     : 28285
Key Number         : 878
Key Server         : yes
Key Server Priority: 16
Latest SAK AN      : 3
Latest SAK KI      : f134218784b114eb61dbe8340000036d
Previous SAK AN    : 2
Previous SAK KI    : f134218784b114eb61dbe83400000000
===============================================================================
* indicates that the corresponding row element may have been truncated.
===============================================================================
Live Peer List
===============================================================================
Member Identifier             Mesg Num  Rx-SCI                      KS priority
-------------------------------------------------------------------------------
bf4102704294fa1057022bdf      28310     a47b2ce112ef0000            16
===============================================================================
===============================================================================
Potential Peer List
===============================================================================
Member Identifier             Mesg Num  Rx-SCI                      KS priority
-------------------------------------------------------------------------------
===============================================================================
===============================================================================
MKA Session Statistics for port 2/1/11
===============================================================================
Peer Removed Due to Timeout  : 0
CKN Not Found                : 0
New Live peer                : 0
SAK Generated by Server      : 0
SAK Installed for TX         : 0
SAK Installed for RX         : 0
PDU Too Small                : 0
PDU Too Big                  : 0
PDU Not Quad Size            : 0
PDU Message Number Invalid   : 0
PDU Param Set Size Invalid   : 0
PDU Liveness Check Fail      : 0
Param Set Not Quad Size      : 0
Unsupported Agility          : 0
Invalid CAK Name Length      : 0
ICV Check Failed             : 0
Peer Using Same MID          : 0
SAK From Non-Live Peer       : 0
SAK From Non-Key Server      : 0
SAK Decrypt Fail             : 0
SAK Encrypt Fail             : 0
Key Number Invalid           : 0
SAK Installation Failed      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
CAK Info Missing             : 0
Max Peers Set as Zero        : 0

===============================================================================
```

Output Example: show macsec mka-session statistics

```
A:Dut-C# show macsec mka-session statistics
===============================================================================
MKA Session Statistics for port 2/1/11
===============================================================================
Peer Removed Due to Timeout  : 0
CKN Not Found                : 0
New Live peer                : 0
SAK Generated by Server      : 0
SAK Installed for TX         : 0
SAK Installed for RX         : 0
PDU Too Small                : 0
PDU Too Big                  : 0
PDU Not Quad Size            : 0
PDU Message Number Invalid   : 0
PDU Param Set Size Invalid   : 0
PDU Liveness Check Fail      : 0
Param Set Not Quad Size      : 0
Unsupported Agility          : 0
Invalid CAK Name Length      : 0
ICV Check Failed             : 0
Peer Using Same MID          : 0
SAK From Non-Live Peer       : 0
SAK From Non-Key Server      : 0
SAK Decrypt Fail             : 0
SAK Encrypt Fail             : 0
Key Number Invalid           : 0
SAK Installation Failed      : 0
CAK Info Missing             : 0
Max Peers Set as Zero        : 0
===============================================================================
```

mka-session

Syntax

mka-session [*port-id*]

Context

[Tree] (clear>macsec mka-session)

Full Context

clear macsec mka-session

Description

This command displays MACsec MKA session information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

port-id

Specifies the port ID, up to 17 characters

Platforms

All

15.67 mld

mld

Syntax

mld [**subscriber** *sub-ident-string*] [**detail**]

Context

[Tree] (show>service>active-subscribers mld)

Full Context

show service active-subscribers mld

Description

This command displays active subscriber MLD information.

Parameters

sub-ident-string

Displays the subscriber ID of the active subscriber, up to 64 characters.

detail

Displays detailed output.

Platforms

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

Output

The following output is an example of MLD information for active subscribers

Output Example

```
*A:eng-BNG-2# show service active-subscribers mld
===============================================================================
Active Subscribers
===============================================================================
Subscriber
  MLD-Policy
  HostAddr                      GrpItf                          NumGroups
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
user_1
  mld-policy-01
  2001::1                       grp-int-01
-------------------------------------------------------------------------------
Number of Subscribers : 1
===============================================================================
```

Table 361: Output fields: MLD active subscribers

Label	Descriptions
Subscriber	The name of the subscriber
MLD-Policy	The name of the policy associated with the subscriber as specified by the external policy server or local user database
HostAddr	The subscriber's individual host IPv6 address or prefix.
GrpItf	The group interface on which the subscriber is created
NumGroups	The number of multicast groups that the subscriber is currently joined with
Number of Subscribers	The total number of subscribers associated with this show command

mld

Syntax

mld

Context

[Tree] (show>router mld)

Full Context

show router mld

Description

Commands in this context show MLD entities.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mld

Syntax

mld

Context

[Tree] (clear>router mld)

Full Context

clear router mld

Description

Commands in this context clear and reset MLD entities.

Platforms

All

15.68 mld-policy

mld-policy

Syntax

mld-policy

mld *policy-name* **association**

mld *policy-name*

Context

[Tree] (show>subscr-mgmt mld-policy)

Full Context

show subscriber-mgmt mld-policy

Description

This command displays MLD policy information.

Parameters

policy-name

Specifies the MLD policy name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

association

Displays information associated with the MLD policy.

Platforms

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

15.69 mld-snooping

mld-snooping

Syntax

mld-snooping

Context

[Tree] (show>service>id mld-snooping)

Full Context

show service id mld-snooping

Description

This command displays MLD snooping information.

Platforms

All

mld-snooping

Syntax

mld-snooping

Context

[Tree] (clear>service>id mld-snooping)

Full Context

clear service id mld-snooping

Description

Commands in this context clear MLD snooping-related data.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

15.70 mlppp

mlppp

Syntax

mlppp

Context

[Tree] (show>router>l2tp mlppp)

Full Context

show router l2tp mlppp

Description

This command displays L2TP MLPPP operational information.

Platforms

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

15.71 mmrp

mmrp

Syntax

mmrp mac [*ieee-address*]

Context

[Tree] (show>service>id mmrp)

Full Context

show service id mmrp

Description

This command displays information on MACs. If a MAC address is specified, information will be displayed relevant to the specific group. No parameter will display information on all group MACs on a server.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ieee-address

Specifies a MAC address as a hex string in the form of xx:xx:xx:xx:xx:xx: or xx-xx-xx-xx-xx-xx

Platforms

All

Output

The following output is an example of service MRRP MAC information.

Output Example

```
*A:PE-A# show service id 10 mmrp mac 01:1E:83:00:00:65
-------------------------------------------------------------------------------
SAP/SDP                                 MAC Address       Registered  Declared
-------------------------------------------------------------------------------
sap:1/1/4:10                            01:1e:83:00:00:65 No          Yes
sap:1/2/2:10                            01:1e:83:00:00:65 No          Yes
sap:2/2/5:10                            01:1e:83:00:00:65 Yes         Yes
-------------------------------------------------------------------------------
*A:PE-A#

*A:PE-A# show service id 10 mmrp mac
-------------------------------------------------------------------------------
SAP/SDP                                 MAC Address       Registered  Declared
-------------------------------------------------------------------------------
sap:1/1/4:10                            01:1e:83:00:00:65 No          Yes
sap:1/1/4:10                            01:1e:83:00:00:66 No          Yes
sap:1/1/4:10                            01:1e:83:00:00:67 No          Yes
sap:1/1/4:10                            01:1e:83:00:00:68 No          Yes
sap:1/1/4:10                            01:1e:83:00:00:69 No          Yes
sap:1/1/4:10                            01:1e:83:00:00:6a No          Yes
sap:1/1/4:10                            01:1e:83:00:00:6b No          Yes
sap:1/1/4:10                            01:1e:83:00:00:6c No          Yes
sap:1/1/4:10                            01:1e:83:00:00:6d No          Yes
sap:1/1/4:10                            01:1e:83:00:00:6e No          Yes
sap:1/2/2:10                            01:1e:83:00:00:65 No          Yes
sap:1/2/2:10                            01:1e:83:00:00:66 No          Yes
sap:1/2/2:10                            01:1e:83:00:00:67 No          Yes
sap:1/2/2:10                            01:1e:83:00:00:68 No          Yes
sap:1/2/2:10                            01:1e:83:00:00:69 No          Yes
sap:1/2/2:10                            01:1e:83:00:00:6a No          Yes
sap:1/2/2:10                            01:1e:83:00:00:6b No          Yes
sap:1/2/2:10                            01:1e:83:00:00:6c No          Yes
sap:1/2/2:10                            01:1e:83:00:00:6d No          Yes
sap:1/2/2:10                            01:1e:83:00:00:6e No          Yes
sap:2/2/5:10                            01:1e:83:00:00:65 Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:66 Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:67 Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:68 Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:69 Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:6a Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:6b Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:6c Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:6d Yes         Yes
sap:2/2/5:10                            01:1e:83:00:00:6e Yes         Yes
-------------------------------------------------------------------------------
*A:PE-A#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.72 mobile-gateway

mobile-gateway

Syntax

mobile-gateway remote-address *ip-address* [**udp-port** *port*] **statistics**

Context

[Tree] (clear>router>wlan-gw mobile-gateway)

Full Context

clear router wlan-gw mobile-gateway

Description

This command clears Mobile Gateway data.

Parameters

ip-address

Specifies the IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

port

Specifies the port number.

Values 1 to 65535

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.73 monitor

monitor

Syntax
monitor

Context
[Tree] (monitor)

Full Context
monitor

Description
Commands in this context monitor statistics.

Platforms
All

15.74 mpls

mpls

Syntax
mpls

Context
[Tree] (clear>router mpls)

Full Context
clear router mpls

Description
Commands in this context clear and reset MPLS protocol entities.

Platforms
All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mpls

Syntax

mpls

Context

[Tree] (show>router mpls)

Full Context

show router mpls

Description

Commands in this context display MPLS related information.

Platforms

All

mpls

Syntax

mpls

Context

[Tree] (show>service>id>bgp-ipvpn mpls)

Full Context

show service id bgp-ipvpn mpls

Description

This command displays the BGP IPVPN MPLS information.

Platforms

All

Output

The following output is an example of BGP IPVPN information, and Table 362: Output fields: BGP IPVPN MPLS describes the output fields.

Output example (BGP-IPVPN MPLS information showing static service label configured)

```
A:node-2# show service id 30 bgp-ipvpn mpls

===============================================================================
Service 30 BGP-IPVPN MPLS Information
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Admin State       : Down               Oper State        : Down
VRF Import        : None
VRF Export        : None
Route Dist.       : None
Oper Route Dist   : 0:0
Oper RD Type      : none
Route Target      : None
Route Target Impor: None
Route Target Expor: None
Domain-Id         : None
Dyn Egr Lbl Limit : Disabled
Static Serv Lbl   : 32
Oper Serv Lbl     : None

Auto-Bind Tunnel
Resolution        : disabled           Strict Tnl Tag    : Disabled
ECMP              : 1                  Untagged Route    : none
Weighted ECMP     : Disabled           Flex Algo FB      : Disabled
St Blackhole First: Disabled
BGP Instance      : 1
Filter Tunnel Type: bgp
===============================================================================
```

Table 362: Output fields: BGP IPVPN MPLS

Label	Description
Admin State	The administrative state
Oper State	The operational state
VRF Import	The VRF import
VRF Export	The VRF export
Route Dist.	The route distinguisher
Oper Route Dist	The operational route distinguisher
Oper RD Type	The operational RD type
Route Target	The route target
Route Target Impor	The route target import
Route Target Expor	The route target export
Domain-Id	The domain ID
Dyn Egr Lbl Limit	The dynamic egress label limit
Static Serv Lbl	The label configures the static per-VRF MPLS service label. This enables the use of the static service label and anycast addresses or SIDs to reach any one of two or more provider edge (PE) nodes in the forwarding of Layer 3 service traffic.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper Serv Lbl	The operational service label is used by the core MPLS network (P routers) to forward the packet from the ingress PE router to the egress PE router.
Auto-Bind Tunnel	
Resolution	Indicates if resolution is enabled, which is a mechanism used by a PE router to automatically select an appropriate transport tunnel to carry VPN service traffic
Strict Tnl Tag	Indicates if strict tunnel tagging is enabled. When enabled, it means the system only considers tunnels that have a matching tunnel tag to the one specified or implied by the service or route.
ECMP	The ECMP value
Untagged Route	The untagged route refers to a BGP route that does not have an administrative tag policy applied to it
Weighted ECMP	Indicates if Weighted ECMP is enabled
Flex Algo FB	The flexible algorithm fallback allows users to define custom routing algorithms beyond the standard shortest path calculation
St Blackhole First	Mechanism for a PE router to locally override BGP-learned VPN routes with a blackhole route. This gives immediate control over traffic forwarding for specific prefixes, often used for traffic suppression or mitigation purposes.
BGP Instance	The BGP instance
Filter Tunnel Type	The field tunnel types specify which types of underlying tunnels are allowed or preferred for resolving the BGP next hop of IPVPN routes

mpls

Syntax

mpls

Context

[Tree] (tools>dump>router mpls)

Full Context

tools dump router mpls

Description

Commands in this context dump tools for MPLS protocol instance.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

mpls

Syntax

mpls

Context

[Tree] (tools>perform>router mpls)

Full Context

tools perform router mpls

Description

This command enables tools for MPLS.

Platforms

All

mpls

Syntax

mpls

Context

[Tree] (monitor>router mpls)

Full Context

monitor router mpls

Description

This commands monitors commands for the MPLS instance.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.75 mpls-labels

mpls-labels

Syntax

mpls-tp

Context

[Tree] (show>router mpls-labels)

Full Context

show router mpls-labels

Description

Commands in this context display MPLS label information.

Platforms

All

15.76 mpls-resources

mpls-resources

Syntax

mpls-resources

Context

[Tree] (tools>dump mpls-resources)

Full Context

tools dump mpls-resources

Description

This command displays MPLS resource usage information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of MPLS resource information, and Table 363: Output fields: MPLS resources describes the output fields.

Output example

```
A:node-2# tools dump mpls-resources
Global MPLS Resource Usage
-------------------------+------------+-------------+-------------+
                         |   Total    | Allocated   |    Free     |
-------------------------+------------+-------------+-------------+
 mpls  NHLFE             |    262125  |         1   |    262124   |
    RSVP                 |            |         1   |             |
    LDP                  |            |         0   |             |
    BGP                  |            |         0   |             |
    MPLS-TP              |            |         0   |             |
    SR                   |            |         0   |             |
    BIER                 |            |         0   |             |
    TREE-SID             |            |         0   |             |
 mpls labels             |    524256  |         0   |    524256   |
    RSVP                 |            |         0   |             |
    LDP                  |            |         0   |             |
    BGP                  |            |         0   |             |
    MPLS-TP              |            |         0   |             |
    STATIC-SVC           |            |         0   |             |
    SR                   |            |         0   |             |
    BIER                 |            |         0   |             |
    RESERVED-BLK         |            |         0   |             |
 mpls  LTN (FTN)         |    131071  |         0   |    131071   |

    RSVP                 |            |         0   |             |
    LDP                  |            |         0   |             |
    BGP                  |            |         0   |             |
    MPLS-TP              |            |         0   |             |
    SR                   |            |         0   |             |
    BIER                 |            |         0   |             |
    TREE-SID             |            |         0   |             |
```

Table 363: Output fields: MPLS resources

Label	Description
Total	Displays the total number of system resources
Allocated	Displays the number of currently allocated resources
Free	Displays the number of available resources

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.77 mpls-tp

mpls-tp

Syntax

mpls-tp

Context

[Tree] (show>router>mpls mpls-tp)

Full Context

show router mpls mpls-tp

Description

Commands in this context display MPLS Transport Profile (TP) information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

15.78 mrouters

mrouters

Syntax

mrouters [**detail**]

Context

[Tree] (show>service>id>mld-snooping mrouters)

Full Context

show service id mld-snooping mrouters

Description

This command displays all multicast routers.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of service MLD snooping mrouter information.

Output Example

```
*A:rbae_C# show service id 1 mld-snooping mrouters
===============================================================================
MLD Snooping Multicast Routers for service 1
===============================================================================
MRouter
                 Sap/Sdp Id             Up Time        Expires   Version
-------------------------------------------------------------------------------
FE80::12
                 2/1/5                  0d 00:05:55    11s       2
-------------------------------------------------------------------------------
Number of mrouters: 1
===============================================================================
*A:rbae_C#


*A:rbae_C#  show service id 1 mld-snooping mrouters detail
===============================================================================
MLD Snooping Multicast Routers for service 1
-------------------------------------------------------------------------------
MRouter FE80::12
-------------------------------------------------------------------------------
Sap Id                  : 2/1/5
Expires                 : 18s
Up Time                 : 0d 00:06:28
Version                 : 2
-------------------------------------------------------------------------------
Number of mrouters: 1
```

mrouters

Syntax

mrouters [**detail**]

Context

[Tree] (show>service>id>igmp-snooping mrouters)

Full Context

show service id igmp-snooping mrouters

Description

This command displays all multicast routers.

Parameters

detail

Displays detailed information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of IGMP snooping mrouter information.

Output Example

```
*A:ALA-48# show service id 700 igmp-snooping mrouters
===============================================================================
IGMP Snooping Multicast Routers for service 700
===============================================================================
MRouter          Sap/Sdp Id             Up Time        Expires   Version
-------------------------------------------------------------------------------
Number of mrouters: 0
===============================================================================
*A:ALA-48#
```

Table 364: Output fields: IGMP snooping multicast routers describes the show igmp-snooping mrouters output fields:

Table 364: Output fields: IGMP snooping multicast routers

Label	Description
MRouter	The multicast router port
Sap/Sdp Id	The SAP and SDP ID multicast router ports
Up Time	The length of time the mrouter has been up
Expires	The amount of time left before the query interval expires
Version	The configured version of IGMP running on this interface

15.79 mrp

mrp

Syntax

mrp

Context

[Tree] (show>service>id mrp)

Full Context

show service id mrp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information on a per service MRP configuration.

Platforms

All

Output

The following output is an example of service MRP information.

Output Example

```
*A:PE-A# show service id 10 mrp
-------------------------------------------------------------------------------
MRP Information
-------------------------------------------------------------------------------
Admin State        : Up                Failed Register Cnt: 0
Max Attributes     : 2048              Attribute Count    : 10
Flood Time         : Off
-------------------------------------------------------------------------------
*A:PE-A#
```

mrp

Syntax

mrp

Context

[Tree] (clear>service>statistics>id mrp)

Full Context

clear service statistics id mrp

Description

This command clears all MRP statistics for the service ID.

Platforms

All

15.80 mrp-policy

mrp-policy

Syntax

mrp-policy [*mrp-policy*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mrp-policy *mrp-policy* [**association**]

mrp-policy *mrp-policy* [**entry** *entry-id*]

Context

[Tree] (show>service mrp-policy)

Full Context

show service mrp-policy

Description

This command displays information on an MRP policy.

Parameters

mrp-policy

Specifies the MRP policy name

Values 32 chars max

entry-id

Specifies the entry ID number

Values 1 to 65535

Platforms

All

Output

The following output is an example of service MRP policy information.

Output Example

```
*A:PE-B# show service mrp-policy
===============================================================================
Mrp Policies
===============================================================================
Mrp-Policy                      Scope     Applied Description
-------------------------------------------------------------------------------
1                               template  Yes
2                               template  Yes
-------------------------------------------------------------------------------
Total: 2
===============================================================================


*A:PE-B# show service mrp-policy "1"
===============================================================================
Mrp Policy
===============================================================================
Policy Name : 1                                 Applied         : Yes
Scope       : template                          Def. Action     : block
Entries     : 1
Description : (Not Specified)
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Mrp Policy Entries
------------------------------------------------------------------------------
Entry       : 1                                 Match action    : end-station
Description : (Not Specified)
isid        : 10..11
==============================================================================
*A:PE-B#
```

15.81 ms-pw

ms-pw

Syntax

ms-pw [**rd** *rd*] [**aii-type2** *aii-type2*] [**brief**] [**hunt**] [**aspath-regex** *reg-exp*] [**community** *comm-id*]

Context

[Tree] (show>router>bgp>routes ms-pw)

Full Context

show router bgp routes ms-pw

Description

This command displays BGP Multi-Segment Pseudowire (MS-PW) routes.

Parameters

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

aii-type2

Filters the MS-PW routes based on the AII Type 2 value.

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.82 msap

msap

Syntax

msap {*msap-id* | **idle-only**}

Context

[Tree] (clear>service>id msap)

Full Context

clear service id msap

Description

This command clears Managed SAP (MSAP) information.

This command can remove an MSAP with active subscribers still associated with the MSAP. You can specify the **idle-only** parameter to clear only MSAPs in an idle state; MSAPs with active subscribers are not cleared.

Parameters

msap-id

Specifies a Managed SAP ID.

Values

dot1q	[port-id | lag-id]:qtag1
qinq	[port-id | lag-id]:qtag1.qtag2
qtag1	0 to 4094
qtag2	0 to 4094

idle-only

Specifies to clear only MSAPs in an idle state.

Platforms

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

msap

Syntax

msap [**service** *service-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump>service msap)

Full Context

tools dump service msap

Description

This command provides MSAP-related statistics for the chassis and tracks the number of sticky MSAPs. The statistics include the total number of MSAPs, sticky MSAPs, and idle MSAPs. When a subscriber disconnects from a sticky MSAP, it transitions to an idle MSAP. The idle MSAP transitions back to a sticky MSAP when the subscriber reconnects. A large number of idle MSAPs during peak network hours indicate that an idle MSAP cleanup is required. The total MSAP statistic counts both the total number of traditional MSAPs (non-sticky) and total number of sticky MSAPs. Idle MSAPs are counted towards the total number of sticky MSAPs.

Parameters

service-id

Specifies the service for which to show the MSAP-related statistics. The service is indicated in the chassis.

Platforms

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

msap

Syntax

msap

Context

[Tree] (show>service>id msap)

Full Context

show service id msap

Description

This command displays information for the managed SAPs associated with the service.

Platforms

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

Output

The following output is an example of managed SAP information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
[/]
A:patrick@pe1# /show service id 1000 msap
===============================================================================
SAP(Summary), Service 1000
===============================================================================
PortId                          SvcId      Ing.  Ing.    Egr.  Egr.   Adm  Opr
                                           QoS   Fltr    QoS   Fltr
-------------------------------------------------------------------------------
[1/1/c1/4:2111.10]              1000       1     none    1     none   Up   Up
-------------------------------------------------------------------------------
Number of SAPs : 1
-------------------------------------------------------------------------------
Number of Managed SAPs : 1, indicated by [<sap-id>]
Flags : (I) = Idle MSAP
-------------------------------------------------------------------------------
===============================================================================
[/]
A:patrick@pe1# /show service id 1000 sap
===============================================================================
SAP(Summary), Service 1000
===============================================================================
PortId                          SvcId      Ing.  Ing.    Egr.  Egr.   Adm  Opr
                                           QoS   Fltr    QoS   Fltr
-------------------------------------------------------------------------------
1/1/c1/1:2413.4001              1000       1     none    1     none   Up   Up
[1/1/c1/4:2111.10]              1000       1     none    1     none   Up   Up
-------------------------------------------------------------------------------
Number of SAPs : 2
-------------------------------------------------------------------------------
Number of Managed SAPs : 1, indicated by [<sap-id>]
Flags : (I) = Idle MSAP
-------------------------------------------------------------------------------
===============================================================================
```

15.83 msap-policy

msap-policy

Syntax

msap-policy [*msap-policy-name* [**association**]]

Context

[Tree] (show>subscr-mgmt msap-policy)

Full Context

show subscriber-mgmt msap-policy

Description

This command displays Managed SAP policy information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

msap-policy-name

Displays information about the specifies MSAP policy.

association

Displays information related to the specifies MSAP policy.

Platforms

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

Output

The following output is an example of managed SAP policy information.

Output Example

```
*A:ALA-48>show>subscr-mgmt# msap-policy
===============================================================================
Managed SAP Policies
===============================================================================
Name                            Num    Description
                                MSAPs
-------------------------------------------------------------------------------
test                            0      (Not Specified)
test 1                          0      (Not Specified)
-------------------------------------------------------------------------------
Number of MSAP Policies : 2
Number of MSAPs         : 0
===============================================================================
*A:ALA-48>show>subscr-mgmt#
```

Table 365: Output fields: MSAP policy describes subscriber management MSAP policy output fields.

Table 365: Output fields: MSAP policy

Field	Description
Name	The name of the MSAP policy
Num MSAPs	The number of MSAPs
Description	The user-provided description of the MSAP policy
Number of MSAP Policies	The total number of MSAP policies
Number of MSAPs	The total number of MSAPs

msap-policy

Syntax

msap-policy *msap-policy-name* [**idle-only**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>subscr-mgmt msap-policy)

Full Context

clear subscriber-mgmt msap-policy

Description

This command deletes Managed SAPs (MSAPs) created by the MSAP policy.

This command can remove an MSAP with active subscribers still associated with the MSAP. Use the **idle-only** parameter to remove only MSAPs in an idle state.

Parameters

msap-policy-name

Specifies an existing managed SAP policy name. A string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

idle-only

Specifies to remove only the MSAPs in an idle state.

Platforms

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

msap-policy

Syntax

msap-policy *msap-policy-name*

Context

[Tree] (clear>service>id msap-policy)

Full Context

clear service id msap-policy

Description

This command clears Managed SAPs created by the Managed SAP policy.

Parameters

msap-policy-name

Clears an existing MSAP policy.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.84 msdp

msdp

Syntax

msdp

Context

[Tree] (clear>router msdp)

Full Context

clear router msdp

Description

Commands in this context clear and reset Multicast Source Discovery protocol (MSDP) entities and statistics.

Platforms

All

msdp

Syntax

msdp

Context

[Tree] (show>router msdp)

Full Context

show router msdp

Description

Commands in this context display MSDP related information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.85 mstp-configuration

mstp-configuration

Syntax

mstp-configuration

Context

[Tree] (show>service>id mstp-configuration)

Full Context

show service id mstp-configuration

Description

This command displays the MSTP specific configuration data. This command is only valid on a management VPLS.

Platforms

All

15.86 multi-chassis

multi-chassis

Syntax

multi-chassis

Context

[Tree] (tools>dump>redundancy multi-chassis)

Full Context

tools dump redundancy multi-chassis

Description

Commands in this context dump multi-chassis parameters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

multi-chassis

Syntax

multi-chassis

Context

[Tree] (tools>perform>redundancy multi-chassis)

Full Context

tools perform redundancy multi-chassis

Description

This command enables tools for multi-chassis redundancy.

Platforms

All

multi-chassis

Syntax

multi-chassis

Context

[Tree] (show>redundancy multi-chassis)

Full Context

show redundancy multi-chassis

Description

This command displays multi-chassis redundancy information.

Platforms

All

Output

See the following output examples:

- Output Example: show redundancy multi-chassis mc-lag peer <ip-address>
- Output Example: show redundancy multi-chassis mc-lag statistics
- Output Example: show redundancy multi-chassis mc-lag peer <ip-address> lag 2 statistics
- Output Example: show redundancy multi-chassis mc-lag peer 10.10.10.102 statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output Example: show redundancy multi-chassis sync
- Output Example: show redundancy multi-chassis sync peer <ip-address>
- Output Example: show redundancy multi-chassis sync peer <ip-address> detail
- Output Example: show redundancy multi-chassis sync statistics
- Output Example: show redundancy multi-chassis sync peer <ip-address> statistics

Output Example: show redundancy multi-chassis mc-lag peer <ip-address>

```
*A:Dut-C# show redundancy multi-chassis mc-lag peer 10.10.10.1
===============================================================================
Multi-Chassis MC-Lag Peer 10.10.10.1
===============================================================================
Last State chg: 09/24/2007 07:58:03
Admin State: Up      Oper State   : Up
KeepAlive: 10 deci-seconds     Hold On Ngbr Failure : 3
-------------------------------------------------------------------------------
Lag Id Lacp Key Remote Lag Id System Id  Sys Prio Last State Changed
-------------------------------------------------------------------------------
1      326661      00:00:00:33:33:33  32888  09/24/2007 07:56:35
-------------------------------------------------------------------------------
Number of LAGs : 1
===============================================================================
*A:Dut-C#
```

Output Example: show redundancy multi-chassis mc-lag statistics

```
A:pc1# show redundancy multi-chassis mc-lag statistics
===============================================================================
Multi-Chassis Statistics
===============================================================================
Packets Rx                        : 129816
Packets Rx Keepalive              : 129798
Packets Rx Config                 : 3
Packets Rx Peer Config            : 5
Packets Rx State                  : 10
Packets Dropped KeepaliveTask     : 0
Packets Dropped Packet Too Short  : 0
Packets Dropped Verify Failed     : 0
Packets Dropped Tlv Invalid Size  : 0
Packets Dropped Out of Seq        : 0
Packets Dropped Unknown Tlv       : 0
Packets Dropped Tlv Invalid LagId : 0
Packets Dropped MD5               : 0
Packets Dropped Unknown Peer      : 0
Packets Tx                        : 77918
Packets Tx Keepalive              : 77879
Packets Tx Config                 : 6
Packets Tx Peer Config            : 26
Packets Tx State                  : 7
Packets Tx Failed                 : 0
===============================================================================
A:pc1#
```

Output Example: show redundancy multi-chassis mc-lag peer <ip-address> lag 2 statistics

```
A:pc1# show redundancy multi-chassis mc-lag peer 10.10.10.102 lag 2 statistics
===============================================================================
Multi-Chassis Statistics, Peer 10.10.10.102 Lag 2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Packets Rx Config                : 1
Packets Rx State                 : 4
Packets Tx Config                : 2
Packets Tx State                 : 3
Packets Tx Failed                : 0
===============================================================================
A:pc1#
```

Output Example: show redundancy multi-chassis mc-lag peer 10.10.10.102 statistics

```
A:pc1#show redundancy multi-chassis mc-lag peer 10.10.10.102 statistics
===============================================================================
Multi-Chassis Statistics, Peer 10.10.10.102
===============================================================================
Packets Rx                       : 129918
Packets Rx Keepalive             : 129900
Packets Rx Config                : 3
Packets Rx Peer Config           : 5
Packets Rx State                 : 10
Packets Dropped State Disabled   : 0
Packets Dropped Packets Too Short : 0
Packets Dropped Tlv Invalid Size  : 0
Packets Dropped Tlv Invalid LagId : 0
Packets Dropped Out of Seq       : 0
Packets Dropped Unknown Tlv      : 0
Packets Dropped MD5              : 0
Packets Tx                       : 77979
Packets Tx Keepalive             : 77940
Packets Tx Peer Config           : 26
Packets Tx Failed                : 0
===============================================================================
A:pc1#
```

Output Example: show redundancy multi-chassis sync

```
A:pc1# show redundancy multi-chassis sync
===============================================================================
Multi-chassis Peer Table
===============================================================================
Peer
-------------------------------------------------------------------------------
Peer IP Address         : 10.10.10.102
Description             : CO1
Authentication          : Enabled
Source IP Address       : 10.10.10.101
Admin State             : Enabled
-------------------------------------------------------------------------------
Sync-status
-------------------------------------------------------------------------------
Client Applications     :
Sync Admin State        : Up
Sync Oper State         : Up
DB Sync State           : inSync
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
Peer
-------------------------------------------------------------------------------
Peer IP Address         : 10.10.20.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Authentication          : Disabled
Source IP Address       : 0.0.0.0
Admin State             : Disabled
===============================================================================
A:pc1#
```

Output Example: show redundancy multi-chassis sync peer <ip-address>

```
pc1# show redundancy multi-chassis sync peer 192.0.2.1
===============================================================================
Multi-chassis Peer Table
===============================================================================
Peer
-------------------------------------------------------------------------------
Peer IP Address         : 192.0.2.1
Description             : (Not Specified)
Authentication          : Enabled
Source IP Address       : 192.0.2.2
Admin State             : Enabled
Warm standby            : No
Remote warm standby     : No
Sub-mgmt options
  DHCP lease threshold  : Active (5 min.)
     Local / Remote     : 5 min. / 5 min
-------------------------------------------------------------------------------
Sync-status
-------------------------------------------------------------------------------
Client Applications     :
Sync Admin State        : Up
Sync Oper State         : Up
DB Sync State           : inSync
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
MCS Application Stats
===============================================================================
Application             : igmp
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : igmpSnooping
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : subMgmt
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : srrp
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
A:pc1#
```

Output Example: show redundancy multi-chassis sync peer <ip-address> detail

```
A:pc1# show redundancy multi-chassis sync peer 10.10.10.102 detail
===============================================================================
Multi-chassis Peer Table
===============================================================================
Peer
-------------------------------------------------------------------------------
Peer IP Address         : 10.10.10.102
Description             : CO1
Authentication          : Enabled
Source IP Address       : 10.10.10.101
Admin State             : Enabled
-------------------------------------------------------------------------------
Sync-status
-------------------------------------------------------------------------------
Client Applications     :
Sync Admin State        : Up
Sync Oper State         : Up
DB Sync State           : inSync
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
MCS Application Stats
===============================================================================
Application             : igmp
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : igmpSnooping
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : subMgmt
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : srrp
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
Ports synced on peer 10.10.10.102
===============================================================================
Port/Encap                    Tag
-------------------------------------------------------------------------------
1/1/1
  1-2                         r1
===============================================================================
A:pc1#
```

Output Example: show redundancy multi-chassis sync statistics

```
A:pc1# show redundancy multi-chassis sync statistics
===============================================================================
Multi-chassis Peer Sync Stats
===============================================================================
Peer IP Address         : 10.10.10.102
Packets Tx Total        : 511
Packets Tx Hello        : 510
Packets Tx Data         : 0
Packets Tx Other        : 1
Packets Tx Error        : 0
Packets Rx Total        : 511
Packets Rx Hello        : 510
Packets Rx Data         : 0
Packets Rx Other        : 1
Packets Rx Error        : 0
Packets Rx Header Err   : 0
Packets Rx Body Err     : 0
Packets Rx Seq Num Err  : 0
===============================================================================
Peer IP Address         : 10.10.20.1
Packets Tx Total        : 0
Packets Tx Hello        : 0
Packets Tx Data         : 0
Packets Tx Other        : 0
Packets Tx Error        : 0
Packets Rx Total        : 0
Packets Rx Hello        : 0
Packets Rx Data         : 0
Packets Rx Other        : 0
Packets Rx Error        : 0
Packets Rx Header Err   : 0
Packets Rx Body Err     : 0
Packets Rx Seq Num Err  : 0
===============================================================================
A:pc1#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example: show redundancy multi-chassis sync peer <ip-address> statistics

```
A:pc1# show redundancy multi-chassis sync peer 10.10.10.102 statistics
===============================================================================
Multi-chassis Peer Sync Stats
===============================================================================
Peer IP Address         : 10.10.10.102
Packets Tx Total        : 554
Packets Tx Hello        : 553
Packets Tx Data         : 0
Packets Tx Other        : 1
Packets Tx Error        : 0
Packets Rx Total        : 554
Packets Rx Hello        : 553
Packets Rx Data         : 0
Packets Rx Other        : 1
Packets Rx Error        : 0
Packets Rx Header Err   : 0
Packets Rx Body Err     : 0
Packets Rx Seq Num Err  : 0
===============================================================================
A:pc1#
```

multi-chassis

Syntax

multi-chassis

Context

[Tree] (clear>redundancy multi-chassis)

Full Context

clear redundancy multi-chassis

Description

Commands in this context clear multi-chassis parameters.

Platforms

All

15.87 multi-chassis-shunt-interface

multi-chassis-shunt-interface

Syntax

multi-chassis-shunt-interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>ipsec multi-chassis-shunt-interface)

Full Context

show ipsec multi-chassis-shunt-interface

Description

This command displays information about configured multi-chassis shunt interfaces or the multi-chassis shunt interface information in the specified routing instance or service.

Platforms

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

Output

The following output is an example of IPsec multi-chassis shunt interfaces. Table 366: Output fields: multi-chassis shunt interface describes the output fields

Output Example

```
show>ipsec# multi-chassis-shunt-interface
===============================================================================
IPsec Multi-Chassis Shunt Interfaces
===============================================================================
Service Id  MC Shunt Interface Name          Next Hop                Resolved
-------------------------------------------------------------------------------
Base        to84                            130.100.14.4            Yes
Base        to85                            130.110.15.5            Yes
400         to84                            130.100.14.4            Yes
400         to85                            130.110.15.5            Yes
-------------------------------------------------------------------------------
No. of IPsec MC Shunt Interfaces: 4
```

Table 366: Output fields: multi-chassis shunt interface

Label	Description
Service Id	The service ID
MC Shunt Interface Name	The multi-chassis shunt interface name
Next Hop	The next hop
Resolved	Resolved: Yes or No
No. of IPsec MC Shunt Interfaces	The total number of MC shunt interfaces

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.88 multi-part-tlv-stats

multi-part-tlv-stats

Syntax

multi-part-tlv [**level** *level*] [**tlv-type** *type*]

Context

[Tree] (show>router>isis multi-part-tlv-stats)

Full Context

show router isis multi-part-tlv-stats

Description

This command displays MP-TLV statistics information. If no parameters are specified, the command displays statistics for all applicable TLVs and IS-IS levels.

Parameters

level

Specifies the IS-IS level for which to display statistics.

Values 1, 2

type

Specifies the TLV type for which to display statistics.

Values 0 to 65535

Platforms

All

Output

The following output is an example of IS-IS MP-TLV information, and Table 367: Output fields: IS-IS multi-part-TLV-stats describes the output fields.

Output example

```
A:node-2>show>router>isis# multi-part-tlv-stats

=======================================================
Rtr Base ISIS Instance 0 Multi-Part TLV Statistics
=======================================================
TLV-Type Level Truncated   Originated
-------------------------------------------------------
22       1     0           0
22       2     0           0
138      1     0           0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
138      2     0           0
222      1     0           0
222      2     0           0
238      1     0           0
238      2     0           0
=======================================================
```

Table 367: Output fields: IS-IS multi-part-TLV-stats

Label	Description
TLV-Type	The TLV type
Level	The IS-IS level from which the TLV originated
Truncated	The number of TLVs that were truncated to fit the size limit
Originated	The total number of TLVs originated

multi-part-tlv-stats

Syntax

multi-part-tlv [**level** *level*] [**tlv-type** *type*]

Context

[Tree] (clear>router>isis multi-part-tlv-stats)

Full Context

clear router isis multi-part-tlv-stats

Description

This command clears MP-TLV statistics information. If no parameters are specified, the command clears the statistics for all applicable TLVs and IS-IS levels.

Parameters

level

Specifies the IS-IS level for which to clear statistics.

Values 1, 2

type

Specifies the TLV type for which to clear statistics.

Values 0 to 65535

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

15.89 multicast-info-policy

multicast-info-policy

Syntax

multicast-info-policy [*policy-name*] [**detail**]

Context

[Tree] (show>mcast-management multicast-info-policy)

Full Context

show mcast-management multicast-info-policy

Description

This command displays multicast path management policy information.

Parameters

policy-name

Specifies the bandwidth policy name, up to 32 characters.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of multicast management bandwidth policy information.

Output Example

```
A:PE1# show mcast-management multicast-info-policy "default" detail
===============================================================================
Multicast Info Policy
===============================================================================
-------------------------------------------------------------------------------
default
-------------------------------------------------------------------------------
Description         : (Not Specified)
Bundle default
  Description       : (Not Specified)
  Bw activity       : dynamic                 Bw fall delay          : 30 s
  Admin bw          : 0 kbps                  Preference             : 0
  Exp path type     : none                    Keepalive override     : 0 s
  Blackhole rate    : 0 kbps                  Cong Prio Thd          : 4
  Ecmp opt Thd      : 7
  Prim tun if       : (Not Specified)
===============================================================================
Multicast Info Policies : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
A:PE1#
```

15.90 mvpn

mvpn

Syntax

mvpn

mvpn source-redundancy [**root** | **leaf**]

Context

[Tree] (show>router mvpn)

Full Context

show router mvpn

Description

This command displays multicast VPN related information. The router instance must be specified.

Parameters

source-redundancy

Keyword used to display source redundancy information.

root

Keyword used to display root information.

leaf

Keyword used to display leaf information.

Platforms

All

Output

The following outputs are examples of MVPN information.

Output Example

```
# show router 1 mvpn
===============================================================================
MVPN 1 configuration data
===============================================================================
signaling          : Bgp                  auto-discovery     : Default
UMH Selection      : Highest-Ip           SA withdrawn       : Disabled
intersite-shared   : Enabled              Persist SA         : Disabled
vrf-import         : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
vrf-export         : N/A
vrf-target         : unicast
C-Mcast Import RT  : target:10.20.1.4:105

ipmsi              : rsvp IpmsiTemplate
i-pmsi P2MP AdmSt  : Up
i-pmsi Tunnel Name : IpmsiTemplate-1-74216
enable-bfd-root    : false               enable-bfd-leaf    : false
Mdt-type           : sender-receiver
svc-reserved-label : 0
pta-label-in-msb   : True

BSR signalling     : none
Wildcard s-pmsi    : false
spmsi              : rsvp SpmsiTemplate
s-pmsi P2MP AdmSt  : Up
max-p2mp-spmsi     : 4000
data-delay-interval: 3 seconds
enable-asm-mdt     : N/A
data-threshold     : 224.0.0.0/4 --> 1 kbps
rx-threshold       : 224.0.0.0/4 --> pe-thres-add 2 --> pe-thres-delete 4
data-threshold     : ff00:db8:/8 --> 1 kbps
rx-threshold       : ff00:db8:/8 --> pe-thres-add 2 --> pe-thres-delete 4
===============================================================================

# show router 21 mvpn
===============================================================================
MVPN 21 configuration data
===============================================================================
signaling          : Bgp                 auto-discovery     : Default
UMH Selection      : Highest-Ip          SA withdrawn       : Disabled
intersite-shared   : Enabled             Persist SA         : Disabled
vrf-import         : N/A
vrf-export         : N/A
vrf-target         : unicast
C-Mcast Import RT  : target:10.20.1.4:106

ipmsi              : ldp
i-pmsi P2MP AdmSt  : Up
i-pmsi Tunnel Name : mpls-if-74217
Mdt-type           : sender-receiver
service-reserved-l*: NA

BSR signalling     : none
Wildcard s-pmsi    : false
spmsi              : ldp
s-pmsi P2MP AdmSt  : Up
max-p2mp-spmsi     : 4000
data-delay-interval: 3 seconds
enable-asm-mdt     : N/A
data-threshold     : 224.0.0.0/4 --> 1 kbps
rx-threshold       : 224.0.0.0/4 --> pe-thres-add 2 --> pe-thres-delete 4
data-threshold     : ff00:db8:/8 --> 1 kbps
rx-threshold       : ff00:db8:/8 --> pe-thres-add 2 --> pe-thres-delete 4
===============================================================================


# show router 1 mvpn
===============================================================================
MVPN 1 configuration data
===============================================================================
signaling          : Bgp                 auto-discovery     : Default
UMH Selection      : Tunnel-Status       SA withdrawn       : Disabled
intersite-shared   : Enabled             Persist SA         : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
vrf-import         : N/A
vrf-export         : N/A
vrf-target         : unicast
C-Mcast Import RT  : target:10.20.1.2:27
ipmsi              : ldp
i-pmsi P2MP AdmSt  : Up
i-pmsi Tunnel Name : mpls-if-74044
Mdt-type           : sender-receiver
service-reserved-l*: 0

ipmsi UMH RM       : Enabled
bandwidth          : 1000 kbps            revertive timer    : 40 seconds
BSR signalling     : none
Wildcard s-pmsi    : Disabled
Multistream-SPMSI  : Disabled
spmsi              : ldp
s-pmsi P2MP AdmSt  : Up
max-p2mp-spmsi     : 5
data-delay-interval: 3 seconds
enable-asm-mdt     : N/A
data-threshold     : 224.0.0.0/4 --> 0 kbps
spmsi UMH RM       : Enabled
group              : 227.1.1.1/32         source             : 150.1.1.8/32
bandwidth          : 1000 kbps            revertive timer    : 40 seconds
group              : 227.1.1.2/32         source             : 150.1.1.8/32
bandwidth          : 1000 kbps            revertive timer    : 40 seconds
group              : 227.1.1.3/32         source             : 150.1.1.8/32
bandwidth          : 1000 kbps            revertive timer    : 40 seconds
group              : 227.1.1.4/32         source             : 150.1.1.8/32
bandwidth          : 1000 kbps            revertive timer    : 40 seconds
group              : 227.1.1.5/32         source             : 150.1.1.8/32
bandwidth          : 1000 kbps            revertive timer    : 40 seconds



# show router 60 mvpn
===============================================================
MVPN 60 configuration data
===============================================================
signaling          : Bgp                  auto-discovery     : Default
UMH Selection      : Highest-Ip           SA withdrawn       : Disabled
intersite-shared   : Enabled              Persist SA         : Disabled
vrf-import         : N/A
vrf-export         : N/A
vrf-target         : unicast
C-Mcast Import RT  : target:100.0.0.102:2

ipmsi              : bier
i-pmsi P2MP AdmSt  : Up
i-pmsi Tunnel Name : mpls-if-73728
Mdt-type           : sender-receiver

DCB-reserved-label : NA
Bier next protocol : 1

BSR signalling     : none
Wildcard s-pmsi    : Disabled             Suppress i-pmsi    : Disabled
Multistream-SPMSI  : Disabled
spmsi              : ldp
s-pmsi P2MP AdmSt  : Up
max-p2mp-spmsi     : 10
data-delay-interval: 3 seconds
enable-asm-mdt     : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ipmsi UMH RM       : Disabled

spmsi UMH RM       : Disabled
```

15.91 mvpn-ipv4

mvpn-ipv4

Syntax

mvpn-ipv4 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*] [**brief**] [**type** *mvpn-type*] [**originator-ip** *ip-address*] [**source-ip** *ipv4 address* | *ipv6 address*] [**group-ip** *ipv4 address* | *ipv6 address*] [**source-as** *as-number*]

mvpn-ipv4 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**rd** *rd*] [**brief**] [**type** *mvpn-type*] [**originator-ip** *ip-address*] [**source-ip** *ipv4 address* | *ipv6 address*] [**group-ip** *ipv4 address* | *ipv6 address*] [**source-as** *as-number*]

mvpn-ipv4 [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*] [**type** *mvpn-type*] [**originator-ip** *ip-address*] [**source-ip** *ipv4 address* | *ipv6 address*] [**group-ip** *ipv4 address* | *ipv6 address*] [**source-as** *as-number*]

Context

[Tree] (show>router>bgp>routes mvpn-ipv4)

Full Context

show router bgp routes mvpn-ipv4

Description

This command displays BGP MVPN IPv4 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

hunt

Displays entries for the specified route.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

brief

Displays the BGP MVPN IPv4 route information in a brief format.

mvpn-type

Displays information for the specified MVPN route type.

Values intra-ad | inter-ad | spmsi-ad | leaf-ad | source-ad | shared-join | source-join

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Specifies the originator IP address.

Values a.b.c.d

ipv4 address | ipv6 address

Displays the IPv4 or IPv6 address expressed in dotted decimal notation.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

as-number

Specifies the source AS number.

Values 0 to 4294967295

Platforms

All

15.92 mvpn-ipv6

mvpn-ipv6

Syntax

mvpn-ipv6 [**type** *mvpn-type*] [**rd** *rd*] [**originator-ip** *ip-address*] [**source-ip** *ipv4 address* | *ipv6 address*] [**group-ip** *ipv4 address* | *ipv6 address*] [**source-as** *as-number*] [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*]

mvpn-ipv6 [**type** *mvpn-type*] [**rd** *rd*] [**originator-ip** *ip-address*] [**source-ip** *ipv4 address* | *ipv6 address*] [**group-ip** *ipv4 address* | *ipv6 address*] [**source-as** *as-number*] **brief** [**aspath-regex** *reg-exp*] [**community** *comm-id*]

mvpn-ipv6 [**type** *mvpn-type*] [**rd** *rd*] [**originator-ip** *ip-address*] [**source-ip** *ipv4 address* | *ipv6 address*] [**group-ip** *ipv4 address* | *ipv6 address*] [**source-as** *as-number*] **hunt** [**aspath-regex** *reg-exp*] [**community** *comm-id*]

Context

[Tree] (show>router>bgp>routes mvpn-ipv6)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bgp routes mvpn-ipv6

Description

This command displays BGP MVPN IPv6 routes.

Parameters

mvpn-type

Displays information for the specified MVPN route type.

Values intra-ad | inter-ad | spmsi-ad | leaf-ad | source-ad | shared-join | source-join

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

ip-address

Specifies the originator IP address.

Values a.b.c.d

ipv4 address* | *ipv6 address

Displays the IPv4 or IPv6 address expressed in dotted decimal notation.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

as-number

Specifies the source AS number.

Values 0 to 4294967295

detail

Displays detailed information.

longer

Displays the specified route and subsets of the route.

brief

Displays the BGP MVPN IPv6 route information in a brief format.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

15.93 mvpn-list

mvpn-list

Syntax

mvpn-list [**type** *type*] [**auto-discovery** *auto-discovery*] [**signalling** *signalling*] [**group** *group*]

Context

[Tree] (show>router mvpn-list)

Full Context

show router mvpn-list

Description

This command displays the list of multicast VPNs.

Parameters

type

Specifies the MVPN type.

Values pim, rsvp, ldp

auto-discovery

Specifies the auto-discovery mode.

Values none, default, mdt-s

signalling

Specifies the signalling type.

Values bgp, pim

group

Specifies the group address.

Platforms

All

Output

The following output is an example of router MVPN list information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-D# show router mvpn-list

Legend: Sig = Signal  Pim-a = pim-asm  Pim-s = pim-ssm  A-D = Auto-Discovery
SR = Sender-Receiver  SO = Sender-Only  RO = Receiver-Only
===============================================================================
MVPN List
===============================================================================
VprnID    A-D      iPmsi/sPmsi GroupAddr/Lsp-Template          IPv4(S,G)/(*,G)
           Sig      Mdt-Type                                    IPv6(S,G)/(*,G)
-------------------------------------------------------------------------------
100       None     Pim-a/None  239.100.201.101                 0/0
           Pim      N/A                                         0/0
-------------------------------------------------------------------------------
Total Mvpns : 1
===============================================================================
===============================================================================
Total                              PIM            RSVP           MLDP
-------------------------------------------------------------------------------
I-PMSI tunnels                     1              0              0
TX S-PMSI tunnels                  0              0              0
RX S-PMSI tunnels                  0              0              0
RX PSEUDO S-PMSI tunnels   0              0              0
-------------------------------------------------------------------------------
Total IPv4 (S,G)/(*,G) : 0/0
Total IPv6 (S,G)/(*,G) : 0/0
===============================================================================
*A:Dut-D#
```

15.94 mvr

mvr

Syntax

mvr

Context

[Tree] (show>service>id>mld-snooping mvr)

Full Context

show service id mld-snooping mvr

Description

This command displays multicast VPLS registration information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mvr

Syntax

mvr

Context

[Tree] (show>service>id>igmp-snooping mvr)

Full Context

show service id igmp-snooping mvr

Description

This command displays Multicast VPLS Registration (MVR) information.

Platforms

All

Output

The following output is an example of IGMP snooping mvr information.

Output Example

```
A:ALA-1>show>service>id>snooping# mvr
===============================================================================
IGMP Snooping Multicast VPLS Registration info for service 10
===============================================================================
IGMP Snooping Admin State : Up

MVR Admin State           : Up
MVR Policy                : mvr-policy
-------------------------------------------------------------------------------
Local SAPs/SDPs
-------------------------------------------------------------------------------
Svc Id     Sap/Sdp               Oper      From       Num Local
           Id                    State     VPLS       Groups
-------------------------------------------------------------------------------
100         sap:1/1/10:10        Up       Local      100
100         sap:1/1/10:20        Up       Local      100
-------------------------------------------------------------------------------
MVR SAPs (from-vpls=10)
-------------------------------------------------------------------------------
Svc Id     Sap/Sdp               Oper      From       Num MVR
           Id                    State     VPLS       Groups
-------------------------------------------------------------------------------
20         sap:1/1/4:100         Up        10         100
30         sap:1/1/31:10.10      Up        10         100
===============================================================================
A:ALA-1>show>service>id>snooping#
```

Table 368: Output fields: IGMP Snooping MVR describes the show igmp-snooping mvr output fields:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 368: Output fields: IGMP Snooping MVR

Label	Description
IGMP Snooping Admin State	The IGMP snooping administrative state
MVR Admin State	The MVR administrative state
MVR Policy	The MVR policy name
Svc ID	The service ID
Sap/SDP	The SAP or SDP ID
Oper State	The operational state
From VPLS	The originating VPLS name
Num Local Groups	The number of local groups

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

16 n Commands

16.1 nat

nat

Syntax

nat

Context

[Tree] (tools>dump nat)

[Tree] (tools>perform nat)

Full Context

tools dump nat

tools perform nat

Description

This command enables the dump or perform tools for NAT.

Platforms

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

nat

Syntax

nat

Context

[Tree] (clear nat)

Full Context

clear nat

Description

Commands in this context clear NAT commands.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

nat

Syntax

nat

Context

[Tree] (show>router nat)

Full Context

show router nat

Description

Commands in this context display NAT related information.

Platforms

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

nat

Syntax

nat

Context

[Tree] (show>service nat)

Full Context

show service nat

Description

Commands in this context display NAT information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

16.2 nat-group

nat-group

Syntax

nat-group

nat-group *nat-group-id* [**associations**]

nat-group *nat-group-id* [**associations**]

nat-group *nat-group-id* **inter-chassis-redundancy**

nat-group *nat-group-id* **statistics inter-chassis-redundancy**

nat-group *nat-group-id* **statistics mda** *mda-id* [**non-zero-value-only**]

nat-group *nat-group-id* **member** *member-number*

nat-group *nat-group-id* **member** *member-number* **inter-chassis-redundancy**

nat-group *nat-group-id* **member** *member-number* **statistics inter-chassis-redundancy**

nat-group *nat-group-id* **member** *member-number* **reassembly-statistics** [**non-zero-value-only**]

nat-group *nat-group-id* **member** *member-number* **statistics** [**non-zero-value-only**]

nat-group [*nat-group-id*] **members**

Context

[Tree] (show>isa nat-group)

Full Context

show isa nat-group

Description

This command lists all active member ISAs (or group members). Up to 16 group members can be displayed (16 is the supported number of LAG links). Members can share physical ISAs (MDAs) and the physical locality of the group members can be determined from the **Mda** column in the output.

The number of group members will be <=X and the actual number of displayed group members will depend on the configuration based calculation.

Parameters

nat-group-id

Specifies the NAT group ID.

Values 1 to 4

associations

Displays associations applicable to the specified NAT group.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Displays NAT group statistics.

member

Displays statistics information about the resources of a member of a NAT ISA group.

member-number

Specifies the member number.

Values 1 to 255

non-zero-value-only

Displays statistics information display whose value is bigger than zero.

reassembly-statistics

Displays statistics information about IP datagram reassembly on NAT-capable ISA groups.

inter-chassis-redundancy

Displays information about inter-chassis redundancy.

Platforms

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

Output

The following shows output examples.

Output Example

```
show isa nat-group
===============================================================================
ISA NAT Group Summary
===============================================================================
Mda Group 1 Group 2 Group 3
-------------------------------------------------------------------------------
3/1 active - -
3/2 - active busy
4/1 - busy active
4/2 - standby standby
===============================================================================


*A:SR12_PPPOE>config>isa>nat-group# show isa nat-group 1
===============================================================================
ISA NAT Group 1
===============================================================================
Admin state                : inService
Operational state          : inService
Active MDA limit           : 2
-------------------------------------------------------------------------------
NAT specific information for ISA group 1
-------------------------------------------------------------------------------
Reserved sessions          : 0
High Watermark (%)         : (Not Specified)
Low Watermark (%)          : (Not Specified)
Accounting policy          : my-acct-plcy
Last Mgmt Change           : 01/28/2012 14:47:59
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ISA Group 1 members
===============================================================================
Group Member     State          Mda  Addresses  Blocks     Se-% Hi Se-Prio
-------------------------------------------------------------------------------
1     1          active         3/1  3          3          < 1  N  0
1     2          active         3/2  4          4          < 1  N  0
-------------------------------------------------------------------------------
No. of members: 2
===============================================================================
A:SR12_PPPOE#


*A:SR12_PPPOE>config>isa>nat-group# show isa nat-group
===============================================================================
ISA NAT Group Summary
===============================================================================
Mda  Group 1            Group 2            Group 3            Group 4
-------------------------------------------------------------------------------
2/1  -                  provisioned        -                  -
3/1  active             -                  up                 -
3/1  active             -                  up                 -
3/2  active             -                  up                 -
3/2  active             -                  up                 -
===============================================================================
A:SR12_PPPOE#


*A:SR12_PPPOE>config>isa>nat-group# show isa nat-group 1
===============================================================================
ISA NAT Group 1
===============================================================================
Admin state                 : inService
Operational state           : inService
Active MDA limit            : 2

-------------------------------------------------------------------------------
NAT specific information for ISA group 1
-------------------------------------------------------------------------------
Reserved sessions           : 0
High Watermark (%)          : (Not Specified)
Low Watermark (%)           : (Not Specified)
Accounting policy           : my-acct-plcy
Last Mgmt Change            : 01/28/2012 14:47:59
-------------------------------------------------------------------------------
===============================================================================
ISA Group 1 members
===============================================================================
Group Member     State          Mda  Addresses  Blocks     Se-% Hi Se-Prio
-------------------------------------------------------------------------------
1     1          active         3/1  3          3          < 1  N  0
1     2          active         3/2  4          4          < 1  N  0
-------------------------------------------------------------------------------
No. of members: 2
===============================================================================
A:SR12_PPPOE#


A:SR12_PPPOE# show isa nat-group 3 member 1 statistics
===============================================================================
ISA NAT Group 3 Member 1
===============================================================================
no resource                                          : 0
pkt rx on wrong port                                 : 0
unsupported protocol                                 : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
no host or host group                                : 0
no ip or port                                        : 0
no matching flow                                     : 3
max flow exceeded                                    : 0
TCP no flow for RST                                  : 0
TCP no flow for FIN                                  : 0
TCP no flow                                          : 0
addr. dep. filtering                                 : 0
ICMP type unsupported                                : 0
ICMP local unsupported                               : 0
ICMP checksum error                                  : 0
ICMP embedded checksum error                         : 0
ICMP unsupported L4                                  : 0
ICMP too short                                       : 0
ICMP length error                                    : 0
Pkt not IPv4 or IPv6                                 : 0
Pkt rcv error                                        : 0
Pkt error                                            : 0
IPv4 header checksum violation                       : 0
IPv4 header malformed                                : 0
IPv4 malformed packet                                : 0
IPv4 ttl zero                                        : 0
IPv4 opt /IPv6 ext headers                           : 0
IPv4 undefined error                                 : 0
IPv6 fragments unsupported                           : 0
TCP/UDP malformed                                    : 0
TCP/UDP checksum failure                             : 0
TCP/UDP length error                                 : 0
Pkt send error                                       : 0
no buf to copy pkt                                   : 0
no policy                                            : 0
locked by mgmt core                                  : 0
port range log failed                                : 0
MTU exceeded                                         : 0
DS Lite unrecognized next hdr                        : 0
DS Lite unknown AFTR                                 : 0
too many fragments for IP packet                     : 0
too many fragmented packets                          : 0
too many fragment holes                              : 0
too many frags buffered                              : 0
fragment list expired                                : 0
fragment rate too high                               : 0
flow log failed                                      : 0
no multiple host or subscr. IPs allowed              : 0
to local                                             : 1
to local ignored                                     : 0
NAT64 disabled                                       : 0
NAT64 invalid src addr                               : 0
NAT64 frag has zero checksum                         : 0
NAT64 v4 has zero checksum                           : 0
NAT64 ICMP frag unsupported                          : 0
CPM out of memory                                    : 0
new flow                                             : 1
TCP closed                                           : 1
TCP expired                                          : 0
UDP expired                                          : 0
ICMP expired                                         : 0
ICMP local                                           : 0
found flow                                           : 34
ARPs ignored                                         : 4
Fragments RX L2A                                     : 0
Fragments RX LSN                                     : 0
Fragments RX DSL                                     : 0
Fragments RX OUT                                     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Fragments TX L2A                                          : 0
Fragments TX LSN                                          : 0
Fragments TX DSL                                          : 0
Fragments TX NAT64                                        : 0
Fragments TX OUT                                          : 0
flow create logged                                        : 0
flow delete logged                                        : 0
flow log pkt tx                                           : 0
===============================================================================
A:SR12_PPPOE#


config>isa# show isa nat-group 1 member 1 statistics
===============================================================================
ISA NAT Group 1 Member 1
===============================================================================
no resource                                               : 0
     [eNatFlowNoResource]                      "no resource",\
         ->the default, all errors without more specific reason

     [eNatFlowWrongPort]                       "pkt rx on wrong port",\
         -> packet came in on wrong port on ISA

     [eNatFlowWrongProt]                       "unsupported protocol",\
         -> protocol  is not UDMP/TCP/ICMP

     [eNatFlowNoHostGrp]                       "no host or host group",\
         -> cannot create new host group because out of resources, or
current host group is not usable at the moment (because in a transient
state)

     [eNatFlowNoIpOrPort]                      "no ip or port",\
          -> no Ip or port range available

     [eNatFlowNoMatchingFlow]                  "no matching flow",\
         -> no matching flow found

     [eNatFlowMaxExceeded]                     "max flow exceeded",\
          -> max flows for subscriber exceeded

     [eNatFlowTcpUnexpectedRst]                "TCP no flow for RST",\
     [eNatFlowTcpUnexpectedFin]                "TCP no flow for FIN",\
     [eNatFlowTcpUnexpected]                   "TCP no flow",\
         -> TCP state machine problem

     [eNatFlowAddressDependentFiltering]       "addr. dep. filtering",\
         -> pkt dropped because of addr. dependent filtering

     [eNatFlowUnsupportedICMP]                 "ICMP type unsupported",\
         -> unsupported icmp type

     [eNatFlowUnsupportedLocalICMP]            "ICMP local unsupported",\
         -> packet to ip address on ISA is not an echo request

     [eNatFlowIcmpChecksumError]               "ICMP checksum error",\
         -> ICMP checksum error

     [eNatFlowIcmpEmbeddedPktChecksumError]    "ICMP embedded checksum
error",\
         -> checksum error on embedded IP header

     [eNatFlowIcmpEmbeddedPktUnsupportedL4]    "ICMP unsupported L4",\
         -> embedded IP packet is not UDP/TCP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
     [eNatFlowIcmpTooShort]                   "ICMP too short",\
         -> packet too short to include the ICMP header

     [eNatFlowIcmpLengthError]                "ICMP length error",\
         -> packet too short to include the embedded header

     [eNatFlowPacketErrorNotIp]               "Pkt not IPv4 or IPv6",\
     [eNatFlowPacketErrorRecv]                "Pkt rcv error",\
     [eNatFlowPacketError]                    "Pkt error",\
     [eNatFlowPacketErrorIpv4HdrChk]          "IPv4 header checksum
violation",\
     [eNatFlowPacketErrorIpv4HdrMal]          "IPv4 header malformed",\
     [eNatFlowPacketErrorIpv4PktMal]          "IPv4 malformed packet",\
     [eNatFlowPacketErrorIpv4TtlZero]         "IPv4 ttl zero",\
     [eNatFlowPacketErrorIpv4Optv6Ext]        "IPv4 opt /IPv6 ext headers",\
     [eNatFlowPacketErrorIpv4Bad]             "IPv4 undefined error", \
     [eNatFlowPacketErrorIpv6Frag]            "IPv6 fragments unsupported",\
     [eNatFlowPacketErrorTcpUdpMal]           "TCP/UDP malformed",\
     [eNatFlowPacketErrorTcpUdpChk]           "TCP/UDP checksum failure",\
     [eNatFlowPacketErrorTcpUdpLen]           "TCP/UDP length error",\
         -> malformed incoming packet

     [eNatFlowPacketSendError]                "Pkt send error",\
         -> failed to tx the packet

     [eNatFlowPacketNoCpyBuf]                 "no buf to copy pkt",\
         -> failed to copy the packet to another buffer needed for
correct processing

     [eNatFlowLockedByMgmtCore]               "locked by mgmt core",\
         -> resources temp. locked by the mgmt core

     [eNatFlowPRLogFailed]                    "port range log failed",\
         -> port range log failed

     [eNatFlowMtuExceeded]                    "MTU exceeded",\
         -> outgoing packet too big for DS-Lite tunnel or nat64 mtu

     [eNatFlowDslUnrecNextHdr]                "DS Lite unrecognized next
hdr",\
         ->ipv6 pkt has wrong next header

     [eNatFlowDslUnknownAFTR]                 "DS Lite unknown AFTR",\
         -> AFTR address is unrecognised

     [eNatFlowTooManyFragsForIpPkt]           "too many fragments for IP
packet",\
     [eNatFlowTooManyFragmentedPkts]          "too many fragmented
packets",\
     [eNatFlowTooManyFragHoles]               "too many fragment holes",\
     [eNatFlowFragListExpire]                 "fragment list expired",\
     [eNatFlowTooManyFragBufs]                "too many frags buffered",\
     [eNatFlowFragRateTooHigh]                "fragment rate too high",\
         -> various fragment problems

     [eNatFlowNoPolicy]                       "no policy",\
         ->vrf not mapped to a policy

     [eNatFlowLogFailed]                      "flow log failed",\
         -> flow logging cannot follow the setup rate

     [eNatFlowMultiHostOrSubscrIp]            "no multiple host or
subscr. IPs allowed",\
         ->multiple hosts or subscribers on the inside in use without
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
port translation

     [eNatFlowToLocalError]                   "to local ignored",\
        -> radius authentication failure (?)

     [eNatFlow64Disabled]                     "NAT64 disabled",\
         -> nat64 was disabled

     [eNatFlow64InvalidSource]                "NAT64 invalid src addr",\
         -> source address matches pref64

     [eNatFlow64FragZeroChecksum]             "NAT64 frag has zero
checksum",\
         -> v4 UDP frag has zero checksum

     [eNatFlow64ZeroChecksum]                 "NAT64 v4 has zero checksum",\
         -> v4 UDP has zero checksum, and policy configured to drop

     [eNatFlow64FragIcmp]                     "NAT64 ICMP frag unsupported"\
         ->v4 fragmented ICMP
```

```
show isa nat-group 3
===============================================================================
ISA NAT Group 3
===============================================================================
Description                 : nat-group-3
Admin state                 : inService
Operational state           : inService
Degraded                    : false
Redundancy                  : inter-chassis
Active MDA limit            : 1
Failed MDA limit            : 0
Scaling profile             : profile1
-------------------------------------------------------------------------------
NAT specific information for ISA group 3
-------------------------------------------------------------------------------
Reserved sessions           : 0
High Watermark (%)          : (Not Specified)
Low Watermark (%)           : (Not Specified)
Accounting policy           : (Not Specified)
UPnP mapping limit          : 524288
Suppress LsnSubBlksFree     : false
LSN support                 : enabled
Last Mgmt Change            : 05/28/2020 17:48:58
-------------------------------------------------------------------------------
===============================================================================
===============================================================================
ISA Group 3 members
===============================================================================
Group Member State          MDA/VM   Addresses  Blocks     Se-% Hi Se-Prio
-------------------------------------------------------------------------------
3     1      active         esa-4/2  65536      262144     < 1  N  0
-------------------------------------------------------------------------------
No. of members: 1
===============================================================================
show isa nat-group 3 inter-chassis-redundancy
===============================================================================
NAT inter-chassis redundancy
===============================================================================
State                       : active
State changes               : 3
Time of last change         : 05/28/2020 17:49:06
In control                  : true
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Health                      : 1000
Peer health                 : 1000
Preferred                   : false
Peer preferred              : false
===============================================================================
```

```
show isa nat-group 3 statistics inter-chassis-redundancy
===============================================================================
NAT inter-chassis redundancy statistics
===============================================================================
Transmitted frames                                  : 1227
Transmission failures                               : 0
Received frames                                     : 1206
Receive failures (wrong peer)                       : 0
Keepalive timeouts                                  : 0
===============================================================================
```

Table 369: Output fields: CPM statistics

Field	Description
Transmitted frames	Displays the total number of transmitted frames on the CPM level.
Transmission failures	Displays the transmission failures, for example due to missing route to the peer.
Received frames	Displays the total number of received frames on the CPM level.
Received failures (wrong peer)	Displays the received failures due to wrong peer.
Keepalive timeouts	Displays the total number of keepalive timeouts.

```
show isa nat-group 3 member 1 inter-chassis-redundancy
===============================================================================
NAT inter-chassis redundancy member state
===============================================================================
State                       : active
Peer state                  : standby
Local IP address            : 12.12.1.1
Remote IP address           : 12.12.0.1
Unsupported flows           : 0
Tracked flows               : 888074
Tracked flows not synced    : 112
Tracked flows pending       : 960
Flows synced                : 887002
Flows marked to delete      : 0
Flows delete pending        : 0
Time of last failure        : N/A
Failure cause               : N/A
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 370: Output fields: ISA statistics

Field	Description
State	Displays the state of the NAT inter-chassis redundancy member.
Peer state	Displays the state of the peer.
Local IP address	Displays the local IP address.
Remote IP address	Displays the IP address of the remote client.
Unsupported flows	Displays the flows other than TCP/UDP/ICMP in 1:1 NAT that are agnostic and by default created per subscriber by configuration on both nodes. There is no need to synchronize such flows.
Tracked flows	Displays the TCP/UDP/ICMP flows.
Tracked flows not synced	Displays the outstanding flows on the active node waiting to be synchronized (transient condition). On the standby node, all flows are in this state.
Tracked flows pending	Displays the flows waiting to be acknowledged.
Flows synced	Displays the flows that are synchronized.
Flows marked to delete	Displays the flows marked to be deleted due to a timeout, deleted pinhole or simply as a result of an invoked **clear** command.
Flows delete pending	Displays the flows waiting to be deleted due to a timeout, deleted pinhole or simply as a result of an invoked **clear** command.
Time of last failure	Displays the time of the last ISA failure.
Failure cause	Displays the cause of the ISA failure.

```
show isa nat-group 3 member 1 statistics inter-chassis-redundancy
===============================================================================
NAT inter-chassis redundancy member statistics
===============================================================================
Transmitted frames                                    : 16540
Retransmitted frames                                  : 0
Transmitted flow create messages                      : 1823651
Transmitted flow delete messages                      : 929264
Transmitted ALG frames                                : 0
Received frames                                       : 32745
Received flow create messages                         : 0
Received flow delete messages                         : 0
Received ALG frames                                   : 0
Dropped flow create messages (no policy)              : 0
Dropped flow create messsages (no port block)         : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Received fragments                                    : 0
===============================================================================
```

Table 371: Output fields: ISA level statistics

Field	Description
Transmitted frames	Displays all transmitted frames on the ISA level.
Retransmitted frames	Displays the retransmitted frames due to loss (lack of acknowledgment).
Transmitted flow create messages	Displays the transmitted flow create messages.
Transmitted flow delete messages	Displays the transmitted flow delete messages.
Transmitted ALG messages	Displays the transmitted application layer gateway messages.
Received frames	Displays all frames received.
Received flow create messages	Displays the received flow create messages.
Received flow delete messages	Displays the received flow delete messages.
Received ALG frames	Displays the received application layer gateway messages.
Dropped flow create messages (no policy)	Displays the dropped flow create messages due to lack of policy.
Dropped flow create messages (no port block)	Displays the dropped flow create messages due to block of port.
Received fragments	Displays all fragments received.

```
show isa nat-group <nat-group-id> members
ISA Group 1 members
===============================================================================
Group Member  State   Mda  Addresses  Blocks   Se-% Hi Se-Prio
-------------------------------------------------------------------------------
1     1       active  1/2  17         2088      < 1  N  0
1     2       active  1/2  17         2088      < 1  N  0
1     3       bypass  1/2  17         2088      < 1  N  0
1     4       active  2/2  17         2088      < 1  N  0
1     5       active  2/2  17         2088      < 1  N  0
-------------------------------------------------------------------------------
No. of members: 5
===============================================================================
```

Table 372: Output fields: ISA member state

State	Descriptions
Active	The member is actively serving traffic.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

State	Descriptions
Failed	The member is in a failed state where forwarding is not possible and L2-aware bypass redundancy mode is disabled. This event is normally associated with an MS-ISA failure.
failedBypass	The member is in failed state and the subscribers that it was serving before the failover occurred are in a bypass mode. In a bypass mode, subscribers are normally routed according to the routing table in the inside routing context (as opposed to steered to MS-ISA where NAT is performed). The operator should ensure that the routing leads those subscribers to a centralized CGN node that serve as a backup device. This event is normally associated with an MS-ISA failure while the L2-aware bypass redundancy mode is enabled.
activeBypass	The member transitions in this state after a recovery while the L2-aware bypass mode of operation is enabled. Some subscribers that this member was serving before the failover are in bypass mode, while others that came on-line after the restoration are actively being served by this member.

nat-group

Syntax

nat-group *nat-group-id* **member** *member-number* **l2-aware-subscribers**

nat-group *nat-group-id* **statistics mda** *mda-id*

nat-group *nat-group-id* **statistics inter-chassis-redundancy**

nat-group *nat-group-id* **member** *member-number* **resource-peak-values**

nat-group *nat-group-id* **member** *member-number* **statistics**

nat-group *nat-group-id* **member** *member-number* **statistics inter-chassis-redundancy**

Context

[Tree] (clear>nat>isa nat-group)

Full Context

clear nat isa nat-group

Description

This command clears ISA nat-group commands related statistics or removes all the subscribers that are associated with a specific NAT group member.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

nat-group-id

Specifies the NAT group ID to clear.

Values 1 to 4

member-number

Specifies the member number.

Values 1 to 255

mda-id

Specifies the MDA for which to clear performance measurements in *slot*/*mda* format.

Values slot — 1

mda — 1 to 4

l2-aware-subscribers

Specifies to clear the NAT group ID's l2-aware subscribers.

statistics

Specifies to clear the NAT group ID's statistics.

resource-peak-values

Specifies to reset the resource peak values to the current resource measurements.

inter-chassis-redundancy

Specifies to clear the inter-chassis redundancy data.

Platforms

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

16.3 nat-policy

nat-policy

Syntax

nat-policy *nat-policy-name* **associations**

nat-policy *nat-policy-name*

nat-policy *nat-policy-name* **statistics**

nat-policy

Context

[Tree] (show>service>nat nat-policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service nat nat-policy

Description

This command displays NAT policy information.

Parameters

nat-policy-name

Specifies the NAT Policy name.

Values 32 chars max

associations

Keyword; displays the router instances and/or subscriber profiles associated with the NAT policy.

statistics

Keyword; displays statistics of the specified NAT policy.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
show service nat nat-policy
===============================================================================
NAT policies
===============================================================================
Policy Description
-------------------------------------------------------------------------------
outPolicy
outPolicy2
outPolicy3
-------------------------------------------------------------------------------
No. of NAT policies: 3
===============================================================================


*A:SR12_PPPOE>show>router>nat#  show service nat nat-policy "priv-nat-policy"
===============================================================================
NAT Policy priv-nat-policy
===============================================================================
Pool                                : privpool
Router                              : Base
Filtering                           : endpointIndependent
Block limit                         : 4
Reserved ports                      : 0
Port usage High Watermark (%)       : (Not Specified)
Port usage Low Watermark (%)        : (Not Specified)
Port forwarding limit               : 64
Session limit                       : 65535
Reserved sessions                   : 0
Session usage High Watermark (%)    : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Session usage Low Watermark (%)       : (Not Specified)
ALG enabled                           : ftp rtsp sip
Prioritized forwarding classes        : (Not Specified)
Timeout TCP established (s)           : 7440
Timeout TCP transitory (s)            : 240
Timeout TCP SYN (s)                   : 15
Timeout TCP TIME-WAIT (s)             : 0
Timeout UDP mapping (s)               : 300
Timeout UDP initial (s)               : 15
Timeout UDP DNS (s)                   : 15
Timeout ICMP Query (s)                : 60
Timeout SIP Inactive Media (s)        : 120
Subscriber retention (s)              : 0
UDP inbound refresh                   : false
TCP MSS Adjust                        : (Not Specified)
Destination-NAT IP                    : (Not Specified)
IPFIX export policy                   : (Not Specified)
Last Mgmt Change                      : 01/28/2012 14:47:59
===============================================================================
*A:SR12_PPPOE>show>router>nat#


show service nat nat-policy "outPolicy2” associations
===============================================================================
NAT Policy outPolicy2 Subscriber Profile Associations
===============================================================================
sub_prof_B_3
-------------------------------------------------------------------------------
No. of subscriber profiles: 1
===============================================================================

show service nat nat-policy "outPolicy2” statistics
===============================================================================
NAT Policy outPolicy2 Statistics
===============================================================================
mda 3/1
-------------------------------------------------------------------------------
hostsActive : 1
hostsPeak : 1
sessionsTcpCreated : 0
sessionsTcpDestroyed : 0
sessionsUdpCreated : 0
sessionsUdpDestroyed : 0
sessionsIcmpQueryCreated : 0
sessionsIcmpQueryDestroyed : 0
===============================================================================
```

16.4 nat-system-resources

nat-system-resources

Syntax

nat-system-resources mda *mda-id*

nat-system-resources mda *mda-id* **detail**

nat-system-resources esa-vm *vapp-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

nat-system-resources detail esa-vm *vapp-id*

nat-system-resources nat-group *nat-group-id* **member**

Context

[Tree] (show>isa nat-system-resources)

Full Context

show isa nat-system-resources

Description

This command displays ISA NAT system resources.

Parameters

mda-id

Specifies the card and slot identifying a provisioned ISA.

Values

mda-id:	*slot* [*xiom*/]*mda*	
	slot	1 to 2 (7750 SR-2s)
		1 to 5 (7750 SR-7)
		1 to 6 (7750 SR-14s)
		1 to 10 (7450 ESS, 7750 SR-12)
		1 to 14 (VSR)
		1 to 20 (VSR)
	xiom	x1 to x2
	mda	1 to 2 (7450 ESS, 7750 SR-1, SR-2s, SR-7, SR-12, SR-14s)
		1 to 4 (VSR)

nat-group-id

Specifies the NAT group ID.

Values 1 to 4 (7450 ESS, 7750 SR-1, SR-2s, SR-7, SR-12, SR-14s, VSR)
1 to 8 (7750 SR-12)
1 to 15 (VSR)

vapp-id

Specifies the ID of the configured ESA and ESA VM.

Values

vapp-id:	*esa-id*/*vm-id*	
	esa-id	1 to 16

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

vm-id	1 to 4

Platforms

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

Output

The following output is an example of ISA NAT ESA-VM system resources and Table 373: Output fields: ISA NAT ESA-VM system resources describes the output fields.

Output Example

```
# show isa nat-system-resources esa-vm 1/1
===============================================================================
ISA NAT ESA-VM 1/1 resources
===============================================================================
Name                                Maximum         Limit
                                     Actual          Peak       Peak Timestamp
-------------------------------------------------------------------------------
Flows                                131072           N/A
                                          0             0
Policies                               4096           N/A
                                          0             0
Port-ranges configured               524288          100%
                                          0             0
Port-ranges used                          0          100%
                                          0             0
Port-ranges retained                      0          100%
                                          0             0
Ports                           1006632960          100%
                                          0             0
IP-addresses                         65536          100%
                                          0             0
Large-scale hosts                     8192          100%
                                          0             0
Subscriber-cache entries              8192           N/A
                                          0             0
L2-aware subscribers                  2048          100%
                                          0             0
L2-aware hosts                        4096          100%
                                          0             0
Delayed ICMP's                         200           N/A
                                          0             0
ALG session                           24576           N/A
                                          0             0
Upstream fragment lists               2048           N/A
                                          0             0
Downstream fragment lists             1024           N/A
                                          0             0
Upstream fragment bufs                2048           N/A
                                          0             0
Downstream fragment bufs              1024           N/A
                                          0             0
Dormant subscribers                      0           N/A
                                          0             0
UPnP mappings                         1024           N/A
                                          0             0
UPnP sessions                          100           N/A
                                          0             0
One-to-one IP-addresses               8192          100%
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                          0             0
Flowlog destinations set 0                2           N/A
                                          0             0
Flowlog destinations set 1                2           N/A
                                          0             0
Flowlog destinations set 2                1           N/A
                                          0             0
Flowlog packets set 0                   256           N/A
                                          0             0
Flowlog packets set 1                   256           N/A
                                          0             0
Flowlog packets set 2                   256           N/A
                                          0             0
PPPoE sessions                         2048           N/A
                                          0             0
Flexible-port IP-addresses              128          100%
                                          0             0
LI entries                              255           N/A
                                          0             0
===============================================================================
```

Table 373: Output fields: ISA NAT ESA-VM system resources

Label	Description
Name	The ISA NAT system resource name
Maximum	The maximum resource value
Limit	The resource limit
Actual	The actual resource value
Peak	The peak resource value
Peak Timestamp	The date and time of the peak resource usage

The following output is an example of ISA NAT group system resources and Table 374: Output fields: ISA NAT group system resources describes the output fields.

Output Example

```
# show isa nat-system-resources nat-group 1 member 1
===============================================================================
ISA NAT group 1 member 1 resources
===============================================================================
Name                               Maximum
                                    Actual          Peak       Peak Timestamp
-------------------------------------------------------------------------------
Flows                               131072
                                         0             0
Policies                              4096
                                         0             0
Port-ranges configured              524288
                                         0             0
Port-ranges used                         0
                                         0             0
Port-ranges retained                     0
                                         0             0
Ports                          1006632960
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                        0              0
IP-addresses                        65536
                                        0              0
Large-scale hosts                    8192
                                        0              0
Subscriber-cache entries             8192
                                        0              0
L2-aware subscribers                 2048
                                        0              0
L2-aware hosts                       4096
                                        0              0
Delayed ICMP's                        200
                                        0              0
ALG session                         24576
                                        0              0
Upstream fragment lists              2048
                                        0              0
Downstream fragment lists            1024
                                        0              0
Upstream fragment bufs               2048
                                        0              0
Downstream fragment bufs             1024
                                        0              0
Dormant subscribers                     0
                                        0              0
UPnP mappings                        1024
                                        0              0
UPnP sessions                         100
                                        0              0
One-to-one IP-addresses              8192
                                        0              0
Flowlog destinations set 0              2
                                        0              0
Flowlog destinations set 1              2
                                        0              0
Flowlog destinations set 2              1
                                        0              0
Flowlog packets set 0                 256
                                        0              0
Flowlog packets set 1                 256
                                        0              0
Flowlog packets set 2                 256
                                        0              0
PPPoE sessions                       2048
                                        0              0
Flexible-port IP-addresses            128
                                        0              0
LI entries                            255
                                        0              0
===============================================================================
```

Table 374: Output fields: ISA NAT group system resources

Label	Description
Name	The ISA NAT system resource name
Maximum	The maximum resource value
Actual	The actual resource value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Peak	The peak resource value
Peak Timestamp	The date and time of the peak resource usage

16.5 nat64-lsn-sub

nat64-lsn-sub

Syntax

nat64-lsn-sub router *router-instance* **ipv6-address-prefix** *ipv6-prefix*

Context

[Tree] (clear>nat nat64-lsn-sub)

Full Context

clear nat nat64-lsn-sub

Description

This command clears NAT mappings for NAT64 LSN subscribers.

Parameters

router-instance

Specifies the router instance, up to 32 characters.

ipv6-prefix

Specifies the IPv6 prefix and length.

Values

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

16.6 neighbor

neighbor

Syntax

neighbor *service-id*

Context

[Tree] (clear>service>id neighbor)

Full Context

clear service id neighbor

Description

This command clears commands for a specific service. It clears the discovered IPv6 address of the neighboring CE associated with an Ipipe SAP. When IPv6CP comes back up following the execution of this command on an IPv6CP SAP, the node checks if an IPv6 address has been learned for the remote CE attached to the Ipipe service. If one has been learned, then this is used to bring up IPv6CP.

Parameters

service-id

The ID that uniquely identifies a service.

Values service-id: 1 to 214748364

svc-name: A string up to 64 characters long.

service-name

Neighboring IPv6 address.

Platforms

All

neighbor

Syntax

neighbor [{**sap** *sap-id* | **sdp** *sdp-id:vc-id*} [**address** *ip-address*]] [**detail**] [*family*]

Context

[Tree] (show>service>id>pim-snooping neighbor)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id pim-snooping neighbor

Description

This command displays PIM neighbor information.

Parameters

ip-int-name

Only displays the interface information associated with the specified IP interface name

sap-id

Displays the neighbor information associated with the specified SAP

sdp-id:vc-id

Displays the neighbor information associated with the specified SDP

ip-address

Displays information for the neighbor with the specified IP address

detail

Displays detailed neighbor information

family

Displays either IPv4 or IPv6 information for the specified neighbor

Values ipv4 or ipv6

Platforms

All

Output

The following output is an example of service PIM snooping neighbor information.

Output Example

```
*A:PE#  show service id 1 pim-snooping neighbor
===============================================================================
PIM Snooping Neighbors ipv4
===============================================================================
Port Id                 Nbr DR Prty     Up Time       Expiry Time     Hold Time
  Nbr Address
-------------------------------------------------------------------------------
SAP:1/1/9:1             1               0d 00:05:23   0d 00:01:23     105
  10.0.0.1
EVPN-MPLS               1               0d 00:05:02   0d 00:01:43     105
  10.0.0.2
EVPN-MPLS               1               0d 00:05:02   0d 00:01:43     105
  10.0.0.3
-------------------------------------------------------------------------------
Neighbors : 3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

neighbor

Syntax

neighbor [*ip-address* | **evpn-mpls** | **sap** *sap-id* | **sdp** *sdp-id:vc-id* | **vxlan vtep** *ip-address* **vni** *vni-id*] [**family**]

Context

[Tree] (clear>service>id>pim-snooping neighbor)

Full Context

clear service id pim-snooping neighbor

Description

This command clears PIM snooping neighbor information.

Parameters

ip-address

Clears information for the neighbor with the specified IP address

sap *sap-id*

Clears PIM snooping entries associated with the specified SAP

sdp *sdp-id:vc-id*

Clears PIM entries associated with the specified SDP. For a spoke-SDP, the VC ID must be specified; for a mesh SDP, the VC ID is optional.

Values 1 to 17407

family

Displays either IPv4 or IPv6 information

Values ipv4 or ipv6

evpn-mpls

Clears PIM snooping statistics for EVPN-MPLS destinations

Platforms

All

neighbor

Syntax

neighbor [*ip-address* [**detail**]]

neighbor [*as-number* [**detail**]]

neighbor *ip-address* [*family* [**type** *mvpn-type*] [*evpn-type*]] *routes* [*brief*] [**community** *comm-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

neighbor *ip-address* [*family*] *damping*

neighbor *as-number* [*family*] *damping*

neighbor *ip-address* **orf** [*paths*]

neighbor *ip-address* **graceful-restart**

neighbor [**dynamic**]

neighbor *ip-address* **epe-statistics**

Context

[Tree] (show>router>bgp neighbor)

Full Context

show router bgp neighbor

Description

This command displays BGP neighbor information and can be entered with or without any parameters. Issuing the command without any parameters displays information for all BGP peers. When the command is issued with a specific IP address or ASN, information is displayed only for the specified peer or peers with the same AS.

When either **received-routes** or **advertised-routes** is specified, the routes exchanged with the specified peer are listed (see the second output example, below).

When either **history** or **suppressed** is specified, the routes learned from those peers that either have a history or are suppressed (respectively) are listed.

The "State" field displays the BGP peer's protocol state. In addition to the standard protocol states, this field can also display the "Disabled" operational state, which indicates the peer is operationally disabled and must be restarted by the operator.

Note:
The information generated by this command is not available by SNMP.

Parameters

as-number

Displays information for the specified AS number.

Values 1 to 4294967295

brief

Displays information in a brief format. This parameter is only supported with **received-routes** and **advertised-routes**.

community

Displays all routes with the specified BGP community.

comm-id

Specifies community IDs, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **llgr-stale** | **no-llgr** | **blackhole**

detail

Displays detailed information.

dynamic

Displays information for dynamic BGP neighbors.

evpn-type

Displays information for the specified EVPN route type.

Values **auto-disc** — Displays the auto discovery routes for this peer.

mac — Displays the MAC routes for this peer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

inclusive-mcast — Displays the inclusive multicast routes for this peer.

eth-seg — Displays the Ethernet segment routes for this peer.

ip-prefix — Displays the IPv4 routes for this peer.

ipv6-prefix — Displays the IPv6 routes for this peer.

smet — Displays the Selective Multicast Ethernet Tag routes for this peer.

mcast-join-synch — Displays the Multicast Join Synch routes for this peer.

mcast-leave-synch— Displays the Multicast Leave Synch routes for this peer.

family

Specifies the type of routing information to display.

Values **evpn** — Displays the BGP EVPN routes for this peer.

flow-ipv4 — Displays the BGP IPv4 flow-spec routes for this peer.

flow-ipv6 — Displays the BGP IPv6 flow-spec routes for this peer.

ipv4 — Displays the BGP IPv4 routes for this peer.

ipv6 — Displays the BGP IPv6 routes for this peer.

l2-vpn — Displays the BGP L2 VPN routes for this peer.

label-ipv4 — Displays the BGP IPv4 labeled unicast routes for this peer.

label-ipv6 — Displays the BGP IPv6 labeled unicast routes for this peer.

mcast-ipv4 — Displays the BGP multicast IPv4 routes for this peer.

mcast-ipv6 — Displays the BGP multicast IPv6 routes for this peer.

mcast-vpn-ipv4 — Displays the BGP multicast VPN IPv4 routes for this peer.

mcast-vpn-ipv6 — Displays the BGP multicast VPN Ipv6 routes for this peer.

mdt-safi — Displays the BGP multicast VPN MDT-SAFI routes for this peer.

ms-pw — Displays the BGP Multi-segment PW routes for this peer.

mvpn-ipv4 — Displays the BGP NG-MVPN IPv4 routes for this peer.

mvpn-ipv6 — Displays the BGP NG-MVPN IPv6 routes for this peer.

route-target — Displays the BGP route-target constrain routes for this peer.

vpn-ipv4 — Displays the BGP VPN IPv4 routes for this peer.

vpn-ipv6 — Displays the BGP VPN IPv6 routes for this peer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

received-routes

Displays the number of routes received from this peer.

advertised-routes

Displays the number of routes advertised to this peer.

damping

Displays damping information for the specified AS number or neighbor IP address.

Values **history** — Display statistics for dampened routes.

suppressed — Display the number of paths from this peer that have been suppressed by damping.

paths

Displays ORF path information for the specified neighbor IP address.

Values **send** — Displays the number of paths sent to this peer.

receive — Displays the number of paths received from this peer.

graceful-restart

Displays neighbors configured for graceful restart.

ip-address

Displays information for the specified neighbor IP address.

Values ipv4-address:

- a.b.c.d (host bits must be 0)

ipv6-address:

- x:x:x:x:x:x:x:x [-interface]
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters, mandatory for link local addresses

mvpn-type

Displays information for the specified MVPN route type.

Values **intra-ad** — Displays the intra-ad routes for this peer.

inter-ad — Displays the inter-ad routes for this peer.

spmsi-ad — Displays the spmsi-ad routes for this peer.

leaf-ad —Displays the leaf-ad routes for this peer.

source-ad — Displays the source-ad routes for this peer.

shared-join — Displays the shared-join routes for this peer.

source-join — Displays the source-join routes for this peer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

orf

Displays outbound route filtering for the BGP instance. Outbound Route Filtering (ORF) is used to inform a neighbor of targets (using **target-list**) that it is willing to receive. This mechanism helps lessen the update exchanges between neighbors and saves CPU cycles to process routes that could have been received from the neighbor only to be dropped or ignored.

epe-statistics

Displays egress peer engineering (EPE) statistics for the specified IP address.

Platforms

All

Output

Table 375: Output fields: BGP neighbor describes the standard and detailed command output fields for a BGP neighbor.

The following outputs are examples of BGP neighbor information.

Output Example

```
A:node-2>show>router>bgp# neighbor
===============================================================================
BGP Neighbor
===============================================================================
-------------------------------------------------------------------------------
Peer : 10.0.0.5          Group : headquarters1
-------------------------------------------------------------------------------
Peer AS            : 300Peer Port        : 0
Peer Address       : 10.0.0.5
Local AS           : 200Local Port       : 0
Local Address      : 10.0.0.104
Peer Type          : External             Dynamic Peer     : Yes
State              : Active               Last State       : Idle
Last Event         : stop
Last Error         : Cease
Local Family       : IPv4                 Remote Family    : Unused
Hold Time          : 90                   Keep Alive       : 30
Active Hold Time   : 0                    Active Keep Alive: 0
Cluster Id         : 0.0.0.100
Preference         : 170                  Num of Flaps     : 0
Recd. Prefixes     : 0                    Active Prefixes  : 0
Recd. Paths        : 0                    Suppressed Paths : 0
Input Queue        : 0                    Output Queue     : 0
i/p Messages       : 0                    o/p Messages     : 0
i/p Octets         : 0                    o/p Octets       : 0
i/p Updates        : 0                    o/p Updates      : 0
TTL Security       : Enabled              Min TTL Value    : 255
Graceful Restart   : Disabled             Stale Routes Time: n/a
Egress Engineering : Enabled
Local Capability   : RouteRefresh MP-BGP
Remote Capability  :
Import Policy      : None Specified - Default Accept
Export Policy      : None Specified - Default Accept
-------------------------------------------------------------------------------
Peer : 10.0.0.91         Group : Santa Clara
-------------------------------------------------------------------------------
Peer AS          : 100Peer Port        : 0
Peer Address     : 10.0.0.91
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Local AS         : 200Local Port       : 0
Local Address    : 10.0.0.103
Peer Type        : External
State            : Connect              Last State       : Active
Last Event       : openFail
Last Error       : Cease
Local Family     : IPv4                 Remote Family    : Unused
Hold Time        : 90                   Keep Alive       : 30
Active Hold Time : 0                    Active Keep Alive: 0
Cluster Id       : 0.0.0.100
Preference       : 170                  Num of Flaps     : 0
Recd. Prefixes   : 0                    Active Prefixes  : 0
Recd. Paths      : 0                    Suppressed Paths : 0
Input Queue      : 0                    Output Queue     : 0
i/p Messages     : 0                    o/p Messages     : 1
i/p Octets       : 0                    o/p Octets       : 0
i/p Updates      : 0                    o/p Updates      : 0
TTL Security     : Disabled             Min TTL Value    : n/a
Graceful Restart : Disabled             Stale Routes Time: n/a
Local Capability : RouteRefresh MP-BGP
Remote Capability:
Import Policy    : None Specified - Default Accept
Export Policy    : None Specified - Default Accept
...
-------------------------------------------------------------------------------
```

Output Example

```
A:node-2>show>router>bgp# neighbor
===============================================================================
BGP Neighbor
===============================================================================
Peer  : 3.3.3.3
Group : bgp_group_1 34567890123456789012
-------------------------------------------------------------------------------
Peer AS              : 20               Peer Port           : 0
Peer Address         : 3.3.3.3
Local AS             : 100              Local Port          : 0
Local Address        : 0.0.0.0
Peer Type            : Internal
State                : Active           Last State          : Idle
Last Event           : stop
Last Error           : Cease
Local Family         : IPv4
Remote Family        : Unused
Hold Time            : 10               Keep Alive          : 30
Active Hold Time     : 0                Active Keep Alive   : 0
Cluster Id           : 2.2.3.4
Preference           : 101              Num of Flaps        : 0
Recd. Paths          : 0
IPv4 Recd. Prefixes  : 0                IPv4 Active Prefixes : 0
IPv4 Suppressed Pfxs : 0                VPN-IPv4 Suppr. Pfxs : 0
VPN-IPv4 Recd. Pfxs  : 0                VPN-IPv4 Active Pfxs : 0
Mc IPv4 Recd. Pfxs.  : 0                Mc IPv4 Active Pfxs. : 0
Mc IPv4 Suppr. Pfxs  : 0                IPv6 Suppressed Pfxs : 0
IPv6 Recd. Prefixes  : 0                IPv6 Active Prefixes : 0
Input Queue          : 0                Output Queue         : 0
i/p Messages         : 0                o/p Messages         : 0
i/p Octets           : 0                o/p Octets           : 0
i/p Updates          : 0                o/p Updates          : 0
TTL Security         : Disabled         Min TTL Value        : n/a
Graceful Restart     : Enabled          Stale Routes Time    : 360
Advertise Inactive   : Disabled         Peer Tracking        : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Advertise Label      : None             Bfd Enabled     : Yes
Auth key chain       : n/a
Bfd Enabled          : Disabled Layer 2 VPN Cisco Interop : Disabled
Egress Engineering   : Enabled
Local Capability     : RouteRefresh MP-BGP
Remote Capability    :
Import Policy        : test i1
                     : test i2
                     : test i3
                     : test i4
                     : test i5 89012345678901 2345678901
Export Policy        : test e1
                     : test e2
                     : test e3
                     : test e4
                     : test e5 89012345678901 2345678901
-------------------------------------------------------------------------------
Neighbors : 1
===============================================================================
```

The following output is an example of information for a specific BGP neighbor.

Output Example

```
A:node-2>show>router>bgp# neighbor 10.20.1.3
===============================================================================
BGP Neighbor
===============================================================================
Peer  : 10.20.1.3
Group : 1
-------------------------------------------------------------------------------
Peer AS              : 100              Peer Port            : 49725
Peer Address         : 10.20.1.3
Local AS             : 100              Local Port           : 179
Local Address        : 10.20.1.2
Peer Type            : Internal
State                : Established      Last State           : Established
Last Event           : recvKeepAlive
Last Error           : Cease
Local Family         : IPv4
Remote Family        : IPv4
Hold Time            : 3                Keep Alive           : 1
Active Hold Time     : 3                Active Keep Alive    : 1
Cluster Id           : None
Preference           : 170              Num of Flaps         : 0
Recd. Paths          : 1
IPv4 Recd. Prefixes  : 11               IPv4 Active Prefixes : 10
IPv4 Suppressed Pfxs : 0                VPN-IPv4 Suppr. Pfxs : 0
VPN-IPv4 Recd. Pfxs  : 0                VPN-IPv4 Active Pfxs : 0
Mc IPv4 Recd. Pfxs.  : 0                Mc IPv4 Active Pfxs. : 0
Mc IPv4 Suppr. Pfxs  : 0                IPv6 Suppressed Pfxs : 0
IPv6 Recd. Prefixes  : 0                IPv6 Active Prefixes : 0
Input Queue          : 0                Output Queue         : 0
i/p Messages         : 471              o/p Messages         : 473
i/p Octets           : 3241             o/p Octets           : 3241
i/p Updates          : 4                o/p Updates          : 4
TTL Security         : Disabled         Min TTL Value        : n/a
Advertise Inactive   : Disabled         Peer Tracking        : Disabled
Advertise Label      : None
Auth key chain       : eta_keychain1
Bfd Enabled          : Enabled Layer 2 VPN Cisco Interop : Disabled
Egress Engineering   : Enabled
Local Capability     : RouteRefresh MP-BGP
Remote Capability    : RouteRefresh MP-BGP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Import Policy        : None Specified - Default Accept
Export Policy        : static2bgp
-------------------------------------------------------------------------------
Neighbors : 1
===============================================================================
```

The following outputs are examples of ORF information for specific BGP neighbors.

Output Example

```
A:node-2>show>router>bgp# neighbor 10.0.0.11 orf
===============================================================================
BGP Neighbor 10.0.0.11 ORF
===============================================================================
Send List (Automatic)
-------------------------------------------------------------------------------
target:65535:10
target:65535:20
===============================================================================
```

```
A:node-2>show>router>bgp# neighbor 10.0.0.1 orf
===============================================================================
BGP Neighbor 10.0.0.1 ORF
===============================================================================
Receive List
-------------------------------------------------------------------------------
target:65535:10
target:65535:20
===============================================================================
```

The following outputs are examples of SR IPv6 policy route information for BGP neighbors in the BGP and BGP group contexts.

Output Example

```
A:node-2>show>router>bgp# neighbor 10.20.1.3 advertised-routes sr-policy-ipv6
===============================================================================
 BGP Router ID:10.20.1.2        AS:2           Local AS:2
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP SR-POLICY-v6 Routes
===============================================================================
Flag  RD/Color/End Point                                LocalPref   MED
      Nexthop (Router)                                  Path-Id     IGP Cost
      As-Path                                                       Label
-------------------------------------------------------------------------------
i     2/20/3ffe::a14:102                                100         None
      ::a14:102                                         None        N/A
      No As-Path
i     3/30/::                                           100         None
      ::a14:102                                         None        N/A
      No As-Path
-------------------------------------------------------------------------------
Routes : 2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:node-2>show>router>bgp# neighbor 10.20.1.2 received-routes sr-policy-ipv6
===============================================================================
 BGP Router ID:10.20.1.3        AS:2           Local AS:2
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP SR-POLICY-v6 Routes
===============================================================================
Flag  RD/Color/End Point                                LocalPref   MED
      Nexthop (Router)                                  Path-Id     IGP Cost
      As-Path                                                       Label
-------------------------------------------------------------------------------
u*>i  2/20/3ffe::a14:102                                100         None
      ::a14:102                                         None        N/A
      No As-Path
u*>i  3/30/::                                           100         None
      ::a14:102                                         None        N/A
      No As-Path
-------------------------------------------------------------------------------
Routes : 2
===============================================================================
```

The following output is an example of detailed BGP neighbor information.

Output Example

```
# show router bgp neighbor detail
===============================================================================
BGP Neighbor (detail)
-------------------------------------------------------------------------------
Peer : 10.0.0.15         Group : To_AS_40000
-------------------------------------------------------------------------------
Peer AS          : 65205               Peer Port        : 0
Peer Address     : 10.0.0.15
Local AS         : 65206               Local Port       : 0
Local Address    : 10.0.0.16
Peer Type        : External
State            : Active              Last State       : Connect
Last Event       : openFail
Last Error       : Hold Timer Expire
Connect Retry    : 20                  Local Pref.      : 100
Min Route Advt.  : 30                  Min AS Orig.     : 15

Damping          : Disabled            Loop Detect      : Ignore
MED Out          : No MED Out          Authentication   : None
Next Hop Self    : Disabled            AggregatorID Zero: Disabled
Remove Private   : Disabled            Passive          : Disabled
Prefix Limit     : No Limit
Hold Time        : 90                  Keep Alive       : 30
Active Hold Time : 0                   Active Keep Alive: 0
Cluster Id       : None                Client Reflect   : Enabled
Preference       : 170                 Num of Flaps     : 0
Recd. Prefixes   : 0                   Active Prefixes  : 0
Recd. Paths      : 0                   Suppressed Paths : 0
Input Queue      : 0                   Output Queue     : 0
i/p Messages     : 0                   o/p Messages     : 0
i/p Octets       : 0                   o/p Octets       : 0
i/p Updates      : 0                   o/p Updates      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Export Policy    : direct2bgp
===============================================================================
```

The following output is an example of detailed information for a specific BGP neighbor.

Output Example

```
A:node-2>show>router>bgp# neighbor 1.101.201.201 detail
===============================================================================
BGP Neighbor
===============================================================================
-------------------------------------------------------------------------------
Peer                : 1.101.201.201
Description         : (Not Specified)
Group               : onegroup
-------------------------------------------------------------------------------
Peer AS             : 200             Peer Port           : 59126
Peer Address        : 1.101.201.201
Local AS            : 100             Local Port          : 179
Local Address       : 1.101.201.101
Peer Type           : External        Dynamic Peer        : No
State               : Established     Last State          : Established
Last Event          : recvOpen
Last Error          : Cease (Connection Collision Resolution)
Local Family        : IPv6 MCAST-IPv4 MVPN-IPv4 Route-Target MVPN-IPv6 EVPN
                      MCAST-IPv6 LABEL-IPv4 BGP-LS SR-POLICY-IPV4 SR-POLICY-
                      IPV6
Remote Family       : IPv6 MCAST-IPv4 MVPN-IPv4 Route-Target MVPN-IPv6 EVPN
                      MCAST-IPv6 LABEL-IPv4 BGP-LS SR-POLICY-IPV4 SR-POLICY-
                      IPV6
Connect Retry       : 1               Local Pref.         : 100
Min Route Advt.     : 1
Multihop            : 0 (Default)     AS Override         : Disabled
Damping             : Disabled        Loop Detect         : Ignore
MED Out             : No MED Out      Authentication      : None
Next Hop Self       : Disabled        AggregatorID Zero   : Disabled
Remove Private      : Disabled
Passive             : Disabled
Peer Identifier     : 10.20.1.201     Fsm Est. Trans      : 19
Fsm Est. Time       : 02d07h16m       InUpd Elap. Time    : 02d09h04m
Hold Time           : 90              Keep Alive          : 30
Min Hold Time       : 0
Active Hold Time    : 90              Active Keep Alive   : 30
Cluster Id          : None            Client Reflect      : Enabled
Preference          : 170             Num of Update Flaps : 12
Input Queue         : 0               Output Queue        : 0
Input Messages      : 6671            Output Messages     : 6687
Input Octets        : 132830          Output Octets       : 148304
Input Updates       : 35              Output Updates      : 51
Input RtRefresh     : 0               Output RtRefresh    : 0
Duplicate Prefixes  : 0               Duplicate Withdrawals: 0
As-path Loops       : 17              Cluster-list Loops  : 0
Originator-id Loops : 0               As-confed Loops     : 0
Upd Treat As Withdraw: 0              Pfx Treat As Withdraw: 0
TTL Security        : Disabled        Min TTL Value       : n/a
Graceful Restart    : Enabled         Stale Routes Time   : 364
Restart Time        : 299
Long-Lived GR       : Disabled
Advertise Inactive  : Disabled        Peer Tracking       : Enabled
Peer Tracking Policy : peerTracking
Nexthop Res Policy  : pol-non-existing
Auth key chain      : n/a
Disable Cap Nego    : Disabled        Bfd Enabled         : Enabled
Default Route Tgt   : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Aigp Metric          : Enabled          Split Horizon        : Enabled
Damp Peer Oscillatio*: Disabled         Update Errors        : 0
GR Notification      : Enabled          Fault Tolerance      : Disabled
Rem Idle Hold Time   : 00h00m00s
Next-Hop Unchanged   : n/a
L2 VPN Cisco Interop : Disabled
sel-lbl-ipv4-install : Disabled
Egress Engineering   : Enabled
SRv6                 : Disabled         SRv6 Route Advertise*: Disabled
Local Capability     : RtRefresh MPBGP 4byte ASN BfdStrictMode
Remote Capability    : RtRefresh MPBGP 4byte ASN BfdStrictMode
Local AddPath Capabi*: Send - evpn (all) ipv4 (all) vpn-ipv4 (2)
                     : Receive - ipv4 vpn-ipv4
Remote AddPath Capab*: Send - ipv6 label-ipv4 evpn
                     : Receive - ipv6 label-ipv4 evpn
Import Policy        : bgpimp
                     : Default Accept
Export Policy        : export_bgp_optionC
                     : Default Accept
Origin Validation    : n/a
Add EBGP Link-Bw     : n/a
Aggr EBGP Link-Bw    : n/a
Send EBGP Link-Bw    : n/a
Accept EBGP Link-Bw  : n/a
Adv-ipv6-next-hop    : n/a
Ext-nh-encoding      : n/a
Remote Ext-nh-encodi*: n/a
Convergence Sent-EOR : ipv6 label-ipv4
Convergence Recv-EOR : ipv6 label-ipv4
Exceeded min-wait    : Yes
Ebgp Pref            : 170              Ibgp Pref            : 170
Ebgp Label Pref      : 170              Ibgp Label Pref      : 170
Tcp Mss              : 1024
Tcp Rcvd Mss         : 1024
Received Paths       : 30
Backup IPv4          : 0                Backup IPv6          : 0
Backup VPN-IPv4      : 0                Backup VPN-IPv6      : 0
Backup Label-IPv4    : 0                Backup Label-IPv6    : 0
-------------------------------------------------------------------------------
Ingress prefix counters per family.
IPv4 received        : 0                IPv6 received        : 70
IPv4 active          : 0                IPv6 active          : 0
IPv4 suppressed      : 0                IPv6 suppressed      : 0
IPv4 rejected        : 0                IPv6 rejected        : 0
VPN-IPv4 received    : 0                VPN-IPv6 received    : 0
VPN-IPv4 active      : 0                VPN-IPv6 active      : 0
VPN-IPv4 suppressed  : 0                VPN-IPv6 suppressed  : 0
VPN-IPv4 rejected    : 0                VPN-IPv6 rejected    : 0
Label-IPv4 received  : 59               Label-IPv6 received  : 0
Label-IPv4 active    : 17               Label-IPv6 active    : 0
Label-IPv4 suppressed: 0                Label-IPv6 suppressed: 0
Label-IPv4 rejected  : 0                Label-IPv6 rejected  : 0
MVPN-IPv4 received   : 0                MVPN-IPv6 received   : 0
MVPN-IPv4 active     : 0                MVPN-IPv6 active     : 0
MVPN-IPv4 suppressed : 0                MVPN-IPv6 suppressed : 0
MVPN-IPv4 rejected   : 0                MVPN-IPv6 rejected   : 0
Mcast-IPv4 received  : 16               Mcast-IPv6 received  : 26
Mcast-IPv4 active    : 0                Mcast-IPv6 active    : 0
Mcast-IPv4 suppressed: 0                Mcast-IPv6 suppressed: 0
Mcast-IPv4 rejected  : 0                Mcast-IPv6 rejected  : 0
Mc-VPN-IPv4 received : 0                Mc-VPN-IPv6 received : 0
Mc-VPN-IPv4 active   : 0                Mc-VPN-IPv6 active   : 0
Mc-VPN-IPv4 suppress*: 0                Mc-VPN-IPv6 suppress*: 0
Mc-VPN-IPv4 rejected : 0                Mc-VPN-IPv6 rejected : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MDT-Safi received    : 0               RT-Constrnt received : 0
MDT-Safi active      : 0               RT-Constrnt active   : 0
MDT-Safi suppressed  : 0               RT-Constrnt suppress*: 0
MDT-Safi rejected    : 0               RT-Constrnt rejected : 0
L2-VPN received      : 0               EVPN received        : 0
L2-VPN active        : 0               EVPN active          : 0
L2-VPN suppressed    : 0               EVPN suppressed      : 0
L2-VPN rejected      : 0               EVPN rejected        : 0
Flow-IPv4 received   : 0               Flow-IPv6 received   : 0
Flow-IPv4 active     : 0               Flow-IPv6 active     : 0
Flow-IPv4 suppressed : 0               Flow-IPv6 suppressed : 0
Flow-IPv4 rejected   : 0               Flow-IPv6 rejected   : 0
MS-PW received       : 0               BGP-LS received      : 0
MS-PW active         : 0               BGP-LS active        : 0
MS-PW suppressed     : 0               BGP-LS suppressed    : 0
MS-PW rejected       : 0               BGP-LS rejected      : 0
SRPLCY-IPV4 received : 0               SRPLCY-IPV6 received : 0
SRPLCY-IPV4 active   : 0               SRPLCY-IPV6 active   : 0
SRPLCY-IPV4 suppress*: 0               SRPLCY-IPV6 suppress*: 0
SRPLCY-IPV4 rejected : 0               SRPLCY-IPV6 rejected : 0
Flow-VPN-IPv4 receiv*: 0               Flow-VPN-IPv6 receiv*: 0
Flow-VPN-IPv4 active : 0               Flow-VPN-IPv6 active : 0
Flow-VPN-IPv4 suppre*: 0               Flow-VPN-IPv6 suppre*: 0
Flow-VPN-IPv4 reject*: 0               Flow-VPN-IPv6 reject*: 0

===============================================================================
Prefix Limits Per Address Family
===============================================================================
Family        Limit       IdleTimeout   TH    LogOnly   PostImport  ExcessInact
-------------------------------------------------------------------------------
mcastIpv4     1           forever       90    Disabled  Disabled    16
labelIpv4     100000      forever       90    Disabled  Disabled    0
===============================================================================

========================
SRv6 Params per Family
========================
Family         Strip Tlv
------------------------
No SRv6  entries configur
========================
* indicates that the corresponding row element may have been truncated.
-------------------------------------------------------------------------------
Neighbors shown : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Table 375: Output fields: BGP neighbor

Label	Description
Peer	The IP address of the configured BGP peer.
Group	The BGP peer group to which this peer is assigned.
Peer AS	The configured or inherited peer AS for the peer group.
Peer Address	The configured address for the BGP peer.
Peer Port	The TCP port number used on the far-end system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Local AS	The configured or inherited local AS for the peer group.
Local Address	The configured or inherited local address for originating peering for the peer group.
Local AddPath Capability	The configured number of BGP add-paths.
Local Port	The TCP port number used on the local system.
Peer Type	External — Peer type configured as external BGP peers. Internal — Peer type configured as internal BGP peers.
Bfd	Yes — BFD is enabled. No — BFD is disabled.
Dynamic Peer	Yes — The session is dynamic (unconfigured). No — The session is statically configured.
State	Idle — The BGP peer is not accepting connections. (*Shutdown*) is displayed in addition, if the peer is administratively disabled. Active — BGP is listening for and accepting TCP connections from this peer. Connect — BGP is attempting to establish a TCP connections from this peer. Open Sent — BGP has sent an OPEN message to the peer and is waiting for an OPEN message from the peer. Open Confirm — BGP has received a valid OPEN message from the peer and is awaiting a KEEPALIVE or NOTIFICATION. Established — BGP has successfully established a peering and is exchanging routing information.
Last State	Idle — The BGP peer is not accepting connections. Active — BGP is listening for and accepting TCP connections from this peer. Connect — BGP is attempting to establish a TCP connections from this peer. Open Sent — BGP has sent an OPEN message to the peer and is waiting for an OPEN message from the peer. Open Confirm — BGP has received a valid OPEN message from the peer and is awaiting a KEEPALIVE or NOTIFICATION.
Last Event	start — BGP has initialized the BGP neighbor. stop — BGP has disabled the BGP neighbor. open — BGP transport connection opened.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	close — BGP transport connection closed. openFail — BGP transport connection failed to open. error — BGP transport connection error. connectRetry — Connect retry timer expired. holdTime — Hold time timer expired. keepAlive — Keepalive timer expired. recvOpen — Receive an OPEN message. revKeepalive — Receive a KEEPALIVE message. recvUpdate — Receive an UPDATE message. recvNotify — Receive a NOTIFICATION message. None — No events have occurred.
Last Error	Displays the last BGP error and subcode to occur on the BGP neighbor.
Connect Retry	The configured or inherited connect retry timer value.
Local Pref.	The configured or inherited local preference value.
Min Route Advt.	The minimum amount of time that must pass between route updates for the same IP prefix.
Min AS Originate	The minimum amount of time that must pass between updates for a route originated by the local router.
Multihop	The maximum number of router hops a BGP connection can traverse.
Damping	Disabled — BGP neighbor is configured not to dampen route flaps. Enabled — BGP neighbor is configured to dampen route flaps.
Loop Detect	Ignore — The BGP neighbor is configured to ignore routes with an AS loop. Drop — The BGP neighbor is configured to drop the BGP peering if an AS loop is detected. Off — AS loop detection is disabled for the neighbor.
MED Out	The configured or inherited MED value assigned to advertised routes without a MED attribute.
Authentication	None — No authentication is configured. MD5 — MD5 authentication is configured.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Next Hop Self	Disabled — BGP is not configured to send only its own IP address as the BGP nexthop in route updates to the specified neighbor. Enabled — BGP will send only its own IP address as the BGP nexthop in route updates to the neighbor.
AggregatorID Zero	Disabled — The BGP Neighbor is not configured to set the aggregator ID to 0.0.0.0 in all originated route aggregates. Enabled — The BGP Neighbor is configured to set the aggregator ID to 0.0.0.0 in all originated route aggregates.
Remove Private	Disabled — BGP will not remove all private AS numbers from the AS path attribute, in updates sent to the specified neighbor. Enabled — BGP will remove all private AS numbers from the AS path attribute, in updates sent to the specified neighbor.
Passive	Disabled — BGP will actively attempt to establish a BGP connection with the specified neighbor. Enabled — BGP will not actively attempt to establish a BGP connection with the specified neighbor.
Prefix Limit	No Limit — No route limit assigned to the BGP peer group. 1 to 4294967295 — The maximum number of routes BGP can learn from a peer.
Hold Time	The configured hold time setting.
Keep Alive	The configured keepalive setting.
Active Hold Time	The negotiated hold time, if the BGP neighbor is in an established state.
Active Keep Alive	The negotiated keepalive time, if the BGP neighbor is in an established state.
Cluster Id	The configured route reflector cluster ID. None — No cluster ID has been configured.
Client Reflect	Disabled — The BGP route reflector is configured not to reflect routes to this neighbor. Enabled — The BGP route reflector is configured to reflect routes to this neighbor.
Preference	The configured route preference value for the peer group.
Num of Flaps	The number of route flaps in the neighbor connection.
Recd. Prefixes	The number of routes received from the BGP neighbor.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Active Prefixes	The number of routes received from the BGP neighbor and active in the forwarding table.
Recd. Paths	The number of unique sets of path attributes received from the BGP neighbor.
Suppressed Paths	The number of unique sets of path attributes received from the BGP neighbor and suppressed due to route damping.
Input Queue	The number of BGP messages to be processed.
Output Queue	The number of BGP messages to be transmitted.
i/p Messages	Total number of packets received from the BGP neighbor.
o/p Messages	Total number of packets sent to the BGP neighbor.
i/p Octets	Total number of octets received from the BGP neighbor.
o/p Octets	Total number of octets sent to the BGP neighbor.
Export Policy	The configured export policies for the peer group.
Import Policy	The configured import policies for the peer group.
Egress Engineering	Enabled — EPE is enabled for the BGP neighbor. Disabled — EPE is disabled for the BGP neighbor.

Table 376: Output fields: standard and detailed BGP neighbor describes the command output for both the standard and detailed information for a neighbor.

The following output is an example of information about routes received from a specific BGP neighbor.

Output Example

```
A:node-2>show>router>bgp# neighbor 1.101.201.201 received-routes
 ===============================================================================
 BGP Router ID:10.20.1.101      AS:100         Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP Routes
===============================================================================
Flag  Network                                           LocalPref   MED
      Nexthop (Router)                                  Path-Id     Label
      As-Path
-------------------------------------------------------------------------------
u*>i  10.20.1.201/32                                    n/a         None
      1.101.201.201                                     238         -
      200
*i    10.20.1.202/32                                    n/a         2000
      1.101.201.201                                     3752        -
      200
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
u*>i  10.20.1.231/32                                    n/a         1000
      1.101.201.201                                     3751        -
      200
-------------------------------------------------------------------------------
Routes : 3
===============================================================================
```

The following output is an example of information about routes advertised to a specific BGP neighbor.

Output Example

```
A:node-2>show>router>bgp# neighbor 1.101.201.201 advertised-routes
===============================================================================
 BGP Router ID:10.20.1.101      AS:100         Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP Routes
===============================================================================
Flag  Network                                           LocalPref   MED
      Nexthop (Router)                                  Path-Id     Label
      As-Path
-------------------------------------------------------------------------------
i     10.20.1.101/32                                    n/a         None
      1.101.201.101                                     88          -
      100
i     10.20.1.102/32                                    n/a         2000
      1.101.201.101                                     1118        -
      100
i     10.20.1.131/32                                    n/a         2000
      1.101.201.101                                     790         -
      100
-------------------------------------------------------------------------------
Routes : 3
===============================================================================
```

The following output is an example of information about graceful restart for a specific BGP neighbor.

Output Example

```
A:node-2>show>router>bgp# neighbor 10.193.0.10 graceful-restart
===============================================================================
BGP Neighbor 10.193.0.10 Graceful Restart
===============================================================================
Graceful Restart locally configured for peer: Enabled
Peer's Graceful Restart feature             : Enabled
NLRI(s) that peer supports restart for      : IPv4-Unicast IPv4-MPLS IPv4-VPN
NLRI(s) that peer saved forwarding for      : IPv4-Unicast IPv4-MPLS IPv4-VPN
NLRI(s) that restart is negotiated for      : None
NLRI(s) of received end-of-rib markers      : IPv4-Unicast
NLRI(s) of all end-of-rib markers sent      : IPv4-Unicast
Restart time locally configured for peer    : 120 seconds
Restart time requested by the peer          : 390 seconds
Time stale routes from peer are kept for    : 360 seconds
Graceful restart status on the peer         : Not currently being helped
Number of Restarts                          : 328
Last Restart at                             : 08/20/2006 12:22:06
===============================================================================
```

The following output is an example of EPE statistics for a specific BGP neighbor.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:node-2>show>router>bgp# neighbor 10.20.1.1 epe-statistics
===============================================================================
Label Type Pkt Count Byte Count
-------------------------------------------------------------------------------
524277 node-sid 0 0
524278 adj-sid 0 0
524276 adj-sid 0 0
===============================================================================
```

Table 376: Output fields: standard and detailed BGP neighbor

Label	Description
BGP Router ID	The local BGP router ID.
AS	The configured autonomous system number.
Local AS	The configured local AS setting. If not configured, then it is the same value as the AS.
Flag	u — used s — suppressed h — history d — decayed * — valid i — igp e — egp ? — incomplete > — best
Network	Route IP prefix and mask length for the route.
Next Hop	BGP nexthop for the route.
LocalPref	BGP local preference path attribute for the route.
MED	BGP Multi-Exit Discriminator (MED) path attribute for the route.
AS Path	The BGP AS path for the route.
Egress Engineering	Enabled — EPE is enabled for the BGP neighbor. Disabled — EPE is disabled for the BGP neighbor.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

neighbor

Syntax

neighbor [*ip-address* | *ip-int-name*] [**detail**] [**advertised-routes**]

Context

[Tree] (show>router>rip neighbor)

Full Context

show router rip neighbor

Description

Displays RIP neighbor interface information.

Parameters

ip-address* | *ip-int-name

Displays information for the specified IP interface.

Values ip-address: a.b.c.d

ip-int-name: 32 chars max

Default all neighbor interfaces

advertised-routes

Displays the routes advertised to RIP neighbors. If no neighbors are specified, then all routes advertised to all neighbors are displayed. If a specific neighbor is given then only routes advertised to the given neighbor/interface are displayed.

Default displays RIP information

Platforms

All

Output

The following output is an example of standard RIP group information, and Table 377: Output fields: RIP neighbor describes the output fields.

Output Example

```
*A:ALA-12#  show router 3 rip neighbor
===============================================================================
RIP Neighbors
===============================================================================
Interface                         Adm  Opr  Primary IP      Send  Recv  Metric
                                                           Mode  Mode  In
-------------------------------------------------------------------------------
router-21/1                        Up   Up   10.0.3.12       None  Both  1
router-21/2                        Up   Up   10.0.5.12       BCast Both  1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
router-21/3                        Up   Up   10.0.6.12       BCast Both  1
router-21/4                        Up   Up   10.0.10.12      BCast Both  1
router-21/5                        Up   Up   10.0.9.12       BCast Both  1
router-21/6                        Up   Up   10.0.17.12      None  Both  1
router-21/7                        Up   Up   10.0.16.12      None  Both  1
===============================================================================
*A:ALA-12#
```

Table 377: Output fields: RIP neighbor

Label	Description
Neighbor	The RIP neighbor interface name.
Adm	Down — The RIP neighbor interface is administratively down. Up — The RIP neighbor interface is administratively up.
Opr	Down — The RIP neighbor interface is operationally down. Up — The RIP neighbor interface is operationally up.
Primary IP	The primary IP address of the RIP neighbor interface.
Send Mode	Bcast — Specifies that RIPv2 formatted messages are sent to the broadcast address Mcast — Specifies that RIPv2 formatted messages are sent to the multicast address None — Specifies that no RIP messages are sent (i.e., silent listener). RIPv1 — Specifies that RIPv1 formatted messages are sent to the broadcast address.
Recv Mode	Both — Specifies that RIP updates in either version 1 or version 2 format will be accepted. None — Specifies that RIP updates will not be accepted. RIPv1 — Specifies that RIP updates in version 1 format only will be accepted. RIPv2 — Specifies that RIP updates in version 2 format only will be accepted.
Metric In	The metric added to routes received from a RIP neighbor.

Detailed Show RIP Neighbor Output

The following output is an example of detailed RIP group information, and Table 378: Output fields: RIP neighbor detail describes the output fields.

Output Example

```
*A:ALA-12#  show router 3 rip peers
===============================================================================
RIP Peers
===============================================================================
Peer IP Addr      Interface Name                    Version     Last Update
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
10.0.5.13         router-2/2                        RIPv2       0
10.0.6.16         router-2/3                        RIPv2       2
10.0.9.14         router-2/5                        RIPv2       8
10.0.10.15        router-2/4                        RIPv2       0
-------------------------------------------------------------------------------
No. of Peers: 4
===============================================================================
*A:ALA-12#


*A:ALA-12# show router 3 rip neighbor detail
===============================================================================
RIP Neighbors (Detail)
===============================================================================
Neighbor "router-2/7"
-------------------------------------------------------------------------------
Description    : No Description Available
Primary IP     : 10.0.16.12         Group        : seven
Admin State    : Up                 Oper State   : Up
Send Mode      : None               Receive Mode : Both
Metric In      : 1                  Metric Out   : 1
Split Horizon  : Enabled            Check Zero   : Disabled
Message Size   : 25                 Preference   : 100
Auth. Type     : None               Update Timer : 3
Timeout Timer  : 6                  Flush Timer  : 6
Export Policies:
    Rip2Rip
    direct2Rip
    bgp2Rip
Import Policies:
    None
===============================================================================
*A:ALA-12#
```

Table 378: Output fields: RIP neighbor detail

Label	Description
Neighbor	The RIP neighbor name.
Description	The RIP neighbor description. No Description Available indicates no description is configured.
Primary IP	The RIP neighbor interface primary IP address.
Group	The RIP group name of the neighbor interface.
Admin State	Down — The RIP neighbor interface is administratively down. Up — The RIP neighbor interface is administratively up.
Oper State	Down — The RIP neighbor interface is operationally down. Up — The RIP neighbor interface is operationally up.
Send Mode	Bcast — Specifies that RIPv2 formatted messages are sent to the broadcast address. Mcast — Specifies that RIPv2 formatted messages are sent to the multicast address. None — Specifies that no RIP messages are sent (i.e., silent listener).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	RIPv1 — Specifies that RIPv1 formatted messages are sent to the broadcast address.
Recv Mode	Both — Specifies that RIP updates in either version 1 or version 2 format will be accepted. None — Specifies that RIP updates will not be accepted. RIPv1 — Specifies that RIP updates in version 1 format only will be accepted. RIPv2 — Specifies that RIP updates in version 2 format only will be accepted.
Metric In	The metric value added to routes received from a RIP neighbor.
Metric Out	The value added to routes exported into RIP and advertised to RIP neighbors.
Split Horizon	Disabled — Split horizon disabled for the neighbor. Enabled — Split horizon and poison reverse enabled for the neighbor.
Check Zero	Disabled — Checking of the mandatory zero fields in the RIPv1 and RIPv2 specifications are not checked allowing receipt of RIP messages even if mandatory zero fields are non-zero for the neighbor. Enabled — Checking of the mandatory zero fields in the RIPv1 and RIPv2 specifications and rejecting noncompliant RIP messages is enabled for the neighbor.
Message Size	The maximum number of routes per RIP update message.
Preference	The preference of RIP routes from the neighbor.
Auth. Type	Specifies the authentication type.
Update Timer	The current setting of the RIP update timer value expressed in seconds.
Timeout Timer	The current RIP timeout timer value expressed in seconds.
Export Policies	The export route policy that is used to determine routes advertised to all peers.
Import Policies	The import route policy that is used to determine which routes are accepted from RIP neighbors.

Output Example

```
*A:ALA-12# show router 3 rip neighbors interface advertised-routes
===============================================================================
RIP Advertised Routes
===============================================================================
Destination        Interface        NextHop           Metric  Tag       TTL
-------------------------------------------------------------------------------
10.0.0.2/32        10.1.8.12        0.0.0.0           10      0x2002    n/a
10.0.0.5/32        10.1.8.12        0.0.0.0           10      0x2002    n/a
10.0.0.8/32        10.1.8.12        0.0.0.0           10      0x2002    n/a
10.0.0.9/32        10.1.8.12        0.0.0.0           10      0x2002    n/a
10.0.0.10/32       10.1.8.12        0.0.0.0           10      0x2002    n/a
10.0.0.12/32       10.1.8.12        0.0.0.0           1       0x0000    n/a
10.0.0.13/32       10.1.8.12        0.0.0.0           10      0x2002    n/a
10.0.0.14/32       10.1.8.12        0.0.0.0           16      0x0000    n/a
10.0.0.15/32       10.1.8.12        0.0.0.0           2       0x0000    n/a
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.0.0.16/32       10.1.8.12        0.0.0.0           3       0x0000    n/a
-------------------------------------------------------------------------------
No. of Advertised Routes: 10
===============================================================================
*A:ALA-12#
```

neighbor

Syntax

neighbor {*ip-address* | **as** *as-number* | **external** | **all**} [**soft** | **soft-inbound** | **hard**]

neighbor {*ip-address* | **as** *as-number* | **external** | **all**} **soft-route-refresh** [*family*]

neighbor {*ip-address* | **as** *as-number* | **external** | **all**} **statistics**

neighbor *ip-address* **end-of-rib**

Context

[Tree] (clear>router>bgp neighbor)

Full Context

clear router bgp neighbor

Description

This command resets the specified BGP peer or set of peers. By default, or when the hard option is specified, the TCP connection is brought down and the state of the BGP session returns to IDLE.

If the **soft-route-refresh** option is specified without an accompanying *family* parameter, then the session remains established and one ROUTE_REFRESH message is transmitted to the peer for each address family active on the session. If the **soft-route-refresh** option is specified with an accompanying *family* parameter, the session remains established and a single ROUTE_REFRESH message is transmitted to the peer requesting that it resend only its routes belonging to that one address family.

SR OS routers respond to route refresh requests for any supported AFI/SAFI.

Parameters

ip-address

Resets the BGP neighbor with the specified IP address.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x [-interface]
- x:x:x:x:x:x:d.d.d.d [-interface]
- x: [0 to FFFF]H
- d: [0 to 255]D
- interface: up to 32 characters, mandatory for link local addresses

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

as *as-number*

Resets all BGP neighbors with the specified peer AS.

Values 1 to 65535

external

Resets all EBGP neighbors.

all

Resets all BGP neighbors.

soft

Specifies that BGP neighbors re-evaluate all routes in the Local-RIB against the configured export policies.

soft-inbound

Specifies that BGP neighbors re-evaluate all routes in the RIB-In against the configures import policies.

hard

Initiates a hard reconfiguration.

statistics

Clears BGP neighbor statistics.

end-of-rib

Clears the routing information base (RIB). This command applies when the router is helping the BGP neighbor through a BGP graceful restart. When the **clear router bgp neighbor** command is issued without the end-of-rib option and the neighbor is in the process of restarting, stale routes from the neighbor will be retained until the stale-routes-time is reached or else the neighbor exits graceful restart. When the command is issued with the **end-of-rib** option, stale routes from the neighbor are deleted immediately and graceful restart procedures are aborted.

soft-route-refresh

Clears the session by sending one or more ROUTE_REFRESH messages to the peer, but the session stays up.

family

Specifies the one address family that should be encoded in the ROUTE_REFRESH request sent to the peer.

Values ipv4, vpn-ipv4, ipv6, mcast-ipv4, vpn-ipv6, l2-vpn, mvpn-ipv4, mdt-safi, flow-ipv4, ms-pw, route-target, mcast-vpn-ipv4, mvpn-ipv6, flow-ipv6, evpn, mcast-ipv6, label-ipv4, label-ipv6, mcast-vpn-ipv6, bgp-ls, sr-policy-ipv4, sr-policy-ipv6, flow-vpn-ipv4, flow-vpn-ipv6

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

neighbor

Syntax

neighbor [*ip-address*] [**detail**]

Context

[Tree] (show>router>rsvp neighbor)

Full Context

show router rsvp neighbor

Description

This command shows neighbor information.

Parameters

ip-address

Displays RSVP information about the specified IP address.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of RSVP neighbor information.

Output Example

```
*A:Dut-A>config>router>mpls>lsp$ /show router rsvp neighbor
===============================================================================
RSVP Neighbors
===============================================================================
Legend :
    LR - Local Refresh Reduction          RR - Remote Refresh Reduction
    LD - Local Reliable Delivery          RM - Remote Node supports Message ID
    LG - Local Graceful Restart           RG - Remote Graceful Restart
===============================================================================
Neighbor        Interface                       Hello  Last Oper     Flags
                                                       Change
===============================================================================
10.20.1.2       ip-10.10.1.1                    N/A  0d 00:00:44
10.20.1.3       ip-10.10.2.1                    N/A  0d 00:00:44
-------------------------------------------------------------------------------
Neighbors : 2
-------------------------------------------------------------------------------
*A:Dut-A>config>router>mpls>lsp$


*A:SR1# show router rsvp neighbor detail
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
RSVP Neighbors (Detailed)
===============================================================================
Legend :
    LR - Local Refresh Reduction          RR - Remote Refresh Reduction
    LD - Local Reliable Delivery          RM - Remote Node supports Message ID
    LG - Local Graceful Restart           RG - Remote Graceful Restart
===============================================================================
-------------------------------------------------------------------------------
Neighbor : 30.30.30.2
-------------------------------------------------------------------------------
Interface          : int_SR1_SR3        Hello State        : Up
Last Oper Change   : 0d 00:01:02        Flags              :
Source Instance    : 0x6c8b7            Dst. Instance      : 0x530f8e0
Hello Refresh Time : 2 secs             Hello Timeout Time : 8 secs
Hello Timeout Cnt  : 0                  Inst. Mismatch Cnt : 0
Srefresh Time Rem. : 0 secs             Epoch Num Rx       : 0
Max Msg Id Rx      : 0                  Out of order Msgs  : 0
Retransmitted Msgs : 0                  GR Helper          : Disabled
GR Proc Invoked Cnt: 0                  GR Helper State    : None
GR Helper Time Rem : N/A                GR Nbr Restart Cap : N/A
GR Nbr Restart Time: N/A                GR Nbr Recvry Time : N/A
===============================================================================

*B:edge13# show router rsvp neighbor
===============================================================================
RSVP Neighbors
===============================================================================
Legend :
    LR - Local Refresh Reduction          RR - Remote Refresh Reduction
    LD - Local Reliable Delivery          RM - Remote Node supports Message ID
    LG - Local Graceful Restart           RG - Remote Graceful Restart
===============================================================================
Neighbor        Interface               Hello  Last Oper     Flags Change
===============================================================================
10.11.101.2     e13c2_1                 Up   1d 00:52:56   LR RR LD RM

LG RG
10.11.102.2     e13c2_2                 Up   1d 00:52:56   LR RR LD RM
10.11.103.3     e13s1_1                 Up   1d 00:52:54   LR RR LD RM

LG
10.11.104.3     e13s1_2                 Up   1d 00:52:56
10.11.105.4     e13s2_1                 Up   1d 00:52:56
10.11.106.4     e13s2_2                 Up   1d 00:52:56
-------------------------------------------------------------------------------
Neighbors : 6
```

neighbor

Syntax

neighbor [*ip-address*] [**detail**]

Context

[Tree] (tools>dump>router>rsvp neighbor)

Full Context

tools dump router rsvp neighbor

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command dumps RSVP neighbor information.

Parameters

ip-address

Specifies the IP address.

Values a.b.c.d

detail

Specifies detailed information.

Platforms

All

Output

The following output is an example of MPLS RSVP neighbor details.

Output Example

```
*A:Dut-C# tools dump router rsvp neighbor
NEIGHBOR:
 nbrAddr 10.10.2.1 ifIndex 2
NEIGHBOR:
 nbrAddr 10.10.11.4 ifIndex 5
Total Neighbor Count: 2
```

```
*A:Dut-C# tools dump router rsvp neighbor detail
-------------------------------------------------------------------------------
NEIGHBOR:
 nbrAddr 10.10.2.1 ifIndex 2
 Current State RSVP_NBRS_CREATED
 Hello Adjacency: UP   DownStream Sessions: 1   UpStream Sessions: 0   Flags: []
 SrcInstance: 0xddfe1  DstInstance: 0xde226  LastOperChange: 000 00:00:09.940
 NbrDownCount: 0  InstanceMismatchCount: 0  HelloTimeoutCount: 0  BFDDownCount: 0
 ProtectGroupId: 1026
 Refresh Reduction FSM State: NBR_RRS_DISABLED
 Refresh Reduction: Disabled
 Ack Desired: Disabled
 Remote Neighbor Message Id: Disabled
 Remote Neighbor Srefresh: Disabled
 RR Sequence Number: 0
 NeighborRREpoch: 0  Max Message Id received: 0
 Num Tx MsgIds present in the tree: 0
 Num Rx MsgIds present in the tree: 0
 Num Ack/Nacks Queued: 0
 Num Out of order Msgs: 0
 Num Retransmitted Msgs: 0
 Num Gshut PathErrs sent: 0 Psbs Skipped: 0
 Timer Off  Gshut Started at 0(0 secs back)
 Graceful Helper Disabled
 Nbr Restart Cap Absent
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
NEIGHBOR:
 nbrAddr 10.10.11.4 ifIndex 5
 Current State RSVP_NBRS_CREATED
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Hello Adjacency: UP   DownStream Sessions: 1   UpStream Sessions: 0   Flags: []
 SrcInstance: 0xdcd58  DstInstance: 0xdcea3  LastOperChange: 000 00:00:57.310
 NbrDownCount: 0  InstanceMismatchCount: 0  HelloTimeoutCount: 0  BFDDownCount: 0
 ProtectGroupId: 1025
 Refresh Reduction FSM State: NBR_RRS_DISABLED
 Refresh Reduction: Disabled
 Ack Desired: Disabled
 Remote Neighbor Message Id: Disabled
 Remote Neighbor Srefresh: Disabled
 RR Sequence Number: 0
 NeighborRREpoch: 0  Max Message Id received: 0
 Num Tx MsgIds present in the tree: 0
 Num Rx MsgIds present in the tree: 0
 Num Ack/Nacks Queued: 0
 Num Out of order Msgs: 0
 Num Retransmitted Msgs: 0
 Num Gshut PathErrs sent: 0 Psbs Skipped: 0
 Timer Off  Gshut Started at 0(0 secs back)
 Graceful Helper Disabled
 Nbr Restart Cap Absent
-------------------------------------------------------------------------------
Total Neighbor Count: 2
*A:Dut-C#
```

neighbor

Syntax

neighbor [*ip-address* | *ip-int-name* [**address** *neighbor-ip-address*]] [**detail**] [*family*]

Context

[Tree] (show>router>pim neighbor)

Full Context

show router pim neighbor

Description

This command displays PIM neighbor information. This can be important if an interface has more than one adjacency. For example, a LAN-interface configuration with three routers connected and all are running PIM on their LAN interfaces. These routers then have two adjacencies on their LAN interface, each with different neighbors. If the **address** *ip-address* parameter is not defined in this example, then the **show** command output would display two adjacencies.

Parameters

ip-int-name

Displays interface information associated with the specified IP interface name.

ip-address

Displays interface information associated with the specified IP address.

neighbor-ip-address

Displays information about the IP address of the neighbor, on the other side of the interface.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

detail

Displays detailed neighbor information.

family

Displays family information for the specified neighbor.

Values ipv4, ipv6

Platforms

All

Output

The following output is an example of a PIM neighbor configuration. Table 379: Output fields: PIM neighbor provides PIM neighbor field descriptions.

Output Example

```
ALA-1# show router pim neighbor
===============================================================================
PIM Neighbors
===============================================================================
Interface          Nbr DR     Nbr Address     Up Time       Expiry Time   Hold
                   Priority                                               Time
-------------------------------------------------------------------------------
ip-10.1.7.1        5          10.1.7.7        0d 00:10:39   0d 00:01:36   105
ip-10.1.2.1        5          10.1.2.2        0d 00:10:39   0d 00:01:35   105
ip-10.111.1.1      3          10.111.1.2      0d 00:09:31   0d 00:01:15   105
-------------------------------------------------------------------------------
Neighbors : 3
===============================================================================
ALA-1#

*A:Dut-C# show router 100 pim neighbor ipv6
===============================================================================
PIM Neighbor ipv6
===============================================================================
Interface               Nbr DR Prty     Up Time       Expiry Time     Hold Time
   Nbr Address
-------------------------------------------------------------------------------
vprn_itf_C_1100         1               0d 00:02:54   0d 00:01:43     105
   ff00:db8:4403:1ff:fe01:2
mpls-if-74456(W)        1               0d 00:02:10   never           65535
   ff00:db8:a14:104
mpls-if-74457(W)        1               0d 00:02:10   never           65535
   ff00:db8:a14:105
mpls-virt-if-1030145    1               0d 00:02:44   never           65535
   ff00:db8:a14:102
-------------------------------------------------------------------------------
Neighbors : 4
===============================================================================

ALA-1# show  router pim neighbor detail
===============================================================================
PIM Neighbor
===============================================================================
Interface          : ip-10.1.7.1
Neighbor Addr      : 10.1.7.7           DR Priority        : 5
Tracking Support   : No                 LAN Delay(ms)      : 500
Gen Id             : 26470              Override Intvl(ms) : 2500
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Up Time            : 0d 00:10:41        Expiry Time        : 0d 00:01:34
Hold Time(sec)     : 105
===============================================================================
PIM Neighbor
===============================================================================
Interface          : ip-10.1.2.1
Neighbor Addr      : 10.1.2.2           DR Priority        : 5
Tracking Support   : No                 LAN Delay(ms)      : 500
Gen Id             : 37928              Override Intvl(ms) : 2500
Up Time            : 0d 00:10:42        Expiry Time        : 0d 00:01:33
Hold Time(sec)     : 105
===============================================================================
PIM Neighbor
===============================================================================
Interface          : ip-10.111.1.1
Neighbor Addr      : 10.111.1.2        DR Priority        : 3
Tracking Support   : No                 LAN Delay(ms)      : 500
Gen Id             : 742098371          Override Intvl(ms) : 2500
Up Time            : 0d 00:09:33        Expiry Time        : 0d 00:01:43
Hold Time(sec)     : 105
-------------------------------------------------------------------------------
Neighbors : 3
===============================================================================
ALA-1#
```

Table 379: Output fields: PIM neighbor

Label	Description
Interface	The neighbor’s interface name. (W) indicates wildcard tunnels.
Nbr DR Priority	The value of the neighbor's DR priority which is received in the hello message.
Nbr Address	The neighbor’s address.
Up Time	The time since this PIM neighbor (last) became a neighbor of the local router
Expiry Time	The minimum time remaining before this PIM neighbor is aged out 0 — Means that this neighbor never ages out. This happens when the PIM neighbor sends a Hello message with holdtime set to `0xffff'.
Hold Time	The value of the hold time present in the hello message
DR Priority	The value of the neighbor's DR priority which is received in the hello message
Tracking Support	Indicates if the T bit in the LAN prune delay option was present in the hello message. This indicates the neighbor's capability to disable join message suppression.
LAN Delay	The value of the LAN delay field present in the hello message received from the neighbor

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Gen Id	A randomly generated 32-bit value that is regenerated each time PIM forwarding is started or restarted on the interface, including when the router itself restarts. When a hello message with a new GenID is received from a neighbor, any old hello information about that neighbor is discarded and superseded by the information from the new hello message.
Override Intvl (ms)	The value of the override interval present in the Hello message

neighbor

Syntax

neighbor [*ip-int-name* | *ip-address* | *mpls-if-name*] [*family*]

Context

[Tree] (clear>router>pim neighbor)

Full Context

clear router pim neighbor

Description

This command clears PIM neighbor data on a specified interface or IP address.

Parameters

ip-int-name

Clears PIM neighbor on the specified interface.

ip-address

Clears PIM neighbor on the specified IP address.

mpls-if-name

Clears information associated with the specified MPLS interface.

Values mpls-if-*index*

family

Clears neighbor family information.

Values ipv4, ipv6

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

neighbor

Syntax

neighbor [{{*ip-int-name* | *ip-address*} | **mac** *ieee-mac-address* | **summary**}] [{**dynamic** | **static** | **managed**}]

Context

[Tree] (show>router neighbor)

Full Context

show router neighbor

Description

This command displays information about the IPv6 neighbor cache.

Parameters

ip-int-name

Specifies the IP interface name.

ip-address

Specifies the address of the IPv6 interface address.

ieee-mac-address

Specifies the MAC address.

summary

Displays summary neighbor information.

dynamic

Displays dynamic neighbor information.

static

Displays static neighbor information.

managed

Displays managed neighbor information.

Platforms

All

Output

Neighbor Output — The following output is an example of IPv6 neighbor information, and Table 380: Output fields: neighbor describes the fields.

Output Example

```
B:CORE2# show router neighbor
===============================================================================
Neighbor Table (Router: Base)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
IPv6 Address                                Interface
   MAC Address               State         Expiry          Type         RTR
-------------------------------------------------------------------------------
fe80::203:faff:fe78:5c88                          net1_1_2
   00:16:4d:50:17:a3         STALE         03h52m08s       Dynamic      Yes
fe80::203:faff:fe81:6888                          net1_2_3
   00:03:fa:1a:79:22         STALE         03h29m28s       Dynamic      Yes
-------------------------------------------------------------------------------
No. of Neighbor Entries: 2
===============================================================================
B:CORE2#
```

Table 380: Output fields: neighbor

Label	Description
IPv6 Address	Displays the IPv6 address
Interface	Displays the name of the IPv6 interface name
MAC Address	Specifies the link-layer address
State	Displays the current administrative state
Exp	Displays the number of seconds until the entry expires
Type	Displays the type of IPv6 interface
Interface	Displays the interface name
Rtr	Specifies whether a neighbor is a router
Mtu	Displays the MTU size

neighbor

Syntax

neighbor {**all** | *ipv6-address* [**interface** *interface-name*]}

neighbor interface {*ip-int-name* | *ipv6-address*}

Context

[Tree] (clear>router neighbor)

Full Context

clear router neighbor

Description

This command clears IPv6 neighbor information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

all

Clears all IPv6 neighbors.

ipv6-address

Clears the specified IPv6 neighbors.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

interface-name

Specifies the interface name.

ip-int-name

Clears the specified neighbor interface information, up to 32 characters.

Platforms

All

neighbor

Syntax

neighbor [**detail**]

Context

[Tree] (show>ospf neighbor)

[Tree] (show>ospf3 neighbor)

Full Context

show ospf neighbor

show ospf3 neighbor

Description

This command shows all OSPFv2 or OSPFv3 neighbor information.

Parameters

detail

Displays the detailed OSPF and OSPF3 neighbor status for all routers and all instances.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of OSPF and OSPF3 neighbor information.

Output Example

```
*A:Dut-C# show ospf neighbor

===============================================================================
Rtr Base OSPFv2 Instance 0 Neighbors
===============================================================================
Interface-Name                   Rtr Id          State      Pri  RetxQ   TTL
   Area-Id
-------------------------------------------------------------------------------
DUTC_TO_DUTB.1.0                 10.20.1.2       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTE.1.0                 10.20.1.5       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTB.2.0                 10.20.1.2       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTE.2.0                 10.20.1.5       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTA.13.0                10.20.1.1       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTA.14.0                10.20.1.1       Full       1    0       9
   0.0.0.0
-------------------------------------------------------------------------------
No. of Neighbors: 6
===============================================================================

===============================================================================
Rtr vprn1 OSPFv2 Instance 0 Neighbors
===============================================================================
Interface-Name                   Rtr Id          State      Pri  RetxQ   TTL
   Area-Id
-------------------------------------------------------------------------------
DUTC_TO_DUTA.7.0                 10.20.4.1       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTD.7.0                 10.20.4.4       Full       1    0       12
   0.0.0.0
DUTC_TO_DUTA.8.0                 10.20.4.1       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTD.8.0                 10.20.4.4       Full       1    0       12
   0.0.0.0
-------------------------------------------------------------------------------
No. of Neighbors: 4
===============================================================================
*A:Dut-C# show ospf neighbor detail

===============================================================================
Rtr Base OSPFv2 Instance 0 Neighbors (detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor Rtr Id : 10.20.1.2  Interface: DUTC_TO_DUTB.1.0
-------------------------------------------------------------------------------
Neighbor IP Addr : 1.0.23.2
Local IF IP Addr : 1.0.23.3
Area Id          : 0.0.0.0
Designated Rtr   : 0.0.0.0             Backup Desig Rtr : 0.0.0.0
Neighbor State   : Full                Priority         : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Retrans Q Length : 0                    Options          : - E - -  -  - O --
Events           : 4                    Last Event Time  : 09/20/2018 14:38:42
Up Time          : 0d 00:02:34          Time Before Dead : 9 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown (0)
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
<snip>
===============================================================================
*A:Dut-C#
*A:Dut-C#
*A:Dut-C# show ospf3 neighbor

===============================================================================
Rtr Base OSPFv3 Instance 0 Neighbors
===============================================================================
Interface-Name                   Rtr Id          State      Pri  RetxQ   TTL
   Area-Id
-------------------------------------------------------------------------------
DUTC_TO_DUTB.3.0                 10.20.2.2       Full       1    0       8
   0.0.0.0
DUTC_TO_DUTE.3.0                 10.20.2.5       Full       1    0       8
   0.0.0.0
DUTC_TO_DUTB.4.0                 10.20.2.2       Full       1    0       8
   0.0.0.0
DUTC_TO_DUTE.4.0                 10.20.2.5       Full       1    0       8
   0.0.0.0
DUTC_TO_DUTA.15.0                10.20.2.1       Full       1    0       8
   0.0.0.0
DUTC_TO_DUTA.16.0                10.20.2.1       Full       1    0       9
   0.0.0.0
-------------------------------------------------------------------------------
No. of Neighbors: 6
===============================================================================

===============================================================================
Rtr Base OSPFv3 Instance 64 Neighbors
===============================================================================
Interface-Name                   Rtr Id          State      Pri  RetxQ   TTL
   Area-Id
-------------------------------------------------------------------------------
DUTC_TO_DUTB.5.0                 10.20.3.2       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTE.5.0                 10.20.3.5       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTB.6.0                 10.20.3.2       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTE.6.0                 10.20.3.5       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTA.17.0                10.20.3.1       Full       1    0       9
   0.0.0.0
DUTC_TO_DUTA.18.0                10.20.3.1       Full       1    0       9
   0.0.0.0
-------------------------------------------------------------------------------
No. of Neighbors: 6
===============================================================================
<snip>
===============================================================================

*A:Dut-C# show ospf3 neighbor detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Rtr Base OSPFv3 Instance 0 Neighbors (detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor Rtr Id : 10.20.2.2  Interface: DUTC_TO_DUTB.3.0
-------------------------------------------------------------------------------
Neighbor IP Addr : fe80::200:ff:fe00:2-"DUTC_TO_DUTB.3.0"
Local IF IP Addr : fe80::200:ff:fe00:3-"DUTC_TO_DUTB.3.0"
Area Id          : 0.0.0.0
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : ----R--EV6
Events           : 4                    Last Event Time  : 09/20/2018 14:38:43
Up Time          : 0d 00:03:01          Time Before Dead : 8 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown (0)
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
-------------------------------------------------------------------------------
Neighbor Rtr Id : 10.20.2.5  Interface: DUTC_TO_DUTE.3.0
-------------------------------------------------------------------------------
Neighbor IP Addr : fe80::200:ff:fe00:5-"DUTC_TO_DUTE.3.0"
Local IF IP Addr : fe80::200:ff:fe00:3-"DUTC_TO_DUTE.3.0"
Area Id          : 0.0.0.0
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : ----R--EV6
Events           : 6                    Last Event Time  : 09/20/2018 14:38:43
Up Time          : 0d 00:03:02          Time Before Dead : 9 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown (0)
Bad Nbr States   : 0                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
-------------------------------------------------------------------------------
Neighbor Rtr Id : 10.20.2.2  Interface: DUTC_TO_DUTB.4.0
-------------------------------------------------------------------------------
Neighbor IP Addr : fe80::200:ff:fe00:2-"DUTC_TO_DUTB.4.0"
Local IF IP Addr : fe80::200:ff:fe00:3-"DUTC_TO_DUTB.4.0"
Area Id          : 0.0.0.0
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : ----R--EV6
Events           : 4                    Last Event Time  : 09/20/2018 14:38:43
Up Time          : 0d 00:03:02          Time Before Dead : 9 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown (0)
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
-------------------------------------------------------------------------------
<snip>
===============================================================================
*A:Dut-C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

neighbor

Syntax

neighbor [*ip-int-name* | *ip-address*] [**detail**]

neighbor [*ip-int-name*] [*router-id*] [**detail**]

neighbor overview

neighbor [**remote** *ip-address*] [**detail**]

Context

[Tree] (show>router>ospf3 neighbor)

[Tree] (show>router>ospf neighbor)

Full Context

show router ospf3 neighbor

show router ospf neighbor

Description

This command displays neighbor information. To reduce the amount of output displayed, the user can select the neighbors on a specific interface by address or name.

Note: The **detail** keyword produces a large amount of data. Nokia recommends **detail** only be used when requesting a specific neighbor.

Parameters

ip-int-name

Displays neighbor information only for neighbors of the interface identified by the interface name.

ip-address

Displays neighbor information only for neighbors of the interface identified by the IP address.

router-id

Displays neighbor information for the neighbor identified by the specified router ID in the **show router ospf3** context.

remote

Keyword used to display neighbor information for the neighbor identified by the specified remote IP address in the **show router ospf** context.

Platforms

All

Output

The following outputs are examples of OSPF neighbor information:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output example: OSPF neighbor output, Table 381: Output fields: OSPF neighbor
- Output example: detailed OSPF neighbor output, Table 382: Output fields: OSPF neighbor detail
- OSPF neighbor output showing only the protected adjacency SID, Table 382: Output fields: OSPF neighbor detail
- Output example: detailed OSPF neighbor output, Table 382: Output fields: OSPF neighbor detail

Output example: OSPF neighbor output

```
A:node-2# show router ospf 1 neighbor
===============================================================================
Rtr Base OSPFv2 Instance 1 Neighbors
===============================================================================
Interface-Name                   Rtr Id          State      Pri  RetxQ   TTL
-------------------------------------------------------------------------------
pc157-2/1                        10.13.8.158     Full       1    0       37
pc157-2/2                        10.13.7.165     Full       100  0       33
pc157-2/3                        10.13.6.188     Full       1    0       38
-------------------------------------------------------------------------------
No. of Neighbors: 3
===============================================================================
```

Table 381: Output fields: OSPF neighbor

Label	Description
Nbr IP Addr	The IP address this neighbor is using in its IP source address. On address-less links, this is not 0.0.0.0, but the address of another of the neighbor's interfaces.
Nbr Rtr Id	A 32-bit integer uniquely identifying the neighboring router in the Autonomous System.
Nbr State	Down — this is the initial state of a neighbor conversation. It indicates that no recent information has been received from the neighbor. Attempt — this state is only valid for neighbors attached to NBMA networks. It indicates that no recent information has been received from the neighbor, but that a more concerted effort should be made to contact the neighbor. Init — in this state, a Hello packet has recently been seen from the neighbor. However, bidirectional communication has not yet been established with the neighbor (the router itself did not appear in the neighbor's Hello packet). Two Way — in this state, communication between the two routers is bidirectional. ExchStart — the first step in creating an adjacency between the two neighboring routers. The goal of this step is to decide which router is the master, and to decide the initial Database Descriptor sequence number.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Exchange — in this state, the router is describing its entire link state database by sending Database Description packets to the neighbor. Loading — in this state, Link State Request packets are sent to the neighbor asking for the more recent LSAs that have been discovered (but not yet received) in the Exchange state. Full — in this state, the neighboring routers are fully adjacent. These adjacencies will now appear in router-LSAs and network-LSAs.
Priority	The priority of this neighbor in the designated router election algorithm. The value 0 signifies that the neighbor is not eligible to become the designated router on this particular network.
RetxQ Len	The current length of the retransmission queue.
Dead Time	The time until this neighbor is declared down, this timer is set to the dead router interval when a valid hello packet is received from the neighbor.
No. of Neighbors	The number of adjacent OSPF neighbors on this interface.

Output example: detailed OSPF neighbor output

```
A:node-2# show router ospf neighbor detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Neighbors (detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor Rtr Id : 10.20.1.1  Interface: to_Dut-A
-------------------------------------------------------------------------------
Neighbor IP Addr : 1.1.3.1
Local IF IP Addr : 1.1.3.3
Area Id          : 0.0.0.1              Adj SR SID       : Label 262141
Designated Rtr   : 10.20.1.3            Backup Desig Rtr : 10.20.1.1
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : - E - -  -  - O --
Events           : 5                    Last Event Time  : 05/27/2015 08:36:02
Up Time          : 0d 00:11:01          Time Before Dead : 8 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
-------------------------------------------------------------------------------
Neighbor Rtr Id : 10.20.1.2  Interface: to_Dut-B1
-------------------------------------------------------------------------------
Neighbor IP Addr : 1.2.3.2
Local IF IP Addr : 1.2.3.3
Area Id          : 0.0.0.1              Adj SR SID       : Label 262139
Designated Rtr   : 10.20.1.3            Backup Desig Rtr : 10.20.1.2
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : - E - -  -  - O --
Events           : 6                    Last Event Time  : 05/27/2015 08:36:03
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Up Time          : 0d 00:11:03          Time Before Dead : 10 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
-------------------------------------------------------------------------------
Neighbor Rtr Id : 10.20.1.2  Interface: to_Dut-B2
-------------------------------------------------------------------------------
Neighbor IP Addr : 2.2.3.2
Local IF IP Addr : 2.2.3.3
Area Id          : 0.0.0.0              Adj SR SID       : Label 262138
Designated Rtr   : 10.20.1.3            Backup Desig Rtr : 10.20.1.2
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : - E - -  -  - O --
Events           : 5                    Last Event Time  : 05/27/2015 08:36:03
Up Time          : 0d 00:11:01          Time Before Dead : 9 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
-------------------------------------------------------------------------------
Neighbor Rtr Id : 10.20.1.5  Interface: to_Dut-E
-------------------------------------------------------------------------------
Neighbor IP Addr : 1.3.5.5
Local IF IP Addr : 1.3.5.3
Area Id          : 0.0.0.0              Adj SR SID       : Label 262140
Designated Rtr   : 10.20.1.5            Backup Desig Rtr : 10.20.1.3
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : - E - -  -  - O --
Events           : 7                    Last Event Time  : 05/27/2015 08:36:04
Up Time          : 0d 00:11:01          Time Before Dead : 8 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown
Bad Nbr States   : 0                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
===============================================================================
```

Output example: detailed OSPF neighbor output

```
A:node-2# show router ospf 1 neighbor detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Neighbors (detail)
-------------------------------------------------------------------------------
Neighbor Rtr Id  : 10.13.8.158          Interface: pc157-2/1
-------------------------------------------------------------------------------
Neighbor IP Addr : 10.16.1.8
Local IF IP Addr : 10.16.1.7
Area Id          : 0.0.0.0
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : -E--O-
Events           : 4                    Last Event Time  : 05/06/2006 00:11:16
Up Time          : 1d 18:20:20          Time Before Dead : 38 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
GR Exit Reason   : None                 GR Restart Reason: Unknown
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
-------------------------------------------------------------------------------
Neighbor Rtr Id  : 10.13.7.165          Interface: pc157-2/2
-------------------------------------------------------------------------------
Neighbor IP Addr : 10.12.1.3
Local IF IP Addr : 10.12.1.7
Area Id          : 0.0.0.0
Designated Rtr   : 10.13.9.157          Backup Desig Rtr : 10.13.7.165
Neighbor State   : Full                 Priority         : 100
Retrans Q Length : 0                    Options          : -E--O-
Events           : 4                    Last Event Time  : 05/05/2006 01:39:13
Up Time          : 0d 16:52:27          Time Before Dead : 33 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown
Bad Nbr States   : 0                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
-------------------------------------------------------------------------------
Neighbor Rtr Id  : 10.13.6.188          Interface: pc157-2/3
-------------------------------------------------------------------------------
Neighbor IP Addr : 10.14.1.4
Local IF IP Addr : 10.14.1.7
Area Id          : 0.0.0.0
Designated Rtr   : 10.13.9.157          Backup Desig Rtr : 10.13.6.188
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : -E--O-
Events           : 4                    Last Event Time  : 05/05/2006 08:35:18
Up Time          : 0d 09:56:25          Time Before Dead : 38 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
===============================================================================
```

Output example: OSPF neighbor output showing only the protected adjacency SID

```
A:node-2# show router ospf neighbor "to_Dut-D_1" detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Neighbors for Interface "to_Dut-D_1" (detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor : 2.4.0.2
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Neighbor Rtr Id : 221.0.0.4  Interface: to_Dut-D_1
-------------------------------------------------------------------------------
Neighbor IP Addr : 2.4.0.2
Local IF IP Addr : 2.4.0.1
Area Id          : 0.0.0.0
Adj SR SID       : Label 524285         Protect SID      : Yes
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : -- E - - -  - O --
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Events           : 5                    Last Event Time  : 06/15/2026 15:20:05
Up Time          : 0d 00:01:50          Time Before Dead : 7 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown (0)
BFD Strict Mode  : Disabled
Bad Nbr States   : 0                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
```

Output example: OSPF neighbor output

```
A:node-2# show router ospf neighbor "to_Dut-D_1" detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Neighbors for Interface "to_Dut-D_1" (detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor : 2.4.0.2
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Neighbor Rtr Id : 221.0.0.4  Interface: to_Dut-D_1
-------------------------------------------------------------------------------
Neighbor IP Addr : 2.4.0.2
Local IF IP Addr : 2.4.0.1
Area Id          : 0.0.0.0
Adj SR SID       : Label 524285         Protect SID      : Yes
Secondary Adj SID: Label 524282         Protect Sec. SID : No
Designated Rtr   : 0.0.0.0              Backup Desig Rtr : 0.0.0.0
Neighbor State   : Full                 Priority         : 1
Retrans Q Length : 0                    Options          : -- E - - -  - O --
Events           : 5                    Last Event Time  : 06/15/2026 15:20:05
Up Time          : 0d 00:03:28          Time Before Dead : 8 sec
GR Helper        : Not Helping          GR Helper Age    : 0 sec
GR Exit Reason   : None                 GR Restart Reason: Unknown (0)
BFD Strict Mode  : Disabled
Bad Nbr States   : 0                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
Num Restarts     : 0                    Last Restart at  : Never
```

Table 382: Output fields: OSPF neighbor detail

Label	Description
Neighbor IP Addr	The IP address this neighbor is using in its IP source address. On address-less links, this is not 0.0.0.0, but the address of another of the neighbor's interfaces.
Local IF IP Addr	The IP address of this OSPF interface.
Area Id	A 32-bit integer uniquely identifying the area to which this interface is connected. Area ID 0.0.0.0 is used for the OSPF backbone.
Adj SR SID	The adjacency SR SID.
Protect SID	The protected SID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Designated Rtr	The IP Interface address of the router identified as the Designated Router for the network in which this interface is configured. Set to 0.0.0.0 if there is no Designated router.
Neighbor Rtr Id	A 32-bit integer uniquely identifying the neighboring router in the AS.
Neighbor State	Down — this is the initial state of a neighbor conversation. It indicates that there has been no recent information received from the neighbor. Attempt — this state is only valid for neighbors attached to NBMA networks. It indicates that no recent information has been received from the neighbor, but that a more concerted effort should be made to contact the neighbor. Init — in this state, a Hello packet has recently been seen from the neighbor. However, bidirectional communication has not yet been established with the neighbor (the router itself did not appear in the neighbor's Hello packet). Two Way — in this state, communication between the two routers is bidirectional. Exchange start — this is the first step in creating an adjacency between the two neighboring routers. The goal of this step is to decide which router is the master, and to decide the initial Database Descriptor sequence number. Exchange — in this state, the router is describing its entire link state database by sending Database Description packets to the neighbor. Loading — in this state, Link State Request packets are sent to the neighbor asking for the more recent LSAs that have been discovered (but not yet received) in the Exchange state. Full — in this state, the neighboring routers are fully adjacent. These adjacencies will now appear in router-LSAs and network-LSAs.
Priority	The priority of this neighbor in the designated router election algorithm. The value 0 signifies that the neighbor is not eligible to become the designated router on this particular network.
Retrans Q Length	The current length of the retransmission queue.
Options	E — External Routes Support MC — Multicast Support N/P — Type 7 LSA Support EA — External Attribute LSA Support DC — Demand Circuit Support

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	O — Opaque LSA Support
Backup Desig Rtr	The IP Interface address of the router identified as the Backup Designated Router for the network in which this interface is configured. Set to 0.0.0.0 if there is no backup designated router.
Events	The number of times this neighbor relationship has changed state, or an error has occurred.
Last Event Time	The time when the last event occurred that affected the adjacency to the neighbor.
Up Time	This value represents the uninterrupted time, in hundredths of seconds, the adjacency to this neighbor has been up. To evaluate when the last state change occurred see last event time.
Time Before Dead	The time until this neighbor is declared down, this timer is set to the dead router interval when a valid Hello packet is received from the neighbor.
Bad Nbr States	The total number of OSPF packets received when the neighbor state was not expecting to receive this packet type since this interface was last enabled.
LSA Inst fails	The total number of times an LSA could not be installed into the LSDB due to a resource allocation issue since this interface was last enabled.
Bad Seq Nums	The total number of times when a database description packet was received with a sequence number mismatch since this interface was last enabled.
Bad MTUs	The total number of times when the MTU in a received database description packet was larger than the MTU of the receiving interface since this interface was last enabled.
Bad Packets	The total number of times when an LS update was received with an illegal LS type or an option mismatch since this interface was last enabled.
LSA not in LSDB	The total number of times when an LS request was received for an LSA not installed in the LSDB of this router since this interface was last enabled.
Option Mismatches	The total number of times when a LS update was received with an option mismatch since this interface was last enabled.
Nbr Duplicates	The total number of times when a duplicate database description packet was received during the exchange state since this interface was last enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

neighbor

Syntax

neighbor [*ip-int-name* | *ip-address*]

neighbor [*ip-int-name*] [*router-id*]

Context

[Tree] (clear>router>ospf3 neighbor)

[Tree] (clear>router>ospf neighbor)

Full Context

clear router ospf3 neighbor

clear router ospf neighbor

Description

This command marks the neighbor as dead and re-initiates the affected adjacencies.

Parameters

ip-int-name

Clears all neighbors for the interface specified by this interface name.

ip-address

Clears all neighbors for the interface specified by this IP address.

router-id

Clears all neighbors for the interface specified by this router ID.

Platforms

All

neighbor

Syntax

neighbor [*ip-int-name* | *ipv6-address*] [**detail**]

neighbor [**detail**] **advertised-routes** [*ip-int-name* | *ipv6-link-local-address*]

Context

[Tree] (show>router>ripng neighbor)

Full Context

show router ripng neighbor

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays RIPng neighbor interface information. If no IPv6 interface or address is specified, this command displays information for all neighbor interfaces.

Parameters

ip-int-name* | *ipv6-address

Displays information for the specified IPv6 interface and address.

advertised-routes

Displays the routes advertised to RIPng neighbors. If no neighbors are specified, all routes advertised to all neighbors are displayed. If a neighbor is specified, only routes advertised to that neighbor/interface are displayed.

ipv6-link-local-address

Displays information about the of the IPv6 link local address for the neighbor.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of RIPng neighbor information.

Output Example

```
*A:Dut-C>config>router>if# show router ripng neighbor "one"
===============================================================================
RIP-NG Neighbors
===============================================================================
Interface                       Adm  Opr  Primary IP      Send  Recv  Metric
                                                         Mode  Mode  In
-------------------------------------------------------------------------------
one                             Up   Up   3ffe::10:10:3:* RipNg RipNg 1
-------------------------------------------------------------------------------
No. of Neighbors: 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-C>config>router>if# show router ripng neighbor "one" detail
===============================================================================
RIP-NG Neighbors (Detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor "one"
-------------------------------------------------------------------------------
Description    : n/a
Primary IP     : 3ffe::10:10:3:3/1* Group        : A
Admin State    : Up                Oper State   : Up
Send Mode      : RipNg             Receive Mode : RipNg
Metric In      : 1                 Metric Out   : 1
Split Horizon  : Enabled           Check Zero   : Disabled
Message Size   : 25                Preference   : 100
                                   Update Timer : 1
Timeout Timer  : 5                 Flush Timer  : 5
BFD            : Enabled
Export Policies:
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    directToRipng
Import Policies:
    None
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

```
*A:Dut-C>config>router>if# show router ripng neighbor 3ffe::10:10:12:3
===============================================================================
RIP-NG Neighbors
===============================================================================
Interface                       Adm  Opr  Primary IP      Send  Recv  Metric
                                                         Mode  Mode  In
-------------------------------------------------------------------------------
three                           Up   Up   3ffe::10:10:12* RipNg RipNg 1
-------------------------------------------------------------------------------
No. of Neighbors: 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-C>config>router>if# show router ripng neighbor 3ffe::10:10:12:3 detail
===============================================================================
RIP-NG Neighbors (Detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor "three"
-------------------------------------------------------------------------------
Description    : n/a
Primary IP     : 3ffe::10:10:12:3/* Group        : B
Admin State    : Up                Oper State   : Up
Send Mode      : RipNg             Receive Mode : RipNg
Metric In      : 1                 Metric Out   : 1
Split Horizon  : Enabled           Check Zero   : Disabled
Message Size   : 25                Preference   : 100
                                   Update Timer : 1
Timeout Timer  : 5                 Flush Timer  : 5
BFD            : Disabled
Export Policies:
    directToRipng
Import Policies:
    None
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-C>config>router>if# show router ripng neighbor advertised-routes
===============================================================================
RIP-NG Advertised Routes
===============================================================================
Destination                             Interface
  Link-local-address                    Metric TTL
-------------------------------------------------------------------------------
3ffe::103:800/120                       one
  fe80::662d:ffff:fe00:0                1      n/a
3ffe::103:800/120                       two
  fe80::662d:ffff:fe00:0                1      n/a
3ffe::103:800/120                       three
  fe80::662d:ffff:fe00:0                1      n/a
3ffe::103:800/120                       four
  fe80::662d:ffff:fe00:0                1      n/a
3ffe::10:10:3:0/120                     one
  fe80::662d:ffff:fe00:0                1      n/a
3ffe::10:10:3:0/120                     two
  fe80::662d:ffff:fe00:0                1      n/a
3ffe::10:10:3:0/120                     three
  fe80::662d:ffff:fe00:0                1      n/a
3ffe::10:10:3:0/120                     four
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:12:0/120                        one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:12:0/120                        two
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:12:0/120                        three
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:12:0/120                        four
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:103:0/120                       one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:103:0/120                       two
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:103:0/120                       three
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:103:0/120                       four
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:112:0/120                       one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:112:0/120                       two
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:112:0/120                       three
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:112:0/120                       four
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:20:1:2/128                         one
  fe80::662d:ffff:fe00:0                    16     n/a
3ffe::10:20:1:2/128                         two
  fe80::662d:ffff:fe00:0                    16     n/a
3ffe::10:20:1:2/128                         three
  fe80::662d:ffff:fe00:0                    16     n/a
3ffe::10:20:1:2/128                         four
  fe80::662d:ffff:fe00:0                    16     n/a
3ffe::10:20:1:3/128                         one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:20:1:3/128                         two
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:20:1:3/128                         three
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:20:1:3/128                         four
  fe80::662d:ffff:fe00:0                    1      n/a
-------------------------------------------------------------------------------
No. of Advertised Routes: 28
===============================================================================
*A:Dut-C>config>router>if# show router ripng neighbor advertised-routes "one"
===============================================================================
RIP-NG Advertised Routes
===============================================================================
Destination                                 Interface
  Link-local-address                        Metric TTL
-------------------------------------------------------------------------------
3ffe::103:800/120                           one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:3:0/120                         one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:12:0/120                        one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:103:0/120                       one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:10:112:0/120                       one
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:20:1:2/128                         one
  fe80::662d:ffff:fe00:0                    16     n/a
3ffe::10:20:1:3/128                         one
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  fe80::662d:ffff:fe00:0                    1      n/a
-------------------------------------------------------------------------------
No. of Advertised Routes: 7
===============================================================================

*A:Dut-C>config>router>if# show router ripng neighbor advertised-routes fe80::662d:ffff:fe00:0
===============================================================================
RIP-NG Advertised Routes
===============================================================================
Destination                               Interface
  Link-local-address                      Metric TTL
-------------------------------------------------------------------------------
3ffe::103:800/120                         one
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::103:800/120                         two
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::103:800/120                         three
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::103:800/120                         four
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:3:0/120                       one
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:3:0/120                       two
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:3:0/120                       three
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:3:0/120                       four
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:12:0/120                      one
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:12:0/120                      two
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:12:0/120                      three
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:12:0/120                      four
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:103:0/120                     one
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:103:0/120                     two
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:103:0/120                     three
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:103:0/120                     four
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:112:0/120                     one
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:112:0/120                     two
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:112:0/120                     three
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:10:112:0/120                     four
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:20:1:2/128                       one
  fe80::662d:ffff:fe00:0                  16     n/a
3ffe::10:20:1:2/128                       two
  fe80::662d:ffff:fe00:0                  16     n/a
3ffe::10:20:1:2/128                       three
  fe80::662d:ffff:fe00:0                  16     n/a
3ffe::10:20:1:2/128                       four
  fe80::662d:ffff:fe00:0                  16     n/a
3ffe::10:20:1:3/128                       one
  fe80::662d:ffff:fe00:0                  1      n/a
3ffe::10:20:1:3/128                       two
  fe80::662d:ffff:fe00:0                  1      n/a
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3ffe::10:20:1:3/128                         three
  fe80::662d:ffff:fe00:0                    1      n/a
3ffe::10:20:1:3/128                         four
  fe80::662d:ffff:fe00:0                    1      n/a
-------------------------------------------------------------------------------
No. of Advertised Routes: 28
===============================================================================
```

neighbor

Syntax

neighbor *ip-addr* [*ip-addr*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>bgp neighbor)

Full Context

monitor router bgp neighbor

Description

This command displays statistical BGP neighbor information at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified neighbor(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

ip-addr

Displays damping information for entries received from the BGP neighbor. Up to five IP addresses can be specified.

Values *a.b.c.d*

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of BGP neighbor information.

Output Example

```
A:ALA-12>monitor>router>bgp# neighbor 192.0.2.10 interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for BGP Neighbor 192.0.2.10
===============================================================================
At time t = 0 sec
-------------------------------------------------------------------------------
Recd. Prefixes   : 2                    Sent Prefixes    : 0
Recd. Paths      : 0                    Suppressed Paths : 0
Num of Flaps     : 0
i/p Messages     : 916                  o/p Messages     : 916
i/p Octets       : 17510                o/p Octets       : 17386
i/p Updates      : 2                    o/p Updates      : 0
-------------------------------------------------------------------------------
At time t = 3 sec
-------------------------------------------------------------------------------
Recd. Prefixes   : 0                    Sent Prefixes    : 0
Recd. Paths      : 0                    Suppressed Paths : 0
Num of Flaps     : 0
i/p Messages     : 0                    o/p Messages     : 0
i/p Octets       : 0                    o/p Octets       : 0
i/p Updates      : 0                    o/p Updates      : 0
-------------------------------------------------------------------------------
At time t = 6 sec
-------------------------------------------------------------------------------
Recd. Prefixes   : 0                    Sent Prefixes    : 0
Recd. Paths      : 0                    Suppressed Paths : 0
Num of Flaps     : 0
i/p Messages     : 0                    o/p Messages     : 0
i/p Octets       : 0                    o/p Octets       : 0
i/p Updates      : 0                    o/p Updates      : 0
-------------------------------------------------------------------------------
At time t = 9 sec
-------------------------------------------------------------------------------
Recd. Prefixes   : 0                    Sent Prefixes    : 0
Recd. Paths      : 0                    Suppressed Paths : 0
Num of Flaps     : 0
i/p Messages     : 0                    o/p Messages     : 0
i/p Octets       : 6                    o/p Octets       : 0
i/p Updates      : 0                    o/p Updates      : 0
===============================================================================
A:ALA-12>monitor>router>bgp#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

neighbor

Syntax

neighbor *ip-address* [*ip-address*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>ospf neighbor)

Full Context

monitor router ospf neighbor

Description

This command displays statistical OSPF neighbor information at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified OSPF neighbors. The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

ip-address

Specifies the IP address to display information for entries received from the specified OSPF neighbor. Up to five IP addresses can be specified.

Values a.b.c.d

seconds

Configures the interval for each display, in seconds.

Values 3 to 60

Default 10

repeat

Configures the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of OSPF neighbor information.

Output Example

```
A:ALA-12>monitor>router# ospf neighbor 10.0.0.104 interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for OSPF Neighbor 10.0.0.104
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Bad Nbr States   : 0                   LSA Inst fails   : 0
Bad Seq Nums     : 0                   Bad MTUs         : 0
Bad Packets      : 0                   LSA not in LSDB  : 0
Option Mismatches: 0                   Nbr Duplicates   : 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Bad Nbr States   : 0                   LSA Inst fails   : 0
Bad Seq Nums     : 0                   Bad MTUs         : 0
Bad Packets      : 0                   LSA not in LSDB  : 0
Option Mismatches: 0                   Nbr Duplicates   : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Bad Nbr States   : 0                   LSA Inst fails   : 0
Bad Seq Nums     : 0                   Bad MTUs         : 0
Bad Packets      : 0                   LSA not in LSDB  : 0
Option Mismatches: 0                   Nbr Duplicates   : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Bad Nbr States   : 0                   LSA Inst fails   : 0
Bad Seq Nums     : 0                   Bad MTUs         : 0
Bad Packets      : 0                   LSA not in LSDB  : 0
Option Mismatches: 0                   Nbr Duplicates   : 0
===============================================================================
A:ALA-12>monitor>router#


A:ALA-12>monitor>router# ospf neighbor 10.0.0.104 interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for OSPF Neighbor 10.0.0.104
===============================================================================
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Bad Nbr States   : 0                   LSA Inst fails   : 0
Bad Seq Nums     : 0                   Bad MTUs         : 0
Bad Packets      : 0                   LSA not in LSDB  : 0
Option Mismatches: 0                   Nbr Duplicates   : 0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
Bad Nbr States   : 0                   LSA Inst fails   : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
Bad Nbr States   : 0                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
Bad Nbr States   : 0                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
===============================================================================
A:ALA-12>monitor>router#
```

neighbor

Syntax

neighbor *router-id interface-name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] **area** *area-id*

Context

[Tree] (monitor>router>ospf3 neighbor)

Full Context

monitor router ospf3 neighbor

Description

This command displays statistical OSPF3 neighbor information at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified OSPF3 neighbor(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

router-id

Specifies the IP address.

Values a.b.c.d

interface-name

Specifies the interface name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

seconds

Configures the interval for each display, in seconds.

Values 3 to 60

Default 10

repeat

Configures the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

area-id

Specifies the OSPF area, up to 256 characters.

Platforms

All

neighbor

Syntax

neighbor *neighbor* [*neighbor*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>rip neighbor)

[Tree] (monitor>router>ripng neighbor)

Full Context

monitor router rip neighbor

monitor router ripng neighbor

Description

This command displays statistical RIP neighbor information at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified RIP neighbor(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

neighbor

Specifies the IP interface name or the IP address of the neighbor to be monitored. Up to five can be specified in a single statement.

Values *ip-int-name*, *ip-address*

seconds

Configures the interval for each display, in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

neighbor

Syntax

neighbor *ieee-address*

Context

[Tree] (clear>system>ptp>port neighbor)

Full Context

clear system ptp port neighbor

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears PTP port neighbor information.

Parameters

ieee-address

Specifies the MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xxx: [0 to FFFF]H

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

16.7 neighbor-table

neighbor-table

Syntax

neighbor-table [**ip6** *ipv6-address*] [**class** *class*] [**next-index** *index*]

Context

[Tree] (tools>dump>wlan-gw>lanext>bd neighbor-table)

Full Context

tools dump wlan-gw lanext bd neighbor-table

Description

This command dumps neighbor table entries for the specified HLE BD.

Parameters

ipv6-address

Specifies the IPv6 address of the neighbor entry to be displayed.

class

Specifies the source on which to filter the neighbor table entries.

Values access, network, remote

index

Specify the **next-index** *index* parameter to display the next set of results If there are more results than the current output. The additional results are indicated at the bottom of the current output.

Values 0 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

16.8 neighbors

neighbors

Syntax

neighbors group [*name*] [*ip-address*]

Context

[Tree] (show>service>id>gsmp neighbors)

Full Context

show service id gsmp neighbors

Description

This command display GSMP neighbor information.

Parameters

group

A GSMP group defines a set of GSMP neighbors which have the same properties.

name

Specifies a GSMP group name is unique only within the scope of the service in which it is defined.

ip-address

Specifies the ip-address of the neighbor.

Platforms

All

Output

The following output is an example of service GSMP neighbor information.

Output Example

These commands show the configured neighbors per service, regardless that there exists an open TCP connection with this neighbor. The admin state is shown because for a neighbor to be admin enabled, the service, gsmp node, group node and the neighbor node in this service must all be in the **no shutdown** state. Session gives the number of session (open TCP connections) for each configured neighbor.

```
A:active>show>service>id>gsmp# neighbors
===============================================================================
GSMP neighbors
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Group                          Neighbor           AdminState  Sessions
-------------------------------------------------------------------------------
dslam1                         192.168.1.2        Enabled     0
dslam1                         192.168.1.3        Enabled     0
-------------------------------------------------------------------------------
Number of neighbors shown: 2
===============================================================================
A:active>show>service>id>gsmp#

A:active>show>service>id>gsmp# neighbors group dslam1
===============================================================================
GSMP neighbors
===============================================================================
Group                          Neighbor           AdminState  Sessions
-------------------------------------------------------------------------------
dslam1                         192.168.1.2        Enabled     0
dslam1                         192.168.1.3        Enabled     0
-------------------------------------------------------------------------------
Number of neighbors shown: 2
===============================================================================
A:active>show>service>id>gsmp#


A:active>show>service>id>gsmp# neighbors group dslam1 192.168.1.2
===============================================================================
GSMP neighbors
===============================================================================
Group                          Neighbor           AdminState  Sessions
-------------------------------------------------------------------------------
dslam1                         192.168.1.2        Enabled     0
===============================================================================
A:active>show>service>id>gsmp#
```

The following table describes show service-id gsmp neighbors group output fields:

Table 383: Output fields: GSMP neighbors group

Label	Description
Group	The GSMP group name
Neighbor	The neighbor IP address
AdminState	The administrative state of the neighbor
Sessions	The number of sessions (open TCP connections) for each configured neighbor

16.9 netconf

netconf

Syntax

netconf

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

netconf connection

netconf counters

netconf schema-path

Context

[Tree] (show>system netconf)

Full Context

show system netconf

Description

This command displays NETCONF information.

Parameters

connection

Keyword to display active NETCONF sessions.

counters

Keyword to display NETCONF counters.

schema-path

Keyword to display the operational schema-path state leaf, which indicates the current path of the SR OS schema files.

Platforms

All

Output

The following output is an example of NETCONF information, and Table 384: Output fields: NETCONF describes the NETCONF output fields.

Output Example

```
# show system netconf
===============================================================================
NETCONF Server
===============================================================================
Administrative State      : Enabled
Operational State         : Up
===============================================================================
```

Table 384: Output fields: NETCONF

Label	Description
Administrative State	Enabled — Indicates that NETCONF is enabled. Disabled — Indicates that NETCONF is disabled.
Operational State	Up — Indicates that NETCONF is operational.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Down — Indicates that NETCONF has no connections present. Transition — Indicates that NETCONF is waiting for the **delay-on-boot** timer to expire.

The following output is an example of NETCONF connection information, and Table 385: Output fields: NETCONF connection describes the NETCONF connection output fields.

Output Example

```
# show system netconf connection
===============================================================================
NETCONF Server connections
===============================================================================
Connection          Username       Session Status         Running    Candidate
                                   Id                     Locked?    Locked?
-------------------------------------------------------------------------------
135.121.197.102     admin          56      connected      no         no
-------------------------------------------------------------------------------
Number of NETCONF sessions : 1
===============================================================================
```

Table 385: Output fields: NETCONF connection

Label	Description
Connection	The IP address of the connected routers (remote client).
Username	The name of the user.
Session ID	The NETCONF session ID.
Status	Connected or not connected.
Running Locked?	Yes — Indicates the <running> datastore is locked. No — Indicates the <running> datastore is not locked.
Candidate Locked?	Yes — Indicates the <candidate> datastore is locked. No — Indicates the <candidate> datastore is not locked.
Number of NETCONF sessions	Total NETCONF sessions

The following output is an example of NETCONF counter information, and Table 386: Output fields: NETCONF counters describes the NETCONF counter output fields.

Output Example

```
# show system netconf counters
===============================================================================
NETCONF counters:
===============================================================================
    Rx Messages
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      in gets            : 23
      in get-configs     : 19
      in edit-configs    : 35
      in copy-configs    : 0
      in delete-configs  : 0
      in validates       : 0
      in close-sessions  : 0
      in kill-sessions   : 0
      in locks           : 0
      in unlocks         : 0
      in commits         : 2
      in discards        : 1
-------------------------------------------------------------------------------
      Rx Total           : 80
===============================================================================
    Tx Messages
-------------------------------------------------------------------------------
      out rpc-errors     : 4
-------------------------------------------------------------------------------
      Tx Total           : 9
===============================================================================
    Failed requests due to lock being taken by other sessions
-------------------------------------------------------------------------------
      failed edit-configs: 1
      failed locks       : 0
===============================================================================
```

Table 386: Output fields: NETCONF counters

Label	Description
RX Messages	Types and numbers of received messages
RX Total	Total of all received messages
TX Messages	Types and numbers of sent messages
TX Total	Total of all sent messages
failed edit-configs	Number of failed <edit-config> requests due to a lock (including implicit ones) being taken by other netconf sessions
failed locks	Number of failed <lock> requests due to a lock (including implicit ones) being taken by other netconf sessions

The following output is an example of NETCONF schema path information, and Table 387: Output fields: NETCONF schema path describes the NETCONF schema path output fields.

Output Example

```
A:node-2# show system netconf schema-path
===============================================================================
NETCONF Schema Path
===============================================================================
Operational : cf3:\timos\yang.tim
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 387: Output fields: NETCONF schema path

Label	Description
Operational	Operational schema-path state leaf, indicating the current path of the SR OS schema files. This value is updated at boot time or at configuration time.

netconf

Syntax

netconf

Context

[Tree] (clear>system>management-interface netconf)

Full Context

clear system management-interface netconf

Description

Commands in this context reset NETCONF commands.

Platforms

All

16.10 netconf-client

netconf-client

Syntax

netconf-client [*netconf-client*] [**statistics**]

Context

[Tree] (clear>system>management-interface>netconf>call-home netconf-client)

Full Context

clear system management-interface netconf call-home netconf-client

Description

This command resets operations for the specified NETCONF call-home client.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

netconf-client

Specifies the NETCONF call-home client name, up to 32 characters.

statistics

Keyword that resets NETCONF call-home client statistics.

Platforms

All

16.11 network

network

Syntax

network [*policy-id*] [**detail**] [**match-criteria**]

Context

[Tree] (show>qos network)

Full Context

show qos network

Description

This command displays network policy information.

Parameters

policy-id

Displays information for the specific policy ID.

Values 1 to 65535

Default all network policies

detail

Includes information about ingress and egress DSCP and LSP EXP bit mappings and network policy interface associations.

match-criteria

Includes the match-criteria.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of network QoS Policy information, and Table 388: Output fields: QoS network describes the network QoS Policy output fields.

Output Example

```
A:PE1# show qos network
===============================================================================
Network Policies
===============================================================================
Policy-Id  Name                Remark LerUseDscp Description
-------------------------------------------------------------------------------
1          default             False  False      Default network QoS policy.
===============================================================================
A:PE1#

A:PE1# show qos network 1
===============================================================================
QoS Network Policy
===============================================================================
-------------------------------------------------------------------------------
Network Policy (1)
-------------------------------------------------------------------------------
Policy-id        : 1                     Remark           : False
Forward Class    : be                    Profile          : Out
LER Use DSCP     : False                 Scope            : Template
Description      : Default network QoS policy.
Name             : default
===============================================================================
A:PE1#

A:PE1# show qos network 1 detail
===============================================================================
QoS Network Policy
===============================================================================
-------------------------------------------------------------------------------
Network Policy (1)
-------------------------------------------------------------------------------
Policy-id        : 1                     Remark           : False
Forward Class    : be                    Profile          : Out
LER Use DSCP     : False                 Scope            : Template
Description      : Default network QoS policy.
Name             : default
===============================================================================
-------------------------------------------------------------------------------
DSCP (Ingress)                          Forwarding Class                Profile
-------------------------------------------------------------------------------
be                                      be                              Out
ef                                      ef                              In
cs1                                     l2                              In
nc1                                     h1                              In
nc2                                     nc                              In
af11                                    af                              In
af12                                    af                              Out
af13                                    af                              Out
af21                                    l1                              In
af22                                    l1                              Out
af23                                    l1                              Out
af31                                    l1                              In
af32                                    l1                              Out
af33                                    l1                              Out
af41                                    h2                              In
af42                                    h2                              Out
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
af43                                h2                              Out

-------------------------------------------------------------------------------
DSCP (Egress)                       Forwarding Class                Profile
-------------------------------------------------------------------------------
No Matching Entries

-------------------------------------------------------------------------------
Prec (Egress)                       Forwarding Class                Profile
-------------------------------------------------------------------------------
No Matching Entries

-------------------------------------------------------------------------------
LSP EXP Bit Map                     Forwarding Class                Profile
-------------------------------------------------------------------------------
0                                   be                              Out
1                                   l2                              In
2                                   af                              Out
3                                   af                              In
4                                   h2                              In
5                                   ef                              In
6                                   h1                              In
7                                   nc                              In

-------------------------------------------------------------------------------
Dot1p Bit Map                     Forwarding Class                Profile
-------------------------------------------------------------------------------
No Matching Entries

-------------------------------------------------------------------------------
Egress Forwarding Class Mapping
-------------------------------------------------------------------------------
FC Value         : 0                  FC Name          : be
- DSCP Mapping
Out-of-Profile   : be                 In-Profile       : be

- Dot1p Mapping
Out-of-Profile   : 0                  In-Profile       : 0

- LSP EXP Bit Mapping
Out-of-Profile   : 0                  In-Profile       : 0

DE Mark          :  None
Redirect Grp Q   :  None              Redirect Grp Plcr:  None

FC Value         : 1                  FC Name          : l2
- DSCP Mapping
Out-of-Profile   : cs1                In-Profile       : cs1

- Dot1p Mapping
Out-of-Profile   : 1                  In-Profile       : 1

- LSP EXP Bit Mapping
Out-of-Profile   : 1                  In-Profile       : 1

DE Mark          :  None
Redirect Grp Q   :  None              Redirect Grp Plcr:  None

FC Value         : 2                  FC Name          : af
- DSCP Mapping
Out-of-Profile   : af12               In-Profile       : af11

- Dot1p Mapping
Out-of-Profile   : 2                  In-Profile       : 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
- LSP EXP Bit Mapping
Out-of-Profile   : 2                    In-Profile       : 3

DE Mark          :  None
Redirect Grp Q   :  None                Redirect Grp Plcr:  None

FC Value         : 3                    FC Name          : l1
- DSCP Mapping
Out-of-Profile   : af22                 In-Profile       : af21

- Dot1p Mapping
Out-of-Profile   : 3                    In-Profile       : 3

- LSP EXP Bit Mapping
Out-of-Profile   : 2                    In-Profile       : 3

DE Mark          :  None
Redirect Grp Q   :  None                Redirect Grp Plcr:  None

FC Value         : 4                    FC Name          : h2
- DSCP Mapping
Out-of-Profile   : af42                 In-Profile       : af41

- Dot1p Mapping
Out-of-Profile   : 4                    In-Profile       : 4

- LSP EXP Bit Mapping
Out-of-Profile   : 4                    In-Profile       : 4

DE Mark          :  None
Redirect Grp Q   :  None                Redirect Grp Plcr:  None

FC Value         : 5                    FC Name          : ef
- DSCP Mapping
Out-of-Profile   : ef                   In-Profile       : ef

- Dot1p Mapping
Out-of-Profile   : 5                    In-Profile       : 5

- LSP EXP Bit Mapping
Out-of-Profile   : 5                    In-Profile       : 5

DE Mark          :  None
Redirect Grp Q   :  None                Redirect Grp Plcr:  None

FC Value         : 6                    FC Name          : h1
- DSCP Mapping
Out-of-Profile   : nc1                  In-Profile       : nc1

- Dot1p Mapping
Out-of-Profile   : 6                    In-Profile       : 6

- LSP EXP Bit Mapping
Out-of-Profile   : 6                    In-Profile       : 6

DE Mark          :  None
Redirect Grp Q   :  None                Redirect Grp Plcr:  None

FC Value         : 7                    FC Name          : nc
- DSCP Mapping
Out-of-Profile   : nc2                  In-Profile       : nc2

- Dot1p Mapping
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Out-of-Profile   : 7                     In-Profile       : 7

- LSP EXP Bit Mapping
Out-of-Profile   : 7                     In-Profile       : 7

DE Mark          :  None
Redirect Grp Q   :  None                  Redirect Grp Plcr:  None

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Ingress Forwarding Class Mapping
-------------------------------------------------------------------------------
FC Value                : 0             FC Name                 : be
Redirect UniCast Plcr   : None          Redirect MultiCast Plcr : None
Redirect BroadCast Plcr : None          Redirect Unknown Plcr   : None

FC Value                : 1             FC Name                 : l2
Redirect UniCast Plcr   : None          Redirect MultiCast Plcr : None
Redirect BroadCast Plcr : None          Redirect Unknown Plcr   : None

FC Value                : 2             FC Name                 : af
Redirect UniCast Plcr   : None          Redirect MultiCast Plcr : None
Redirect BroadCast Plcr : None          Redirect Unknown Plcr   : None

FC Value                : 3             FC Name                 : l1
Redirect UniCast Plcr   : None          Redirect MultiCast Plcr : None
Redirect BroadCast Plcr : None          Redirect Unknown Plcr   : None

FC Value                : 4             FC Name                 : h2
Redirect UniCast Plcr   : None          Redirect MultiCast Plcr : None
Redirect BroadCast Plcr : None          Redirect Unknown Plcr   : None

FC Value                : 5             FC Name                 : ef
Redirect UniCast Plcr   : None          Redirect MultiCast Plcr : None
Redirect BroadCast Plcr : None          Redirect Unknown Plcr   : None

FC Value                : 6             FC Name                 : h1
Redirect UniCast Plcr   : None          Redirect MultiCast Plcr : None
Redirect BroadCast Plcr : None          Redirect Unknown Plcr   : None

FC Value                : 7             FC Name                 : nc
Redirect UniCast Plcr   : None          Redirect MultiCast Plcr : None
Redirect BroadCast Plcr : None          Redirect Unknown Plcr   : None

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Match Criteria (Ingress)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Match Criteria (Egress)
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Interface Association
-------------------------------------------------------------------------------
Interface      : system
IP Addr.         : n/a                  Port Id          : system
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Interface      : int
IP Addr.         : 20.0.0.1/24           Port Id          : 1/1/1

-------------------------------------------------------------------------------
Service Associations
-------------------------------------------------------------------------------
Service Id                              Service Type                 Direction
-------------------------------------------------------------------------------
No Matching Entries Found
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SDP Associations
-------------------------------------------------------------------------------
Service Id               Service Type        Sdp Id                  Direction
-------------------------------------------------------------------------------
No Matching Entries Found
-------------------------------------------------------------------------------
===============================================================================
*A:PE1#
```

Table 388: Output fields: QoS network

Label	Description
Policy-Id	The ID that uniquely identifies the policy.
Remark	True — Remarking is enabled for all packets that egress this router where the network policy is applied. The remarking is based on the forwarding class to DSCP and LSP EXP bit mapping defined under the egress node of the network QoS policy. False — Remarking is disabled.
Description	A text string that helps identify the policy context in the configuration file.
Forwarding Class/ FC Name	Specifies the default ingress forwarding class (configured using the **network ingress default-action** command) assigned to packets for which there is no other configured forwarding class classification.
Profile	Specifies the default ingress packet profile (configured using the **network ingress default-action** command) assigned to packets for which there is no other configured packet profile classification.
DSCP Mapping:	
Out-of-Profile	Displays the DSCP used for out-of-profile traffic.
In-Profile	Displays the DSCP used for in-profile traffic.
LSP EXP Bit Mapping:	
Out-of-Profile	Displays the LSP EXP value used for out-of-profile traffic.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
In-Profile	Displays the LSP EXP value used for in-profile traffic.
Interface	Displays the interface name.
IP Addr	Displays the interface IP address.
Port-Id	Specifies the physical port identifier that associates the interface.

16.12 network-domains

network-domains

Syntax

network-domains [**detail**] [*network-domain-name*]

network-domains *network-domain-name* **interface-association**

network-domains [*network-domain-name*] **mcast-association** [**state** {**consistent** | **inconsistent**}]

network-domains *network-domain-name* **sdp-association**

Context

[Tree] (show>router network-domains)

Full Context

show router network-domains

Description

This command displays network-domains information.

Parameters

detail

Displays detailed network-domains information.

network-domain-name

Displays information for a specific network domain.

interface-association

Displays information for an interface network domain association.

mcast-association

Displays information for a multicast network domain association.

state

Displays information for the state of a network domain.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values consistent, inconsistent

sdp-association

Displays information for an SDP network domain association

Platforms

All

Output

The following output is an example of network domain information.

Output Example

```
*A:Dut-T>config>router# show router network-domains
===============================================================================
Network Domain Table
===============================================================================
Network Domain                  Description
-------------------------------------------------------------------------------
net1                            Network domain 1
default                         Default Network Domain
-------------------------------------------------------------------------------
Network Domains : 2
===============================================================================
*A:Dut-T>config>router#


*A:Dut-T>config>router# show router network-domains detail
===============================================================================
Network Domain Table (Router: Base)
===============================================================================
-------------------------------------------------------------------------------
Network Domain                 : net1
-------------------------------------------------------------------------------
Description                    : Network domain 1
No. Of Ifs Associated          : 2
No. Of SDPs Associated         : 0

-------------------------------------------------------------------------------
Network Domain                 : default
-------------------------------------------------------------------------------
Description                    : Default Network Domain
No. Of Ifs Associated          : 3
No. Of SDPs Associated         : 0
===============================================================================
*A:Dut-T>config>router#


*A:Dut-T>config>router# show router network-domains "net1" interface-association
===============================================================================
Interface Network Domain Association Table
===============================================================================
Interface Name               Port            Network Domain
-------------------------------------------------------------------------------
intf1                        1/2/2           net1
intf2                        6/1/2           net1
-------------------------------------------------------------------------------
Interfaces : 2
===============================================================================
*A:Dut-T>config>router#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-T>config>service# show router network-domains "net1" sdp-association
===============================================================================
SDP Network Domain Association Table
===============================================================================
SDP Id                          Network Domain
-------------------------------------------------------------------------------
100                             net1
-------------------------------------------------------------------------------
SDPs : 1
===============================================================================
*A:Dut-T>config>service#
```

16.13 network-queue

network-queue

Syntax

network-queue [*network-queue-policy-name*] [**detail**]

Context

[Tree] (show>qos network-queue)

Full Context

show qos network-queue

Description

This command displays network queue policy information.

Parameters

network-queue-policy-name

The name of the network queue policy.

Values Valid names consist of any string, up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

detail

Includes each queue's rates and adaptation-rule and cbs details. It also shows FC-to-queue mapping details.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of network-queue information.

Output Example

```
*A:PE# show qos network-queue
===============================================================================
Network Queue Policies
===============================================================================
Policy-Id                       Description
-------------------------------------------------------------------------------
default                         Default network queue QoS policy.
===============================================================================
*A:PE#
*A:PE# show qos network-queue "default"
===============================================================================
QoS Network Queue Policy
===============================================================================
-------------------------------------------------------------------------------
Network Queue Policy (default)
-------------------------------------------------------------------------------
Policy              : default
Description         : Default network queue QoS policy.
Wrr Policy          : (Not Specified)
Pkt.Byte Offset     : 0
HS Attachment Policy: default
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
FP      : 1-1
Port-id : 1/1/2
Port-id : 1/1/3
Port-id : 1/1/4
Port-id : 1/1/5
Port-id : 1/1/6
Port-id : 1/1/7
Port-id : 1/1/8
===============================================================================
*A:PE#
*A:PE# show qos network-queue "default" detail
===============================================================================
QoS Network Queue Policy
===============================================================================
-------------------------------------------------------------------------------
Network Queue Policy (default)
-------------------------------------------------------------------------------
Policy              : default
Description         : Default network queue QoS policy.
Wrr Policy          : (Not Specified)
Pkt.Byte Offset     : 0
HS Attachment Policy: default
-------------------------------------------------------------------------------
Queue Information
-------------------------------------------------------------------------------
Queue-Id             : 1                Queue-Type           : auto-expedite
PIR                  : 100              CIR                  : 0
PIR Rule             : closest          CIR Rule             : closest
FIR                  : 0                FIR Rule             : closest
MBS                  : 50.00            CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a              CIR Level/Weight     : n/a
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Low Drop Tail        : def
Queue-Id             : 2               Queue-Type          : auto-expedite
PIR                  : 100             CIR                 : 25
PIR Rule             : closest         CIR Rule            : closest
FIR                  : 0               FIR Rule            : closest
MBS                  : 50.00           CBS                 : 3.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight    : n/a
Low Drop Tail        : def
Queue-Id             : 3               Queue-Type          : auto-expedite
PIR                  : 100             CIR                 : 25
PIR Rule             : closest         CIR Rule            : closest
FIR                  : 0               FIR Rule            : closest
MBS                  : 50.00           CBS                 : 10.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight    : n/a
Low Drop Tail        : def
Queue-Id             : 4               Queue-Type          : auto-expedite
PIR                  : 100             CIR                 : 25
PIR Rule             : closest         CIR Rule            : closest
FIR                  : 0               FIR Rule            : closest
MBS                  : 25.00           CBS                 : 3.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight    : n/a
Low Drop Tail        : def
Queue-Id             : 5               Queue-Type          : auto-expedite
PIR                  : 100             CIR                 : 100
PIR Rule             : closest         CIR Rule            : closest
FIR                  : 0               FIR Rule            : closest
MBS                  : 50.00           CBS                 : 10.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight    : n/a
Low Drop Tail        : def
Queue-Id             : 6               Queue-Type          : auto-expedite
PIR                  : 100             CIR                 : 100
PIR Rule             : closest         CIR Rule            : closest
FIR                  : 0               FIR Rule            : closest
MBS                  : 50.00           CBS                 : 10.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight    : n/a
Low Drop Tail        : def
Queue-Id             : 7               Queue-Type          : auto-expedite
PIR                  : 100             CIR                 : 10
PIR Rule             : closest         CIR Rule            : closest
FIR                  : 0               FIR Rule            : closest
MBS                  : 25.00           CBS                 : 3.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight    : n/a
Low Drop Tail        : def
Queue-Id             : 8               Queue-Type          : auto-expedite
PIR                  : 100             CIR                 : 10
PIR Rule             : closest         CIR Rule            : closest
FIR                  : 0               FIR Rule            : closest
MBS                  : 25.00           CBS                 : 3.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight    : n/a
Low Drop Tail        : def
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Queue-Id             : 9               Queue-Type           : auto-expedite
PIR                  : 100             CIR                  : 0
PIR Rule             : closest         CIR Rule             : closest
FIR                  : 0               FIR Rule             : closest
MBS                  : 50.00           CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight     : n/a
Low Drop Tail        : def
Queue-Id             : 10              Queue-Type           : auto-expedite
PIR                  : 100             CIR                  : 5
PIR Rule             : closest         CIR Rule             : closest
FIR                  : 0               FIR Rule             : closest
MBS                  : 50.00           CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight     : n/a
Low Drop Tail        : def
Queue-Id             : 11              Queue-Type           : auto-expedite
PIR                  : 100             CIR                  : 5
PIR Rule             : closest         CIR Rule             : closest
FIR                  : 0               FIR Rule             : closest
MBS                  : 50.00           CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight     : n/a
Low Drop Tail        : def
Queue-Id             : 12              Queue-Type           : auto-expedite
PIR                  : 100             CIR                  : 5
PIR Rule             : closest         CIR Rule             : closest
FIR                  : 0               FIR Rule             : closest
MBS                  : 25.00           CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight     : n/a
Low Drop Tail        : def
Queue-Id             : 13              Queue-Type           : auto-expedite
PIR                  : 100             CIR                  : 100
PIR Rule             : closest         CIR Rule             : closest
FIR                  : 0               FIR Rule             : closest
MBS                  : 50.00           CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight     : n/a
Low Drop Tail        : def
Queue-Id             : 14              Queue-Type           : auto-expedite
PIR                  : 100             CIR                  : 100
PIR Rule             : closest         CIR Rule             : closest
FIR                  : 0               FIR Rule             : closest
MBS                  : 50.00           CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight     : n/a
Low Drop Tail        : def
Queue-Id             : 15              Queue-Type           : auto-expedite
PIR                  : 100             CIR                  : 10
PIR Rule             : closest         CIR Rule             : closest
FIR                  : 0               FIR Rule             : closest
MBS                  : 25.00           CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a             CIR Level/Weight     : n/a
Low Drop Tail        : def
Queue-Id             : 16              Queue-Type           : auto-expedite
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PIR                  : 100              CIR                  : 10
PIR Rule             : closest          CIR Rule             : closest
FIR                  : 0                FIR Rule             : closest
MBS                  : 25.00            CBS                  : 1.00
Avg Frame Overhead   : 0.00
Parent               : No
PIR Level/Weight     : n/a              CIR Level/Weight     : n/a
Low Drop Tail        : def
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
HS Queue Information
-------------------------------------------------------------------------------
Queue-Id             : 1
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 2
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 3
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 4
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 5
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 6
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 7
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 8
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 9
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 10
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 11
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 12
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 13
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 14
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 15
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
Queue-Id             : 16
PIR                  : 100
PIR Rule             : closest
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False            HS MBS               : 100.00
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
HS Wrr Group Information
-------------------------------------------------------------------------------
HS Wrr Group Id    : 1                Class Weight       : 1
Percent Rate       : 100              PIR Adaptation Rule: closest
HS Wrr Group Id    : 2                Class Weight       : 1
Percent Rate       : 100              PIR Adaptation Rule: closest
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
FC    UCastQ    MCastQ
-------------------------------------------------------------------------------
be     1         9
l2     2         10
af     3         11
l1     4         12
h2     5         13
ef     6         14
h1     7         15
nc     8         16
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
FP      : 1-1
Port-id : 1/1/2
Port-id : 1/1/3
Port-id : 1/1/4
Port-id : 1/1/5
Port-id : 1/1/6
Port-id : 1/1/7
Port-id : 1/1/8
===============================================================================
*A:PE#
```

16.14 next-hop

next-hop

Syntax

next-hop [*family* [**service-id** *service-id*]] [*ip-address*[**detail**]]

Context

[Tree] (show>router>bgp next-hop)

Full Context

show router bgp next-hop

Description

This command displays BGP next-hop information.

Parameters

family

Specifies the type of routing information to be distributed by the BGP instance.

Values ipv4, mcast-ipv4, ipv6, mcast-ipv6, label-ipv4, label-ipv6, vpn-ipv4, vpn-ipv6, evpn, mcast-vpn-ipv4, mcast-vpn-ipv6

ip-address

Displays the next hop information for the specified IP address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x - [0 to FFFF]H

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

d - [0 to 255]D

interface - 32 characters maximum, mandatory for link local addresses

detail

Keyword to display the longer, more detailed version of the output.

service-id *service-id*

Specifies the service ID.

Values 1 to 2147483647

Platforms

All

Output

The following outputs are examples of BGP next-hop information:

- Output example, Table 389: Output fields: BGP nexthop
- Output example, Table 390: Output fields: BGP detailed next hop
- Output example, Table 391: Output fields: BGP next hop
- Output example, Table 391: Output fields: BGP next hop
- Output example, Table 391: Output fields: BGP next hop
- Output example, Table 391: Output fields: BGP next hop

The following output is an example of BGP next-hop information that displays the next-hop resolution enforcement of the administrative-tag policy, and Table 389: Output fields: BGP nexthop describes the output fields.

Output example

```
A:node-2# show router bgp next-hop vpn-ipv4
===============================================================================
BGP Router ID:10.20.1.3        AS:100         Local AS:100
===============================================================================

===============================================================================
BGP VPN Next Hop
===============================================================================
VPN Next Hop                                                  Owner
   Autobind                                        FibProg    Reason
   Labels (User-labels)                            FlexAlgo   Metric
   Admin-tag-policy (enforcement)                             Last Mod.
-------------------------------------------------------------------------------
10.20.1.1                                                     RSVP
   rsvp sr-te                                      Y
   -- (2)                                          --         10
   rtAdmTagPol1 (strict-tagged strict-untagged)               01h55m49s
-------------------------------------------------------------------------------
Next Hops : 4
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 389: Output fields: BGP nexthop

Label	Description
BGP Router ID	The local BGP router ID
AS	The configured autonomous system number
Local AS	The configured local AS setting. If not configured, the value is the same as the AS
VPN Next Hop	The next-hop address
Owner	The routing protocol used to derive the best next hop
Autobind	The autobind status for VPRN autobind
FibProg	The status of the FIB: • y – FIB is programmed • n – FIB is not programmed
Reason	The reason
Labels (User-labels)	The labels and user labels
FlexAlgo	The status of flexible algorithms: • y – flexible algorithms are configured • n – flexible algorithms are not configured
Admin-tag-policy (enforcement)	The administrative tag policy and the next-hop resolution enforcement of the administrative tag policy
Metric	The number of routes using the resolving prefix
Last Mod.	The time elapsed since the next hop was modified
Next Hops	The number of next hops

The following output is a detailed example of BGP next-hop information that displays the next-hop resolution enforcement of the administrative-tag policy, and Table 390: Output fields: BGP detailed next hop describes the output fields.

Output example

```
A:node-2# show router bgp next-hop vpn-ipv4 10.20.1.2 detail
===============================================================================
BGP Router ID:10.20.1.3        AS:100         Local AS:100
===============================================================================

===============================================================================
BGP VPN Next Hop
===============================================================================
-------------------------------------------------------------------------------
VPN Next Hop          : 10.20.1.2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Autobind              : rsvp sr-te
Labels                : --
User-labels           : 2
Admin-tag-policy      : rtAdmTagPol1
Enforcement: strict-tagged strict-untagged
Color                 : --
Created               : 01h56m03s
Last-modified         : 01h55m53s
-------------------------------------------------------------------------------
Resolving Prefix : 10.20.1.2/32
Preference       : 7                    Metric           : 10
Reference Count  : 2                    Owner            : RSVP
Fib Programmed   : Y
Resolved Next Hop: 1.3.2.2
Egress Label     : 524273               TunnelId         : 3
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Next Hops : 2
===============================================================================
```

Table 390: Output fields: BGP detailed next hop

Label	Description
BGP Router ID	The local BGP router ID
AS	The configured autonomous system number
Local AS	The configured local AS setting. If not configured, the value is the same as the AS.
VPN Next Hop	The next-hop address
Autobind	The autobind service configured
Labels	The labels
User-labels	The user labels
Admin-tag-policy	The name of the administrative policy configured
Enforcement	The configured enforcement
Color	The configured color
Created	The time elapsed since the next hop was created
Last-modified	The time elapsed since the next hop was modified
Resolving prefix	The prefix of the best next hop
Preference	The BGP preference attribute for the routes
Metric	The IGP cost to reach the BGP next hop
Reference Count	The number of routes using the resolving prefix
Owner	The routing protocol used to derive the best next hop

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Fib Programmed	The status of the FIB: • y – FIB is programmed • n – FIB is not programmed
Resolved Next Hop	The resolved next hop
Egress Label	The egress label
TunnelId	The tunnel ID
Next Hops	The number of next hops

The following output is an example of BGP next-hop information, and Table 391: Output fields: BGP next hop describes the command output fields for a BGP next hop.

Output example

```
A:node-2>show>router>bgp# next-hop 10.20.1.2
===============================================================================
BGP Router ID:10.20.1.3        AS:2           Local AS:2
===============================================================================

===============================================================================
BGP Next Hop
===============================================================================
Next Hop                                                  Pref     Owner
   Resolving Prefix                                       FibProg  Metric
   Resolved Next Hop                                      Colored  Ref. Count
   Admin-tag-policy                                       FlexAlgo Last Mod.
-------------------------------------------------------------------------------
10.20.1.2                                                 10       OSPF
   10.20.1.2/32                                           N        10
   10.10.3.2                                              N        0
   --                                                     --       01h25m52s
-------------------------------------------------------------------------------
Next Hops : 1
===============================================================================
```

The following output is an example of detailed BGP next-hop information.

Output example

```
A:node-2>show>router>bgp# next-hop 1.0.0.1 detail
===============================================================================
BGP Router ID:1.0.0.2          AS:1           Local AS:1
===============================================================================

===============================================================================
BGP Next Hop
===============================================================================
-------------------------------------------------------------------------------
Next Hop              : 1.0.0.1
Admin-tag-policy      : --
Color                 : --
Created               : 00h00m50s
Last-modified         : 00h00m50s
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Resolving Prefix : 1.0.0.1/32
Preference       : 10                   Metric           : 10
Reference Count  : 1                    Owner            : OSPF
Fib Programmed   : N
Resolved Next Hop: 1.1.0.1
Egress Label     : 16777215
-------------------------------------------------------------------------------
Pending Next Hop Change
-------------------------------------------------------------------------------
Resolving Prefix : 1.0.0.1/32
Preference       : 10                   Metric           : 10
Reference Count  : 1                    Owner            : BGP (OSPF)
Fib Programmed   : Y
Resolved Next Hop: 1.2.0.3
Egress Label     : 16777216
-------------------------------------------------------------------------------
```

The following output is an example of BGP next-hop information for an EVPN service.

Output example

```
A:node-2>show>router>bgp# next-hop evpn service-id 202 10.20.1.3
===============================================================================
BGP Router ID:10.20.1.2        AS:200         Local AS:200
===============================================================================

===============================================================================
BGP VPN Next Hop
===============================================================================
VPN Next Hop                                                 Owner
   Autobind                                        FibProg  Reason
   Labels (User-labels)                            FlexAlgo Metric
   Admin-tag-policy (enforcement)                  Last Mod.
-------------------------------------------------------------------------------
10.20.1.3                                                    LDP
   ldp bgp                                         Y
   rvpls  (2)                                      --       10
   -- (N)                                                    00h01m24s
-------------------------------------------------------------------------------
Next Hops : 1
===============================================================================
```

The following output is an example of detailed BGP next-hop information for an EVPN service.

Output example

```
A:node-2>show>router>bgp# next-hop evpn service-id 202 10.20.1.3 detail
===============================================================================
BGP Router ID:10.20.1.2        AS:200         Local AS:200
===============================================================================

===============================================================================
BGP VPN Next Hop
===============================================================================
-------------------------------------------------------------------------------
VPN Next Hop          : 10.20.1.3
Autobind              : ldp bgp
Labels                : rvpls
User-labels           : 2
Admin-tag-policy      : --
Enforcement:          : strict-tagged strict-untagged
Color                 : --
Created               : 00h01m26s
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Last-modified         : 00h01m26s
-------------------------------------------------------------------------------
Resolving Prefix : 10.20.1.3/32
Preference       : 9                  Metric          : 10
Reference Count  : 102                Owner           : LDP
Fib Programmed   : Y
Resolved Next Hop: 3.2.0.3
Egress Label     : 159997             TunnelId        : 65563
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Next Hops : 1
===============================================================================
```

The following output is an example of detailed information for a BGP next hop that is unresolvable until a Strict-Mode BFD session to a peer with the same address comes back up after going down.

Output example

```
A:Dut-C>config>router>bgp# show router bgp next-hop 5.5.5.5 ipv4 detail
===============================================================================
BGP Router ID:3.3.3.3 AS:100 Local AS:100
===============================================================================

===============================================================================
BGP Next Hop
===============================================================================
-------------------------------------------------------------------------------
Next Hop : 5.5.5.5
Admin-tag-policy : --
Color : --
Bfd-strict-mode : Y
Created : 00h02m32s
Last-modified : 00h02m32s
-------------------------------------------------------------------------------
Unresolved
Reference Count : 1 Reason : BfdStrictDown
Fib Programmed : N
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Next Hop : 5.5.5.5
Admin-tag-policy : --
Color : --
Created : 00h38m09s
Last-modified : 00h38m09s
-------------------------------------------------------------------------------
Resolving Prefix : 5.5.5.5/32
Preference : 10 Metric : 10
Reference Count : 0 Owner : OSPF
Fib Programmed : N
Resolved Next Hop: 100.3.5.5
Egress Label : 16777215
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Next Hops : 2
===============================================================================
```

Table 391: Output fields: BGP next hop

Label	Description
BGP ID	The local BGP router ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
AS	The configured autonomous system number
Local AS	The configured local AS setting. If not configured, then the value is the same as the AS
Next Hop	The next-hop address
Resolving Prefix	The prefix of the best next hop
Owner	The routing protocol used to derive the best next hop
Preference	The BGP preference attribute for the routes
Reference Count	The number of routes using the resolving prefix
Resolved Next Hop	The IP address of the next hop
Last Modified	The time elapsed since the next hop was modified
Created (only visible in detailed output)	The time elapsed since the next hop was created
Bfd-strict-mode	Y — The next hop becomes unresolved when a Strict-Mode BFD session goes down.
Reason (if the next hop is unresolvable because the BFD session is down)	BfdStrictDown — The next hop is unresolvable until a Strict-Mode BFD session to a peer with the same address comes back up after going down.

16.15 node

node

Syntax

node

Context

[Tree] (show>router>bgp>routes>bgp-ls node)

Full Context

show router bgp routes bgp-ls node

Description

This command displays BGP-LS NLRIs for node types.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

16.16 nonce

nonce

Syntax

nonce

Context

[Tree] (tools>dump>sys>sec>support-mode nonce)

Full Context

tools dump system security support-mode nonce

Description

This command displays the current system nonce.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of the support-mode nonce information.

Output example

```
A:node-2>tools>dump>sys>sec>support-mode# nonce
Current System Nonce
System nonce: CsCvi3DuhRObtKRaEHt2O2NTzh3pN3H0gFgtJrPboow=
A:node-2>tools>dump>sys>sec>support-mode#
```

16.17 nsp-proxy

nsp-proxy

Syntax

nsp-proxy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>perform>system nsp-proxy)

Full Context

tools perform system nsp-proxy

Description

Commands in this context perform NSP proxy functions.

Platforms

VSR-NRC

nsp-proxy

Syntax

nsp-proxy [**detail**] **module** {**bmp** | **pce** | **rom** | **topo**} **db** {**active** | **standby**}

nsp-proxy [**detail**]

nsp-proxy [**detail**] **module** {**bmp** | **pce** | **rom** | **topo**}

Context

[Tree] (tools>dump>system nsp-proxy)

Full Context

tools dump system nsp-proxy

Description

This command displays system NSP proxy information.

Parameters

detail

Keyword to display detailed information

module

Keyword to specify the module.

Values **bmp** — Displays information about the BMP module.
pce — Displays information about the PCE module.
rom — Displays information about the ROM module.
topo — Displays information about the topology module.

db

Keyword to specify the database.

Values **active** — Displays information about the active database.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

standby — Displays information about the standby database.

Platforms

VSR-NRC

16.18 ntp

ntp

Syntax

ntp [{**peers** | **peer** [**router** *router-instance* | **service-name** *service-name*] *peer-address*} | {**servers** | **server** [**router** *router-instance* | **service-name** *service-name*] *server-address*} | [**all**]] [**detail**]

Context

[Tree] (show>system ntp)

Full Context

show system ntp

Description

This command displays NTP protocol configuration and state.

Parameters

peers

Generates a list of known peers.

peer-address

Specifies the address of a specific peer.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

servers

Generates a list of known servers.

server-address

Specifies the address of a specific server.

Values ipv4-address: a.b.c.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-address:

- x:x:x:x:x:x:x:x
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

ptp: shows information about the internal PTP server.

router-instance

Specifies the routing context that contains the interface in the form of *router-name* or *service-id*.

Values *router-name* — Base | Management

service-id — 1 to 2147483647

Default Base

service name

Specifies the service name for the VPRN. The name can be up to 64 characters in length. Note that CPM routing instances are not supported.

all

Generates information for all clients, servers, and peers.

detail

Provides detailed information.

Platforms

All

Output

The following output is an example of NTP information, and Table 392: Output fields: NTP describes the output fields.

Output Example

```
show system ntp
===============================================================================
NTP Status
===============================================================================
Configured         : Yes               Stratum             : 4
Admin Status       : up                Oper Status         : up
Server Enabled     : No                Server Authenticate  : No
Clock Source       : 2001:db8:3333:4444:5555:10:100:2
Auth Check         : Yes
Auth Keychain      : KeyChainName
Current Date & Time: 2015/07/10 12:46:30 UTC
===============================================================================

show system ntp all
===============================================================================
NTP Status
===============================================================================
Configured         : Yes               Stratum             : 4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin Status       : up                Oper Status          : up
Server Enabled     : No                Server Authenticate  : No
Clock Source       : 2001:db8:3333:4444:5555:10:100:2
Auth Check         : Yes
Auth Keychain      : KeyChainName
Current Date & Time: 2015/07/10 12:46:32 UTC
===============================================================================
===============================================================================
NTP Active Associations
===============================================================================
State                     Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router          Remote
-------------------------------------------------------------------------------
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.396
    Base            2001:db8:3333:4444:5555:40:1:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -30.850
    Base            2001:db8:3333:4444:5555:40:2:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.654
    Base            2001:db8:3333:4444:5555:40:3:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -30.939
    Base            2001:db8:3333:4444:5555:40:4:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.206
    67890           2001:db8:3333:4444:5555:40:5:3
chosen                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.405
    67890           2001:db8:3333:4444:5555:70:1:4
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.054
    67890           2001:db8:3333:4444:5555:70:2:4
outlyer                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.682
    Base            2001:db8:3333:4444:5555:70:3:4
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.897
    Base            2001:db8:3333:4444:5555:70:4:4
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.991
    Base            2001:db8:3333:4444:5555:70:5:4
candidate                 192.168.193.198 2  bclnt y  8    YYYYYYYY  -48.991
    67890           2001:db8:3333:4444:5555:70:5:4

===============================================================================
===============================================================================
NTP Clients
===============================================================================
vRouter                                                  Time Last Request Rx
    Address
-------------------------------------------------------------------------------
Base
    10.10.100.1                                           03/06/2013 21:32:35
    2001:db8:3333:4444:5555:10:100:1                     03/06/2013 21:32:30
===============================================================================

show system ntp detail
===============================================================================
NTP Status
===============================================================================
Configured         : Yes               Stratum              : 4
Admin Status       : up                Oper Status          : up
Server Enabled     : No                Server Authenticate  : No
Clock Source       : 2001:db8:3333:4444:5555:10:100:2
Auth Check         : Yes
Auth Keychain      : KeyChainName
Auth Errors        : 0                 Auth Errors Ignored  : 0
Auth Key Id Errors : 0                 Auth Key Type Errors : 0
Current Date & Time: 2015/07/10 12:46:34 UTC
===============================================================================

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
NTP Configured Broadcast/Multicast Interfaces
===============================================================================
vRouter         Interface           Address             Type    Auth    Poll
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
NTP Active Associations
===============================================================================
State                     Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router         Remote
-------------------------------------------------------------------------------
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -30.563
    Base           2001:db8:3333:4444:5555:40:1:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.233
    Base           2001:db8:3333:4444:5555:40:2:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.808
    Base           2001:db8:3333:4444:5555:40:3:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -34.563
    Base           2001:db8:3333:4444:5555:40:4:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.507
    Base           2001:db8:3333:4444:5555:40:5:3
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.990
    Base           2001:db8:3333:4444:5555:70:1:4
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.926
    Base           2001:db8:3333:4444:5555:70:2:4
chosen                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.803
    Base           2001:db8:3333:4444:5555:70:3:4
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.897
    Base           2001:db8:3333:4444:5555:70:4:4
outlyer                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -50.180
    Base           2001:db8:3333:4444:5555:70:5:4
===============================================================================
===============================================================================
NTP Clients
===============================================================================
vRouter                                                    Time Last Request Rx
    Address
-------------------------------------------------------------------------------
Base
    10.10.100.1                                             03/06/2013 21:33:31
    2001:db8:3333:4444:5555:10:100:1                       03/06/2013 21:33:32
===============================================================================

show system ntp all detail
===============================================================================
NTP Status
===============================================================================
Configured         : Yes               Stratum             : 4
Admin Status       : up                Oper Status         : up
Server Enabled     : No                Server Authenticate  : No
Clock Source       : 2001:db8:3333:4444:5555:10:100:2
Auth Check         : Yes
Auth Keychain      : KeyChainName
Auth Errors        : 0                 Auth Errors Ignored  : 0
Auth Key Id Errors : 0                 Auth Key Type Errors : 0
Current Date & Time: 2015/07/10 12:46:36 UTC
===============================================================================
===============================================================================
NTP Configured Broadcast/Multicast Interfaces
===============================================================================
vRouter         Interface           Address             Type    Auth    Poll
-------------------------------------------------------------------------------
vprn16          ies-16-10.60.1.3                        bcast   yes     8
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
vprn16          ies-16-10.60.2.3                        bcast   yes     8
vprn16          ies-16-10.60.3.3                        bcast   yes     8
vprn16          ies-16-10.60.4.3                        bcast   yes     8
vprn16          ies-16-10.60.5.3                        bcast   yes     8
vprn16          ies-16-10.60.6.3                        bcast   yes     8
vprn16          ies-16-10.60.7.3                        bcast   yes     8
vprn16          ies-16-10.60.8.3                        bcast   yes     8
vprn16          ies-16-10.60.9.3                        bcast   yes     8
vprn16          ies-16-10.60.10.3                       bcast   yes     8
vprn17          ies-10.40.17.3                          bcast   no      8
vprn18          ies-10.40.18.3                          bcast   no      8
vprn19          ies-10.40.19.3                          bcast   no      8
vprn20          ies-10.40.20.3                          bcast   no      8
........
vprn996         ies-10.43.228.3                         bcast   no      8
vprn997         ies-10.43.229.3                         bcast   no      8
vprn998         ies-10.43.230.3                         bcast   no      8
vprn999         ies-10.43.231.3                         bcast   no      8
vprn1000        ies-10.43.232.3                         bcast   no      8
management      management          192.0.2.1           mcast   yes     8
Base            ip-10.60.1.5        Host-ones           bclnt   yes     n/a
Base            ip-10.60.2.5        Host-ones           bclnt   yes     n/a
Base            ip-10.60.3.5        Host-ones           bclnt   yes     n/a
Base            ip-10.60.4.5        Host-ones           bclnt   yes     n/a
67890           ip-10.60.5.5        Host-ones           bclnt   yes     n/a
67890           ip-10.60.6.5        Host-ones           bclnt   yes     n/a
67890           ip-10.60.7.5        Host-ones           bclnt   yes     n/a
67890           ip-10.60.8.5        Host-ones           bclnt   yes     n/a
67890           ip-10.60.9.5        Host-ones           bclnt   yes     n/a
67890           ip-10.60.10.5       Host-ones           bclnt   yes     n/a
===============================================================================
===============================================================================
NTP Active Associations
===============================================================================
State                     Reference ID    St Type  A  Poll Reach     Offset(ms)
    Remote
-------------------------------------------------------------------------------
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -30.563
    Base          2001:db8:3333:4444:5555:40:1:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.233
    Base          2001:db8:3333:4444:5555:40:2:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.808
    Base          2001:db8:3333:4444:5555:40:3:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -34.563
    Base          2001:db8:3333:4444:5555:40:4:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -35.507
    Base          2001:db8:3333:4444:5555:40:5:3
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.990
    Base          2001:db8:3333:4444:5555:70:1:4
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.926
    Base          2001:db8:3333:4444:5555:70:2:4
chosen                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.803
    Base          2001:db8:3333:4444:5555:70:3:4
candidate                 192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.897
    Base          2001:db8:3333:4444:5555:70:4:4
outlyer                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -50.180
    Base          2001:db8:3333:4444:5555:70:5:4
===============================================================================
===============================================================================
NTP Clients
===============================================================================
vRouter                                                 Time Last Request Rx
    Address
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Base
    10.10.100.1                                              03/06/2013 21:33:31
    2001:db8:3333:4444:5555:10:100:1                        03/06/2013 21:33:32
===============================================================================

show system ntp peers
===============================================================================
NTP Active Associations
===============================================================================
State                     Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router         Remote
-------------------------------------------------------------------------------
candidate                 192.168.193.198 2  actpr y  8    YYYYYYYY  -20.918
    Base           2001:db8:3333:4444:5555:50:1:4
candidate                 192.168.193.198 2  actpr y  8    YYYYYYY.  -19.940
    Base           2001:db8:3333:4444:5555:50:2:4
candidate                 192.168.193.198 2  actpr y  8    YYYYYYYY  -19.970
    Base           2001:db8:3333:4444:5555:50:3:4
candidate                 192.168.193.198 2  actpr y  8    YYYYYYYY  -20.505
    Base           2001:db8:3333:4444:5555:50:4:4
candidate                 192.168.193.198 2  actpr y  8    YYYYYYY.  -21.143
    Base           2001:db8:3333:4444:5555:50:5:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYY.  -19.598
    Base           2001:db8:3333:4444:5555:50:8:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYY.  -19.038
    Base           2001:db8:3333:4444:5555:50:7:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYY.  -20.427
    Base           2001:db8:3333:4444:5555:50:9:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYYY  -20.709
    Base           2001:db8:3333:4444:5555:50:10:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYY.  -19.729
    Base           2001:db8:3333:4444:5555:50:6:4
===============================================================================
===============================================================================
NTP Clients
===============================================================================
vRouter                                                   Time Last Request Rx
    Address
-------------------------------------------------------------------------------
vprn1
    2001:db8:3333:4444:5555:40:1:2                       03/06/2013 21:35:22
vprn2
    2001:db8:3333:4444:5555:40:2:2                       03/06/2013 21:35:27
vprn3
    2001:db8:3333:4444:5555:40:3:2                       03/06/2013 21:35:30
vprn4
    2001:db8:3333:4444:5555:40:4:2                       03/06/2013 21:35:24
===============================================================================

show system ntp peers detail
===============================================================================
NTP Active Associations
===============================================================================
State                     Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router         Remote
-------------------------------------------------------------------------------
candidate                 192.168.193.198 2  actpr y  8    YYYYYYYY  -20.918
    Base           2001:db8:3333:4444:5555:50:1:4
candidate                 192.168.193.198 2  actpr y  8    YYYYYYY.  -19.940
    Base           2001:db8:3333:4444:5555:50:2:4
candidate                 192.168.193.198 2  actpr y  8    YYYYYYYY  -19.970
    Base           2001:db8:3333:4444:5555:50:3:4
candidate                 192.168.193.198 2  actpr y  8    YYYYYYYY  -20.505
    Base           2001:db8:3333:4444:5555:50:4:4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
candidate                 192.168.193.198 2  actpr y  8    YYYYYYY.  -21.143
    Base          2001:db8:3333:4444:5555:50:5:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYY.  -19.598
    Base          2001:db8:3333:4444:5555:50:8:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYY.  -19.038
    Base          2001:db8:3333:4444:5555:50:7:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYY.  -20.427
    Base          2001:db8:3333:4444:5555:50:9:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYYY  -20.709
    Base          2001:db8:3333:4444:5555:50:10:4
candidate                 192.168.193.198 2  paspr y  8    YYYYYYY.  -19.729
    Base          2001:db8:3333:4444:5555:50:6:4
===============================================================================
===============================================================================
NTP Clients
===============================================================================
vRouter                                                    Time Last Request Rx
    Address
-------------------------------------------------------------------------------
vprn1
    2001:db8:3333:4444:5555:40:1:2                      03/06/2013 21:35:22
vprn2
    2001:db8:3333:4444:5555:40:2:2                      03/06/2013 21:35:27
vprn3
    2001:db8:3333:4444:5555:40:3:2                      03/06/2013 21:35:30
vprn4
    2001:db8:3333:4444:5555:40:4:2                      03/06/2013 21:35:24
===============================================================================

show system ntp peer router Base 2001:db8:3333:4444:5555:50:1:4
===============================================================================
NTP Peer
===============================================================================
State                     Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router        Remote
-------------------------------------------------------------------------------
candidate                 192.168.193.198 2  actpr y  8    YYYYYYYY  -24.164
    Base          2001:db8:3333:4444:5555:50:1:4
===============================================================================

show system ntp peer router Base 2001:db8:3333:4444:5555:50:1:4 detail
===============================================================================
NTP Peer
===============================================================================
State                     Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router        Remote
-------------------------------------------------------------------------------
candidate                 192.168.193.198 2  actpr y  8    YYYYYYYY  -24.164
    Base          2001:db8:3333:4444:5555:50:1:4
===============================================================================

show system ntp servers
===============================================================================
NTP Active Associations
===============================================================================
State                     Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router         Remote
-------------------------------------------------------------------------------
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -25.124
    Base          2001:db8:3333:4444:5555:40:1:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -19.409
    vprn20         2001:db8:3333:4444:5555:40:2:3
invalid                   192.168.193.198 2  srvr  y  8    YYYYYYYY  -26.174
    vprn20         2001:db8:3333:4444:5555:40:3:3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
invalid                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -25.193
    vprn20          2001:db8:3333:4444:5555:40:4:3
invalid                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -19.499
    vprn20          2001:db8:3333:4444:5555:40:5:3
candidate                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.050
    vprn20          2001:db8:3333:4444:5555:70:1:4
chosen                     192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.754
    vprn20          2001:db8:3333:4444:5555:70:2:4
candidate                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.891
    vprn20          2001:db8:3333:4444:5555:70:3:4
candidate                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.562
    vprn20          2001:db8:3333:4444:5555:70:4:4
candidate                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.687
    vprn20          2001:db8:3333:4444:5555:70:5:4
===============================================================================
===============================================================================
NTP Clients
===============================================================================
vRouter                                                    Time Last Request Rx
    Address
-------------------------------------------------------------------------------
Base
    10.10.100.1                                             03/06/2013 21:39:27
    2001:db8:3333:4444:5555:10:100:1                       03/06/2013 21:39:21
===============================================================================

show system ntp servers detail
===============================================================================
NTP Active Associations
===============================================================================
State                      Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router         Remote
-------------------------------------------------------------------------------
invalid                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -25.124
    Base            2001:db8:3333:4444:5555:40:1:3
invalid                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -19.409
    vprn20           2001:db8:3333:4444:5555:40:2:3
invalid                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -26.174
    vprn20          2001:db8:3333:4444:5555:40:3:3
invalid                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -25.193
    vprn20          2001:db8:3333:4444:5555:40:4:3
invalid                    192.168.193.198 2  srvr  y  8    YYYYYYYY  -19.499
    vprn20          2001:db8:3333:4444:5555:40:5:3
candidate                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -49.050
    vprn20          2001:db8:3333:4444:5555:70:1:4
chosen                     192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.754
    vprn20          2001:db8:3333:4444:5555:70:2:4
candidate                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.891
    vprn20          2001:db8:3333:4444:5555:70:3:4
candidate                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.562
    vprn20          2001:db8:3333:4444:5555:70:4:4
candidate                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -48.687
    vprn20          2001:db8:3333:4444:5555:70:5:4
===============================================================================
===============================================================================
NTP Clients
===============================================================================
vRouter                                                    Time Last Request Rx
    Address
-------------------------------------------------------------------------------
Base
    10.10.100.1                                             03/06/2013 21:39:27
    2001:db8:3333:4444:5555:10:100:1                       03/06/2013 21:39:21
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
show system ntp server service-name vprn20 2001:db8:3333:4444:5555:40:1:3
===============================================================================
NTP Server
===============================================================================
State                    Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router          Remote
-------------------------------------------------------------------------------
invalid                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -19.679
    vprn20          2001:db8:3333:4444:5555:40:1:3
===============================================================================
*

show system ntp server servicename vprn20 2001:db8:3333:4444:5555:40:1:3 detail
===============================================================================
NTP Server
===============================================================================
State                    Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router          Remote
-------------------------------------------------------------------------------
invalid                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -19.679
    vprn20          2001:db8:3333:4444:5555:40:1:3
===============================================================================

show system ntp peer router 20 2001:db8:3333:4444:5555:50:1:4
===============================================================================
NTP Peer
===============================================================================
State                    Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router          Remote
-------------------------------------------------------------------------------
candidate                192.168.193.198 2  actpr y  8    YYYYYYYY  -24.164
    vprn20          2001:db8:3333:4444:5555:50:1:4
===============================================================================

show system ntp peer router 20 2001:db8:3333:4444:5555:50:1:4 detail
===============================================================================
NTP Peer
===============================================================================
State                    Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router          Remote
-------------------------------------------------------------------------------
candidate                192.168.193.198 2  actpr y  8    YYYYYYYY  -24.164
    vprn20          2001:db8:3333:4444:5555:50:1:4
===============================================================================

show system ntp server router 20 2001:db8:3333:4444:5555:40:1:3
===============================================================================
NTP Server
===============================================================================
State                    Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router          Remote
-------------------------------------------------------------------------------
invalid                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -19.679
    vprn20          2001:db8:3333:4444:5555:40:1:3
===============================================================================

show system ntp server router 20 2001:db8:3333:4444:5555:40:1:3 detail
===============================================================================
NTP Server
===============================================================================
State                    Reference ID    St Type  A  Poll Reach     Offset(ms)
    Router          Remote
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
invalid                  192.168.193.198 2  srvr  y  8    YYYYYYYY  -19.679
    vprn20          2001:db8:3333:4444:5555:40:1:3
===============================================================================
```

Table 392: Output fields: NTP

Label	Description
Configured	Yes — NTP is configured No — NTP is not configured
Admin Status	up — Administrative state is enabled down — Administrative state is disabled
Server Enabled	Yes — This node is configured to serve external clients No — This node is not configured to server external clients
Stratum	Displays stratum level of this node
Oper Status	up — The operational state is enabled down — The operational state is disabled
Auth Check	Displays the authentication requirement
Auth KeyChain	Displays the authentication keychain name
Server Authenticate	Yes — Authentication is mandatory on received requests No — Authentication is not mandatory on received requests
Clock Source	Address of the chosen server
Auth Errors	Displays the number of authentication errors
Auth Errors Ignored	Displays the number of authentication errors ignored
Auth key Id Errors	Displays the number of key identification errors
Auth Key Type Errors	Displays the number of authentication key type errors
Current Date & Time	Current date and time as determined by the NTP process in the node
vRouter	The router instance containing the interface
Router	The router instance containing the address
Interface	The interface configured in NTP
Address	The address used for transmitted messages
Type	bcast — broadcast interface mcast — multicast interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	bclnt — broadcast client srvr — server actpr — active peer paspr — passive peer
Auth	yes — Authentication in use no — Authentication not in use
Poll	# — Current poll interval used on the interface
State	Reject — The peer is rejected and will not be used for synchronization. Rejection reasons could be the peer is unreachable, the peer is synchronized to this local server so synchronizing with it would create a sync loop, or the synchronization distance is too large. This is the normal startup state. Invalid — The peer is not maintaining an accurate clock. This peer will not be used for synchronization. Excess — The peer's synchronization distance is greater than ten other peers. This peer will not be used for synchronization. Outlier — The peer is discarded as an outlier. This peer will not be used for synchronization. Candidate — The peer is accepted as a possible source of synchronization. Selected — The peer is an acceptable source of synchronization, but its synchronization distance is greater than six other peers. Chosen — The peer is chosen as the source of synchronization. ChosenPPS — The peer is chosen as the source of synchronization, but the actual synchronization is occurring from a pulse-per-second (PPS) signal.
Remote	The IP address of the remote NTP server or peer with which this local host is exchanging NTP packets
Reference ID	When stratum is between 0 and 15 this field shows the IP address of the remote NTP server or peer with which the remote is exchanging NTP packets. For reference clocks, this field shows the identification assigned to the clock, such as, ".GPS.” For an NTP server or peer, if the client has not yet synchronized to a server/peer, the status cannot be determined and displays the following codes: Peer Codes: ACST — The association belongs to any cast server. AUTH — Server authentication failed. Wait while the association is restarted.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	AUTO — Autokey sequence failed. Wait while the association is restarted. BCST — The association belongs to a broadcast server. CRPT— Cryptographic authentication or identification failed. The details should be in the system log file or the cryptostats statistics file, if configured. No further messages will be sent to the server. DENY — Access denied by remote server. No further messages will be sent to the server. DROP — Lost peer in symmetric mode. Wait while the association is restarted. RSTR — Access denied due to local policy. No further messages are sent to the server. INIT — The association has not yet synchronized for the first time. MCST — The association belongs to a manycast server. NKEY — No key found. Either the key was never installed or is not trusted. RATE — Rate exceeded. The server has temporarily denied access because the client exceeded the rate threshold. RMOT — The association from a remote host running the ntpdc utility has had unauthorized attempted access. STEP — A step change in system time has occurred, but the association has not yet resynchronized. System Codes: INIT — The system clock has not yet synchronized for the first time. STEP — A step change in system time has occurred, but the system clock has not yet resynchronized.
St	Stratum level of this node
A	y — Authentication is enabled n — Authentication is disabled
Poll	Polling interval
Reach	Shows the reachability for the most recent polls (up to 8) Y — The NTP peer or server did respond in the indicated poll No — The NTP peer or server did not respond in the indicated poll
Offset	The time between the local and remote UTC time, in milliseconds
Time Last Request Rx	The time at which the last request was received from the client

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

16.19 number-of-tunnels

number-of-tunnels

Syntax

number-of-tunnels tunnel-type *tunnel-type* **isa** *mda*

number-of-tunnels tunnel-type *tunnel-type* **esa-vm** *esa-id/vm-id*

number-of-tunnels tunnel-type *tunnel-type* **system**

number-of-tunnels tunnel-type *tunnel-type* **tunnel-group** *tunnel-group-id*

Context

[Tree] (show>isa>stats>ip-tunnel-stats number-of-tunnels)

Full Context

show isa statistics ip-tunnel-stats number-of-tunnels

Description

This command displays the number of tunnels that are operationally up for the specified tunnel and scope.

The following scope types are supported:

- per ISA
- per tunnel group
- per system

  Note that L2TPv2 does not have a per-ISA scope.

The system collects statistics every hour for the past 24 hours per wall clock. A current value is also included in the output.

Parameters

tunnel-type

Displays information about the tunnel type.

Values gre, ip-in-ip, l2tpv3

mda

Displays information about the ISA ID.

Values slot/mda

system

Displays information about the system.

tunnel-group-id

Displays information about the tunnel group ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 16

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

number-of-tunnels

Syntax

number-of-tunnels gateway *name* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

number-of-tunnels [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] **esa-vm** *esa-id/vm-id*

number-of-tunnels tunnel-type *tunnel-type* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**] **esa-vm** *esa-id/vm-id*

number-of-tunnels tunnel-type *tunnel-type* **gateway** *name* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

number-of-tunnels isa *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

number-of-tunnels tunnel-type *tunnel-type* **isa** *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

number-of-tunnels system [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

number-of-tunnels tunnel-type *tunnel-type* **system** [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

number-of-tunnels tunnel-group *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

number-of-tunnels tunnel-type *tunnel-type* **tunnel-group** *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

Context

[Tree] (show>isa>stats>ipsec-stats number-of-tunnels)

Full Context

show isa statistics ipsec-stats number-of-tunnels

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information for the number of IPsec tunnel statistics of the specified tunnel type and scope. The system collects statistics every hour for the last 24 hour according to the wall clock. The current value is also included in the output.

This command supports following scopes:

- per system
- per ISA
- per tunnel group
- per IPsec GW

The **start time** value in the output indicates the time when the results are collected.

Parameters

tunnel-type

Displays information about the specified the tunnel type.

Values all, sl2l, dl2l, ra

mda

Displays information about the specified ISA ID.

Values slot/mda

tunnel-group-id

Displays information about the specified tunnel group ID.

Values 1 to 16

name

Displays information about the specified IPsec GW name up to 32 characters in length.

count

Displays information for the number of statistics intervals to be displayed (starting with the most recent).

Values 1 to 96

minutes

Displays information about the specified period covered by the statistics to be displayed (starting with the most recent).

Values 1 to 1440

current

Displays information about the current value. The values of count and minutes are ignored by the system once this parameter is specified.

show-oid

Displays information about the Object Identifier (OID) of the current statistical value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

Output

The following output is an example of the **show isa statistics ipsec-stats number** of tunnels command.

Output Example

```
show>isa>stats>ipsec-stats# number-of-tunnels tunnel-group 1
===============================================================================
STATISTICS FOR ISA TUNNEL GROUP 1
===============================================================================
INDEX        VALUE                     START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
NUMBER OF TOTAL IPSEC TUNNELS
1 (CURRENT)  1                         2017/05/23 00:30:13 N/A
2            1                         2017/05/23 00:00:00 N/A
3            1                         2017/05/22 23:00:00 N/A
4            0                         2017/05/22 22:00:00 N/A
5            0                         2017/05/22 21:00:00 N/A
6            0                         2017/05/22 20:00:00 N/A
7            0                         2017/05/22 19:00:00 N/A
8            1                         2017/05/22 18:00:00 N/A
NUMBER OF IPSEC STATIC LAN-TO-LAN (SL2L) TUNNELS
1 (CURRENT)  0                         2017/05/23 00:30:13 N/A
2            0                         2017/05/23 00:00:00 N/A
3            0                         2017/05/22 23:00:00 N/A
4            0                         2017/05/22 22:00:00 N/A
5            0                         2017/05/22 21:00:00 N/A
6            0                         2017/05/22 20:00:00 N/A
7            0                         2017/05/22 19:00:00 N/A
8            0                         2017/05/22 18:00:00 N/A
NUMBER OF IPSEC DYNAMIC LAN-TO-LAN (DL2L) TUNNELS
1 (CURRENT)  0                         2017/05/23 00:30:13 N/A
2            0                         2017/05/23 00:00:00 N/A
3            0                         2017/05/22 23:00:00 N/A
4            0                         2017/05/22 22:00:00 N/A
5            0                         2017/05/22 21:00:00 N/A
6            0                         2017/05/22 20:00:00 N/A
7            0                         2017/05/22 19:00:00 N/A
8            0                         2017/05/22 18:00:00 N/A
NUMBER OF IPSEC REMOTE ACCESS (RA) TUNNELS
1 (CURRENT)  1                         2017/05/23 00:30:13 N/A
2            1                         2017/05/23 00:00:00 N/A
3            1                         2017/05/22 23:00:00 N/A
4            0                         2017/05/22 22:00:00 N/A
5            0                         2017/05/22 21:00:00 N/A
6            0                         2017/05/22 20:00:00 N/A
7            0                         2017/05/22 19:00:00 N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
8           1                         2017/05/22 18:00:00 N/A
-------------------------------------------------------------------------------
NO. OF ENTRIES: 32
===============================================================================
SHOW>ISA>STATS>IPSEC-STATS# NUMBER-OF-TUNNELS TUNNEL-GROUP 1 SHOW-OID TUNNEL-TYPE ALL
-------------------------------------------------------------------------------
CURRENT STATISTIC INFO
-------------------------------------------------------------------------------
OID: TMNXIPSECTNLGRPHISTSTATSVALUE10.1.1.2
-------------------------------------------------------------------------------
===============================================================================
STATISTICS FOR ISA TUNNEL GROUP 1
===============================================================================
INDEX       VALUE                     START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
NUMBER OF TOTAL IPSEC TUNNELS
1 (CURRENT)  1                        2017/05/23 00:32:04 N/A
2           1                         2017/05/23 00:00:00 N/A
3           1                         2017/05/22 23:00:00 N/A
4           0                         2017/05/22 22:00:00 N/A
5           0                         2017/05/22 21:00:00 N/A
6           0                         2017/05/22 20:00:00 N/A
7           0                         2017/05/22 19:00:00 N/A
8           1                         2017/05/22 18:00:00 N/A
-------------------------------------------------------------------------------
NO. OF ENTRIES: 8
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

17 o Commands

17.1 oam-config-summary

oam-config-summary

Syntax

oam-config-summary

Context

[Tree] (show>test-oam oam-config-summary)

Full Context

show test-oam oam-config-summary

Description

This command displays the OAM configuration resources in use, as well as the percentage of available and per-system limits for the platform. The lines produced by the **show** command output vary by platform and may account for resource allocation in different ways. The resource accounting is tied to different resource pools across different platforms.

Platforms

All

Output

The following output is an example of OAM configuration information and Table 393: Output fields: OAM configuration summary describes the output fields.

This example is for platforms that have separate resource pools for OAM-PM (tests and packet per second). OAM-PM resources are tracked separately from the background OAM and SAA tests and transmit capacity. The limits are platform-specific.

```
show test-oam oam-config-summary
```

Output Example

```
-------------------------------------------------------------------------------
      OAM-Managed Test Capacity (tests)
      -------------------------------------------------------------------------
      Resource                                                InUse %InUse  Limit
      -------------------------------------------------------------------------
      Background ICMP Bridged Residential Gateway tests           0    0.0  50000
      Background ICMP Interface Control tests                     0    0.0   4000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      Background OAM and SAA tests                                    0    0.0  10000
      Background Static Host CPE Check tests                          0    0.0   5000
      Background Static Route CPE Check tests                         0    0.0  10000
      LSP Self Ping tests                                             0    0.0   1250
      OAM-PM tests                                                    0    0.0  24000
      -------------------------------------------------------------------------------
      -------------------------------------------------------------------------------
      OAM-Managed Transmit Capacity (pps)
      -------------------------------------------------------------------------------
      Resource                                                  InUse %InUse  Limit
      -------------------------------------------------------------------------------
      Shared Resource Pool Maximum                                    0    0.0  24000
        Background Shared Pool Maximum                                0    0.0  10000
          Background OAM and SAA-continuous Tx capacity               0    0.0   6000
          Background Static Route CPE Check Tx capacity               0    0.0  10000
        OAM-PM Tx capacity                                            0    0.0  18000
      Dedicated Resources
        LSP Self Ping Tx capacity                                     0    0.0    125
      -------------------------------------------------------------------------------
```

The following output is an example of those platforms that have a common resource pool (tests and packet per second) for background OAM, OAM-PM and SAA and Table 393: Output fields: OAM configuration summary describes the output fields.

```
show test-oam oam-config-summary
```

Output Example

```
-------------------------------------------------------------------------------
OAM-Managed Test Capacity (tests)
-------------------------------------------------------------------------------
Resource                                                 InUse %InUse  Limit
-------------------------------------------------------------------------------
Background OAM, OAM-PM, and SAA tests                        0    0.0
Background ICMP Interface Control tests                      0    0.0
LSP Self Ping tests                                          0    0.0
-------------------------------------------------------------------------------
OAM-Managed Transmit Capacity (pps)
-------------------------------------------------------------------------------
Resource                                                 InUse %InUse  Limit
-------------------------------------------------------------------------------
Background OAM, OAM-PM, and SAA-continuous Tx capacity       0    0.2
LSP Self Ping Tx capacity                                    0    0.0
-------------------------------------------------------------------------------
```

The following output is an example of CPE check information and Table 393: Output fields: OAM configuration summary describes the output fields.

```
show test-oam oam-config-summary
```

Output Example

```
-------------------------------------------------------------------------------
      OAM-Managed Test Capacity (tests)
      -------------------------------------------------------------------------------
      Resource                                                  InUse %InUse  Limit
      -------------------------------------------------------------------------------
      Background ICMP Bridged Residential Gateway tests               0    0.0  50000
      Background ICMP Interface Control tests                         0    0.0   4000
      Background OAM and SAA tests                                    0    0.0  10000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Background Static Host CPE Check tests                          0    0.0   5000
Background Static Route CPE Check tests                         0    0.0  10000
LSP Self Ping tests                                             0    0.0   1250
OAM-PM tests                                                    0    0.0  24000
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
OAM-Managed Transmit Capacity (pps)
-------------------------------------------------------------------------------
Resource                                                 InUse %InUse  Limit
-------------------------------------------------------------------------------
Shared Resource Pool Maximum                                    0    0.0  24000
  Background Shared Pool Maximum                                0    0.0  10000
    Background OAM and SAA-continuous Tx capacity               0    0.0   6000
    Background Static Route CPE Check Tx capacity               0    0.0  10000
  OAM-PM Tx capacity                                            0    0.0  18000
Dedicated Resources
  LSP Self Ping Tx capacity                                     0    0.0    125
-------------------------------------------------------------------------------
```

The following table describes the test OAM configuration limit fields.

Table 393: Output fields: OAM configuration summary

Label	Description
InUse	Indicates the number of resources in use
%InUse	Indicates the percentage of resources in use
Limit	Indicates the total number of available resources

17.2 oam-perf

oam-perf

Syntax

oam-perf [**detail**]

Context

[Tree] (show>test-oam oam-perf)

Full Context

show test-oam oam-perf

Description

This command displays OAM performance information, including packet per second rates and the cumulative packets receive and transmitted. Statistics are cleared using the **clear>test-oam>oam-perf** command to properly interpret current data rate. The counts are displayed since the last clear and may be skewed because of irrelevant historical data.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of OAM performance information.

Output Example

```
show test-oam oam-perf
Current Time      : 12/20/2018 20:22:49
Last Clear        : 12/20/2018 20:21:08
Period Duration   : 0d 00:01:41  (101.43 seconds)
Local Tests (Tx)  :        251 packets,       2.47 packets/second
Remote Tests (Rx) :          0 packets,       0.00 packets/second
show test-oam oam-perf detail
Current Time      : 12/20/2018 20:22:53
Last Clear        : 12/20/2018 20:21:08
Period Duration   : 0d 00:01:45  (105.29 seconds)
===============================================================================
OAM packets Tx by locally initiated tests and Rx from remotely initiated tests
===============================================================================
                                --- Local Tests ----  -- Remote Tests ----
OAM Type                        TxPackets  Rate(pps)  RxPackets  Rate(pps)
-------------------------------------------------------------------------------
Eth-CFM                               0       0.00          0       0.00
ICMP                                  0       0.00          0       0.00
LSP                                   0       0.00          0       0.00
MAC CPE MFIB                          0       0.00          0       0.00
MPLS DM                             156       1.48          0       0.00
Multicast                             0       0.00          0       0.00
SDP SVC                               0       0.00          0       0.00
Twamp-Light                         105       1.00          0       0.00
VCCV                                  0       0.00          0       0.00
VPRN                                  0       0.00          0       0.00
VXLAN                                 0       0.00          0       0.00
other                                 0       0.00          0       0.00
Total                               261       2.48          0       0.00
===============================================================================
```

oam-perf

Syntax

oam-perf

Context

[Tree] (clear>test-oam oam-perf)

Full Context

clear test-oam oam-perf

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears OAM performance statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

oam-perf

Syntax

oam-perf [**interval** *seconds*] [**repeat** *repeat*] [{**absolute** | **rate**}]

Context

[Tree] (monitor>test-oam oam-perf)

Full Context

monitor test-oam oam-perf

Description

This command monitors the OAM performance statistics.

Parameters

seconds

Specifies the time interval, in seconds.

Values 3 to 60

repeat

Specifies the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Specifies that the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

Specifies that the rate-per-second is displayed.

Default delta

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

17.3 oam-pm

oam-pm

Syntax

oam-pm

Context

[Tree] (show oam-pm)

Full Context

show oam-pm

Description

Commands in this context display OAM information.

Platforms

All

oam-pm

Syntax

oam-pm session *session-name* {**dm** | **dmm** | **lmm** | **slm** | **twamp-light**}

Context

[Tree] (clear oam-pm)

Full Context

clear oam-pm

Description

This command clears OAM performance statistics reported by the **show test-oam oam-perf** [**detail**].

Parameters

session-name

Specifies the session name, up to 32 characters, that the test is associated with.

dm

Keyword that specifies the MPLS delay measurement test that is affected by the command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

dmm

Keyword that specifies the DMM test that is affected by the command.

lmm

Keyword that specifies the LMM test that is affected by the command.

slm

Keyword that specifies the SLM test that is affected by the command.

twamp-light

Keyword that specifies the TWAMP-light test that is affected by the command.

Platforms

All

oam-pm

Syntax

oam-pm

Context

[Tree] (monitor oam-pm)

Full Context

monitor oam-pm

Description

Commands in this context monitor OAM information.

Platforms

All

17.4 oam-template

oam-template

Syntax

oam-template

Context

[Tree] (show>router>mpls>mpls-tp oam-template)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router mpls mpls-tp oam-template

Description

This command displays MPLS-TP OAM template information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of MPLS OAM template detail information.

Output Example

```
*A:mlstp-dutA# show router mpls mpls-tp oam-template

===============================================================================
MPLS-TP OAM Templates
===============================================================================
Template Name : privatebed-oam-template Router ID     : 1
BFD Template  : privatebed-bfd-template Hold-Down Time: 0 centiseconds
                                        Hold-Up Time  : 20 deciseconds
===============================================================================
```

17.5 ocsp-cache

ocsp-cache

Syntax

ocsp-cache [*entry-id*]

Context

[Tree] (show>certificate ocsp-cache)

Full Context

show certificate ocsp-cache

Description

This command displays the current cached OCSP results. The output includes the following information:

Certificate issuer

Certificate serial number

OCSP result

Cache entry expire time

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

entry-id

Specifies the local cache entry identifier of the certificate that was validated by the OCSP responder.

Values 1 to 2000

Platforms

All

17.6 omcr

omcr

Syntax

omcr

Context

[Tree] (show>redundancy>multi-chassis omcr)

Full Context

show redundancy multi-chassis omcr

Description

Commands in this context display OMCR information for subscribers.

Platforms

7750 SR

17.7 on-change-paths

on-change-paths

Syntax

on-change-paths

on-change-paths {**nokia** | **nokia-scale** | **openconfig**}

Context

[Tree] (tools>dump>system>telemetry on-change-paths)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump system telemetry on-change-paths

Description

This command lists all state paths supporting gRPC ON_CHANGE subscriptions. The keywords **nokia**, **nokia-scale**, and **openconfig** specify which paths should be displayed in the output.

Parameters

nokia

Specifies that the Nokia model paths be displayed.

nokia-scale

Specifies that the Nokia gRPC RIB API paths be displayed.

openconfig

Specifies that the OpenConfig model paths be displayed.

Platforms

All

Output

The following output is an example of ON_CHANGE state paths information.

Output Example

```
A:node-6# tools dump system telemetry on-change-paths nokia
===============================================================================
Nokia on-change state paths
===============================================================================
/state/log/log-id/oper-state
/state/port/ethernet/lldp/dest-mac/remote-system/chassis-id
/state/port/ethernet/lldp/dest-mac/remote-system/chassis-id-subtype
/state/port/ethernet/lldp/dest-mac/remote-system/remote-port-id
/state/port/ethernet/lldp/dest-mac/remote-system/remote-port-id-subtype
/state/port/ethernet/lldp/dest-mac/remote-system/port-description
/state/port/ethernet/lldp/dest-mac/remote-system/system-enabled-capabilities
/state/port/ethernet/lldp/dest-mac/remote-system/system-supported-capabilities
/state/port/ethernet/lldp/dest-mac/remote-system/system-description
/state/port/ethernet/lldp/dest-mac/remote-system/system-name
/state/port/ethernet/lldp/dest-mac/remote-system/mgmt-address/interface-subtype
/state/port/ethernet/lldp/dest-mac/remote-system/mgmt-address/interface-id
/state/port/ethernet/lldp/dest-mac/remote-system/mgmt-address/object-identifier
/state/router/interface/if-oper-status
/state/router/isis/interface/level/oper-metric/ipv4-unicast
/state/router/isis/interface/level/oper-metric/ipv6-unicast
/state/router/isis/interface/level/oper-metric/ipv4-multicast
/state/router/isis/interface/level/oper-metric/ipv6-multicast
/state/router/mpls/lsp/oper-state
/state/router/mpls/lsp/primary/mbb/last-mbb/type
/state/router/mpls/lsp/primary/mbb/last-mbb/end-time
/state/router/mpls/lsp/primary/mbb/last-mbb/metric
/state/router/mpls/lsp/primary/mbb/last-mbb/state
/state/router/mpls/lsp/primary/mbb/last-mbb/signaled-bw
/state/router/mpls/lsp/secondary/mbb/last-mbb/type
/state/router/mpls/lsp/secondary/mbb/last-mbb/end-time
/state/router/mpls/lsp/secondary/mbb/last-mbb/metric
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
/state/router/mpls/lsp/secondary/mbb/last-mbb/state
/state/router/mpls/lsp/secondary/mbb/last-mbb/signaled-bw
/state/service/ies/interface/if-oper-status
/state/service/vprn/interface/if-oper-status
/state/service/vprn/log/log-id/oper-state
/state/system/lldp/chassis-id
/state/system/lldp/chassis-id-subtype
/state/system/lldp/system-name
/state/system/lldp/system-description
/state/system/telemetry/grpc/subscription/path/deferred-collection-count
===============================================================================
```

17.8 opaque-database

opaque-database

Syntax

opaque-database [**area** *area-id* | **as**] [**adv-router** *router-id*] [*ls-id*] [**detail**]

Context

[Tree] (show>router>ospf opaque-database)

Full Context

show router ospf opaque-database

Description

This command displays OSPF opaque database information.

Parameters

area *area-id*

Displays all opaque databases configured in this area.

Values ip-address — a.b.c.d

area — 0 to 4294967295

as

Displays opaque databases configured in the autonomous system (AS).

adv-router *router-id* [*ls-id*]

Displays opaque database information associated with the specified advertising router. To further narrow the number of items displayed, the *ls-id* can optionally be specified.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

OSPF Opaque Database Output

Table 394: Output fields: OSPF opaque database describes the OSPF opaque database output fields.

Table 394: Output fields: OSPF opaque database

Label	Description
Area Id	A 32-bit integer uniquely identifying an area. Area ID 0.0.0.0 is used for the OSPF backbone.
Type	NSSA — This area is configured as an NSSA area. Area — This area is configured as a standard area (not NSSA or stub). Stub — This area is configured as an NSSA area.
Link State Id	The link state ID is an LSA type specific field containing either a Router-Id or an IP Address; it identifies the piece of the routing domain being described by the advertisement.
Adv Rtr Id	The router identifier of the router advertising the LSA.
Age	The age of the link state advertisement in seconds.
Sequence	The signed 32-bit integer sequence number.
Cksum	The 32-bit unsigned sum of the link-state advertisements' LS checksums.

Output Example

```
*A:Dut-C# show router ospf opaque-database
===============================================================================
Rtr Base OSPFv2 Instance 0 Opaque Link State Database (type : All)
===============================================================================
Type  Id              Link State Id     Adv Rtr Id      Age  Sequence   Cksum
-------------------------------------------------------------------------------
Area  0.0.0.0         4.0.0.0           10.20.1.2       740  0x80000002 0x5653
Area  0.0.0.0         7.0.0.2           10.20.1.2       745  0x80000001 0xee35
Area  0.0.0.0         7.16.0.6          10.20.1.2       725  0x80000002 0xe434
Area  0.0.0.0         8.0.0.6           10.20.1.2       730  0x80000002 0x5f1d
Area  0.0.0.0         8.0.0.7           10.20.1.2       731  0x80000002 0xbeb8
Area  0.0.0.0         4.0.0.0           10.20.1.3       739  0x80000002 0x6dd6
Area  0.0.0.0         7.0.0.2           10.20.1.3       744  0x80000001 0x1601
Area  0.0.0.0         7.16.0.2          10.20.1.3       734  0x80000001 0x914
Area  0.0.0.0         8.0.0.6           10.20.1.3       728  0x80000002 0x8ac1
Area  0.0.0.0         8.0.0.7           10.20.1.3       729  0x80000002 0xf57b
Area  0.0.0.0         4.0.0.0           10.20.1.4       740  0x80000002 0x15ba
Area  0.0.0.0         7.0.0.2           10.20.1.4       745  0x80000001 0x3dcc
Area  0.0.0.0         7.16.0.3          10.20.1.4       736  0x80000001 0xda04
Area  0.0.0.0         8.0.0.4           10.20.1.4       732  0x80000002 0xfe4a
Area  0.0.0.0         8.0.0.5           10.20.1.4       732  0x80000002 0x4f1f
Area  0.0.0.0         4.0.0.0           10.20.1.5       738  0x80000002 0x746e
Area  0.0.0.0         7.0.0.2           10.20.1.5       744  0x80000001 0x6498
Area  0.0.0.0         7.16.0.6          10.20.1.5       730  0x80000001 0xb624
Area  0.0.0.0         8.0.0.4           10.20.1.5       729  0x80000002 0x50f1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Area  0.0.0.0         8.0.0.5           10.20.1.5       730  0x80000002 0xc279
Area  0.0.0.1         4.0.0.0           10.20.1.1       740  0x80000002 0xf5a0
Area  0.0.0.1         7.0.0.2           10.20.1.1       745  0x80000001 0xc769
Area  0.0.0.1         8.0.0.4           10.20.1.1       730  0x80000002 0x3f46
Area  0.0.0.1         8.0.0.5           10.20.1.1       731  0x80000002 0x7e02
Area  0.0.0.1         4.0.0.0           10.20.1.2       739  0x80000002 0x5653
Area  0.0.0.1         7.16.0.1          10.20.1.2       744  0x80000001 0x46cc
Area  0.0.0.1         7.16.0.2          10.20.1.2       735  0x80000001 0x9663
Area  0.0.0.1         7.16.0.3          10.20.1.2       734  0x80000001 0xe6f9
Area  0.0.0.1         7.16.0.4          10.20.1.2       725  0x80000002 0xad3d
Area  0.0.0.1         7.16.0.5          10.20.1.2       725  0x80000002 0x49b8
Area  0.0.0.1         8.0.0.4           10.20.1.2       730  0x80000002 0x3324
Area  0.0.0.1         8.0.0.5           10.20.1.2       731  0x80000002 0x89f3
Area  0.0.0.1         4.0.0.0           10.20.1.3       739  0x80000002 0x6dd6
Area  0.0.0.1         7.16.0.1          10.20.1.3       743  0x80000001 0x6d98
Area  0.0.0.1         7.16.0.3          10.20.1.3       723  0x80000002 0xdeff
Area  0.0.0.1         7.16.0.4          10.20.1.3       729  0x80000001 0xa941
Area  0.0.0.1         7.16.0.5          10.20.1.3       724  0x80000002 0x7084
Area  0.0.0.1         7.16.0.6          10.20.1.3       724  0x80000002 0xcff
Area  0.0.0.1         8.0.0.4           10.20.1.3       730  0x80000002 0xada2
Area  0.0.0.1         8.0.0.5           10.20.1.3       730  0x80000002 0x9bb2
-------------------------------------------------------------------------------
No. of Opaque LSAs: 40
===============================================================================

A:ALA-A# show router ospf 1 opaque-database
===============================================================================
Rtr Base OSPFv2 Instance 1 Opaque Link State Database (type : All)
===============================================================================
Area Id         Type  Link State Id     Adv Rtr Id      Age  Sequence   Cksum
-------------------------------------------------------------------------------
0.0.0.0         Area  1.0.0.1           180.0.0.2       205  0x8000007e 0xb1b2
0.0.0.0         Area  1.0.0.1           180.0.0.5       617  0x80000084 0xb1a6
0.0.0.0         Area  1.0.0.1           180.0.0.8       1635 0x80000081 0xc391
0.0.0.0         Area  1.0.0.1           180.0.0.9       1306 0x80000082 0xc58c
0.0.0.0         Area  1.0.0.1           180.0.0.10      53   0x80000082 0xc986
0.0.0.0         Area  1.0.0.1           180.0.0.11      577  0x8000007e 0xd57c
0.0.0.0         Area  1.0.0.1           180.0.0.12      1628 0x80000080 0xd578
0.0.0.0         Area  1.0.0.1           180.0.0.13      581  0x80000080 0xd972
0.0.0.0         Area  1.0.0.1           180.0.0.22      1006 0x80000080 0xfd3c
0.0.0.0         Area  1.0.0.1           180.0.0.23      1238 0x80000083 0xfb39
0.0.0.0         Area  1.0.0.1           180.0.0.27      55   0x80000083 0xc21
0.0.0.0         Area  1.0.0.1           180.0.0.28      389  0x80000083 0x101b
0.0.0.0         Area  1.0.0.1           180.0.0.29      1658 0x80000082 0x1614
0.0.0.0         Area  1.0.0.1           180.0.0.30      976  0x80000083 0x180f
0.0.0.0         Area  1.0.0.2           180.0.0.2       45   0x800000a0 0x2f60
0.0.0.0         Area  1.0.0.2           180.0.0.5       1357 0x80000084 0x7038
0.0.0.0         Area  1.0.0.2           180.0.0.8       1960 0x80000084 0x3472
...
-------------------------------------------------------------------------------
No. of Opaque LSAs: 88
===============================================================================
A:ALA-A#

*A:Dut-C# show router ospf opaque-database adv-router 10.20.1.5
===============================================================================
Rtr Base OSPFv2 Instance 0 Opaque Link State Database (type : All)
===============================================================================
Type  Id              Link State Id     Adv Rtr Id      Age  Sequence   Cksum
-------------------------------------------------------------------------------
Area  0.0.0.0         4.0.0.0           10.20.1.5       750  0x80000002 0x746e
Area  0.0.0.0         7.0.0.2           10.20.1.5       756  0x80000001 0x6498
Area  0.0.0.0         7.16.0.6          10.20.1.5       742  0x80000001 0xb624
Area  0.0.0.0         8.0.0.4           10.20.1.5       741  0x80000002 0x50f1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Area  0.0.0.0         8.0.0.5           10.20.1.5       742  0x80000002 0xc279
-------------------------------------------------------------------------------
No. of Opaque LSAs: 5
===============================================================================

*A:Dut-C# show router ospf opaque-database adv-router 10.20.1.5 detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Opaque Link State Database (type : All) (detail)
===============================================================================
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.20.1.5
Link State Id    : 4.0.0.0             LSA Type         : Area Opaque
Sequence No      : 0x80000002          Checksum         : 0x746e
Age              : 752                 Length           : 52
Options          :  E
Advertisement    : Router Info
    Capabilities (1) Len 4 :
        0x14
    SR algorithm (8) Len 1 :
        0x0
    SR label range (9) Len 12 :
        Range-size=1001
        Sub-TLV SID/label(1) len 3 :
            label=25000
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.20.1.5
Link State Id    : 7.0.0.2             LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0x6498
Age              : 758                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=1 pfxLen=32 AF=0 pfx=10.20.1.5
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=55
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.20.1.5
Link State Id    : 7.16.0.6            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0xb624
Age              : 744                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=10.20.1.6
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=66
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.20.1.5
Link State Id    : 8.0.0.4             LSA Type         : Area Opaque
Sequence No      : 0x80000002          Checksum         : 0x50f1
Age              : 743                 Length           : 52
Options          :  E
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Advertisement    : Extended Link
    TLV Extended link (1) Len 28  :
        link Type=Transit (2)  Id=1.3.5.5 Data=1.3.5.5
        Sub-TLV LAN-Adj-SID (3) len 11 :
            Flags=Value Local (0x60)
            MT-ID=0 Weight=0 Neighbor-ID=10.20.1.3
            SID/Index/Label=262139
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.5
Link State Id    : 8.0.0.5              LSA Type         : Area Opaque
Sequence No      : 0x80000002           Checksum         : 0xc279
Age              : 744                  Length           : 52
Options          :  E
Advertisement    : Extended Link
    TLV Extended link (1) Len 28  :
        link Type=Transit (2)  Id=1.4.5.5 Data=1.4.5.5
        Sub-TLV LAN-Adj-SID (3) len
===============================================================================

*A:Dut-A# show router ospf 1 opaque-database adv-router 10.20.1.1 detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Opaque Link State Database (type : All) (detail)
===============================================================================
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.1
Link State Id    : 1.0.0.1              LSA Type         : Area Opaque
Sequence No      : 0x80000028           Checksum         : 0xb136
Age              : 192                  Length           : 28
Options          :  E
Advertisement    :
     ROUTER-ID TLV  (0001) Len   4 : 10.20.1.1
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.1
Link State Id    : 1.0.0.2              LSA Type         : Area Opaque
Sequence No      : 0x8000000d           Checksum         : 0x17f3
Age              : 678                  Length           : 164
Options          :  E
Advertisement    :
     LINK INFO TLV  (0002) Len 140 :
       Sub-TLV: 1     Len: 1     LINK_TYPE    : 2
       Sub-TLV: 2     Len: 4     LINK_ID      : 10.10.1.2
       Sub-TLV: 3     Len: 4     LOC_IP_ADDR  : 10.10.1.1
       Sub-TLV: 4     Len: 4     REM_IP_ADDR  : 0.0.0.0
       Sub-TLV: 5     Len: 4     TE_METRIC    : 1000
       Sub-TLV: 6     Len: 4     MAX_BDWTH    : 100000 Kbps
       Sub-TLV: 7     Len: 4     RSRVBL_BDWTH : 800000 Kbps
       Sub-TLV: 8     Len: 32    UNRSRVD_CLS0 :
         P0:   80000 Kbps P1:  320000 Kbps P2:  320000 Kbps P3:  320000 Kbps
         P4:  400000 Kbps P5:  400000 Kbps P6:  400000 Kbps P7:   80000 Kbps
       Sub-TLV: 9     Len: 4     ADMIN_GROUP  : 0 None
       Sub-TLV: 17    Len: 36    TELK_BW_CONST:
         BW Model : MAM
         BC0:   80000 Kbps BC1:       0 Kbps BC2:  320000 Kbps BC3:       0 Kbps
         BC4:       0 Kbps BC5:  400000 Kbps BC6:       0 Kbps BC7:       0 Kbps

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-A#
```

```
*A:Dut-F#  show router ospf opaque-database adv-router 10.20.1.6 detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Opaque Link State Database (type: All) (detail)
===============================================================================
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.20.1.6
Link State Id    : 4.0.0.0             LSA Type         : Area Opaque
Sequence No      : 0x80000002          Checksum         : 0x590e
Age              : 288                 Length           : 52
Options          :  E
Advertisement    : Router Info
    Capabilities (1) Len 4 :
        0x14
    SR algorithm (8) Len 2 :
        0x0         0x2
    SR label range (9) Len 12 :
        Range-size=1000
        Sub-TLV SID/label(1) len 3 :
            label=70000
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.20.1.6
Link State Id    : 7.0.0.7             LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0x899a
Age              : 292                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=1 pfxLen=32 AF=0 pfx=10.20.1.6
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=9
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.2            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0x6d0b
Age              : 292                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=1.0.66.6
            Flags=Att Node (0xc0)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=3
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.9            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0xfa1e
Age              : 288                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        rtType=3 pfxLen=32 AF=0 pfx=1.0.33.3
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=0
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.10            LSA Type         : Area Opaque
Sequence No      : 0x80000001           Checksum         : 0x40d4
Age              : 288                  Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=10.20.1.3
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=6
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.11            LSA Type         : Area Opaque
Sequence No      : 0x80000001           Checksum         : 0xcb52
Age              : 288                  Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=1.0.22.2
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=5
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.12            LSA Type         : Area Opaque
Sequence No      : 0x80000001           Checksum         : 0x7898
Age              : 288                  Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=10.20.1.1
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=10
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.13            LSA Type         : Area Opaque
Sequence No      : 0x80000001           Checksum         : 0xff29
Age              : 288                  Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=1.0.11.1
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            MT-ID=0 Algorithm=0 SID/Index/Label=4
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.6
Link State Id    : 8.0.0.2              LSA Type         : Area Opaque
Sequence No      : 0x80000002           Checksum         : 0x3098
Age              : 289                  Length           : 48
Options          :  E
Advertisement    : Extended Link
    TLV Extended link (1) Len 24  :
        link Type=P2P (1)  Id=10.20.1.2 Data=1.0.26.6
        Sub-TLV Adj-SID (2) len 7 :
            Flags=Backup Value Local (0xe0)
            MT-ID=0 Weight=0 SID/Index/Label=262143
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.0              Adv Router Id    : 10.20.1.6
Link State Id    : 8.0.0.4              LSA Type         : Area Opaque
Sequence No      : 0x80000002           Checksum         : 0xc9b
Age              : 289                  Length           : 48
Options          :  E
Advertisement    : Extended Link
    TLV Extended link (1) Len 24  :
        link Type=P2P (1)  Id=10.20.1.5 Data=1.0.56.6
        Sub-TLV Adj-SID (2) len 7 :
            Flags=Backup Value Local (0xe0)
            MT-ID=0 Weight=0 SID/Index/Label=262141
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 4.0.0.0              LSA Type         : Area Opaque
Sequence No      : 0x80000002           Checksum         : 0x590e
Age              : 290                  Length           : 52
Options          :  E
Advertisement    : Router Info
    Capabilities (1) Len 4 :
        0x14
    SR algorithm (8) Len 2 :
        0x0         0x2
    SR label range (9) Len 12 :
        Range-size=1000
        Sub-TLV SID/label(1) len 3 :
            label=70000
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1              Adv Router Id    : 10.20.1.6
Link State Id    : 7.0.0.6              LSA Type         : Area Opaque
Sequence No      : 0x80000001           Checksum         : 0xf214
Age              : 295                  Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=1 pfxLen=32 AF=0 pfx=1.0.66.6
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=3
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.1            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0x7cc6
Age              : 290                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=1 pfxLen=32 AF=0 pfx=1.0.22.2
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP Backup (0x42)
            MT-ID=0 Algorithm=2 SID/Index/Label=996
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.3            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0x491
Age              : 296                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=10.20.1.6
            Flags=Att Node (0xc0)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=9
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.4            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0x9c67
Age              : 291                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=1.0.55.5
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=2
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.5            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0xc253
Age              : 291                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=10.20.1.5
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=8
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.6            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0xd03e
Age              : 291                 Length           : 44
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=1.0.44.4
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=1
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.7            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0x868f
Age              : 291                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=10.20.1.4
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=7
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 7.16.0.8            LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0xc84a
Age              : 291                 Length           : 44
Options          :  E
Advertisement    : Extended Prefix
    TLV Extended prefix (1) Len 20 :
        rtType=3 pfxLen=32 AF=0 pfx=10.20.1.2
            Flags=Node (0x40)
        Sub-TLV Prefix SID (2) len 8 :
            Flags=noPHP (0x40)
            MT-ID=0 Algorithm=0 SID/Index/Label=11
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 8.0.0.3             LSA Type         : Area Opaque
Sequence No      : 0x80000002          Checksum         : 0xc1fb
Age              : 292                 Length           : 48
Options          :  E
Advertisement    : Extended Link
    TLV Extended link (1) Len 24  :
        link Type=P2P (1)  Id=10.20.1.3 Data=1.0.36.6
        Sub-TLV Adj-SID (2) len 7 :
            Flags=Backup Value Local (0xe0)
            MT-ID=0 Weight=0 SID/Index/Label=262142
-------------------------------------------------------------------------------
Opaque LSA
-------------------------------------------------------------------------------
Area Id          : 0.0.0.1             Adv Router Id    : 10.20.1.6
Link State Id    : 8.0.0.5             LSA Type         : Area Opaque
Sequence No      : 0x80000001          Checksum         : 0xbc0d
Age              : 298                 Length           : 48
Options          :  E
Advertisement    : Extended Link
    TLV Extended link (1) Len 24  :
        link Type=P2P (1)  Id=10.20.1.2 Data=1.0.26.6
        Sub-TLV Adj-SID (2) len 7 :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            Flags=Backup Value Local (0xe0)
            MT-ID=0 Weight=0 SID/Index/Label=262140
===============================================================================
*A:Dut-F#
```

17.9 oper-group

oper-group

Syntax

oper-group [*group-name*]

oper-group [*group-name*] **detail**

oper-group [*group-name*] **members** [**sap**] [**sdp**] [**site**] [**egr-vtep**] [**service**] [**bgp-evpn**] [**ethernet-segment**] [**port**] [**vrrp**] [**pfcp-association**]

oper-group [*group-name*] **monitoring** [**sap**] [**sdp**] [**site**] [**srrp**] [**mvrp**] [**pw-port**] [**up-resiliency**] [**sap-mep**]

Context

[Tree] (show>service oper-group)

Full Context

show service oper-group

Description

This command displays oper-group information, member count, monitor-client count, and status in a single line for each of the configured oper-groups.

Parameters

group-name

Displays oper-group information.

detail

Displays detailed information for each of the configured oper-groups.

members

Displays the members of the specified oper-group, or all oper-groups. A filter can be applied on the output to display only required member type, by specifying an optional parameter.

Values sap, sdp, site, egr-vtep, service, bgp-evpn, ethernet-segment, port, vrrp, pfcp-association

monitoring

Displays the clients that are monitoring the specified oper-group, or all oper-groups. A filter can be applied on the output to display only required client type, by specifying an optional parameter.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values sap, sdp, site, srrp, mvrp, pw-port, up-resiliency, sap-mep

Platforms

All

Output

The following are output examples of application assurance group information, and Table 395: Output fields: operational group detail describes the output fields.

- Output Example: show service oper-group
- Output Example: show service oper-group detail
- Output Example: show service oper-group "test" monitoring

Output Example: show service oper-group

```
*A:Dut-B#  show service oper-group
===============================================================================
Service Oper Group Information
===============================================================================
Name                            Oper   Creation Hold   Hold   Members Monitor
                                Status Origin   UpTime DnTime
                                                (secs) (secs)
-------------------------------------------------------------------------------
og-test                         up     manual     4      0       4       4
-------------------------------------------------------------------------------
Entries found: 1
===============================================================
```

Output Example: show service oper-group detail

```
*A:Dut-B# show service oper-group detail
===============================================================
Service Oper Group Information
===============================================================
Oper Group           : og-test
Creation Origin      : manual           Oper Status    : up
Hold DownTime        : 0 secs           Hold UpTime    : 4 secs
Members              : 4                Monitoring     : 4
===============================================================
===============================================================
Member AA Group for OperGroup: aa-test
===============================================================
Name                            Id   Admin   Oper
-----------------------------------------------------
aa-test                         10   up      down
---------------------------------------------------------------
===============================================================
Member SDP-Binds for OperGroup: og-test
===============================================================
SdpId            SvcId      Type IP address      Adm     Opr
---------------------------------------------------------------
201:1            1          Spok 10.20.1.1       Up      Up
201:2            1          Spok 10.20.1.1       Up      Up
---------------------------------------------------------------
SDP Entries found: 4
===============================================================

===============================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Monitoring SDP-Binds for OperGroup: og-test
===============================================================
SdpId            SvcId      Type IP address      Adm     Opr
---------------------------------------------------------------
205:1            1          Spok 10.20.1.5       Up      Up
205:2            1          Spok 10.20.1.5       Up      Up
---------------------------------------------------------------
SDP Entries found: 4
===============================================================

A:admin@PE-2# show service oper-group "llf-1" detail

===============================================================================
Service Oper Group Information
===============================================================================
Oper Group       : llf-1
Creation Origin  : manual                          Oper Status: down
Hold DownTime    : 0 secs                          Hold UpTime: 4 secs
Members          : 1                               Monitoring : 1
===============================================================================

===============================================================================
Member BGP-EVPN for OperGroup: llf-1
===============================================================================
SvcId:Instance (Type)                  Status
-------------------------------------------------------------------------------
500:1 (mpls)                           Inactive
-------------------------------------------------------------------------------
BGP-EVPN Entries found: 1
===============================================================================

===============================================================================
Monitoring LAG for OperGroup: llf-1
===============================================================================
Lag-Id         Adm       Opr       Weighted  Threshold Up-Count  Act/Stdby
-------------------------------------------------------------------------------
1              up        down      No        0         0         N/A
-------------------------------------------------------------------------------
LAG Entries found: 1
===============================================================================

show service oper-group "g-1" detail

===============================================================================
Service Oper Group Information
===============================================================================
Oper Group       : g-1
Creation Origin  : manual                          Oper Status: up
Hold DownTime    : 0 secs                          Hold UpTime: 0 secs
Members          : 1                               Monitoring : 2
===============================================================================

===============================================================================
Monitoring SAP-MEPs for OperGroup: abcdefg
===============================================================================
Sap SvcId Md-index  Ma-index  MepId         Defect Admin Oper
 md-admin-name
 ma-admin-name
-------------------------------------------------------------------------------
1/1/1:123   10 1     2     1       ------- Up   Up
 oper
 vpls-1-L2
-------------------------------------------------------------------------------
SAP-MEP Entries found: 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Output Example: show service oper-group "test" monitoring

```
*A:ALA-12>config# show service oper-group "test" monitoring
===============================================================================
Monitoring Ports for OperGroup: test
===============================================================================
PortId                          Admin-state Oper-state
-------------------------------------------------------------------------------
1/1/1                           down        down
-------------------------------------------------------------------------------
Port Entries found: 1
===============================================================================
```

Table 395: Output fields: operational group detail

Label	Description
PortId	The monitored port ID
Adm Admin-state	Displays the administrative state
Opr Oper-state	Displays the operational state
Oper Group	The name of the monitored operational group
Creation Origin	Displays how the operational group was created
Oper Status	Displays the operational status
Hold Downtime	Displays the time, in seconds, that the system waits before declaring the status as "down”
Hold UpTime	Displays the time, in seconds, that the system waits before declaring the status as "up”
Members	Displays the number of members
Member AA Group for OperGroup	
Name	Displays the member AA group name
Id	Displays the member AA group ID
Admin	Displays the administrative state of the operational group. The state remains up as long as there are enough AA-ESA-VMs available compared to the configured limit of the AA-group.
Oper	Displays the operational state of the operational group. The state remains up as long as there are enough AA-ESA-VMs available compared to the configured limit of the AA-group.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Monitoring	Displays the number of objects monitoring the operational group
SdpId	Displays the SDP ID
SvcId	Displays the SVC ID
Type	Displays the type of SDP binding
IP address	Displays the IP address
SvcId:Instance	Displays the SVC ID and EVPN instance number
(Type)	Displays the instance type
Status	Displays the status of the EVPN instance
Lag-Id	Displays the monitoring LAG ID
Weighted	Displays whether or not the LAG is weighted
Threshold	Displays the threshold number
Up-Count	Displays the up-count number
Act/Stdby	Displays whether the LAG is active or standby
Sap	Displays the associated SAP ID
Md-index	Displays the Maintenance Domain (MD) index
Ma-index	Displays the Maintenance Association (MA) index
MepId	Displays the integer that is unique among all MEPs in the same MA
Defect	Displays the defects for the local MEP
md-admin-name	Displays the administrative MD name
ma-admin-name	Displays the administrative MA name

17.10 optimal-route-reflection

optimal-route-reflection

Syntax

optimal-route-reflection

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>bgp optimal-route-reflection)

Full Context

show router bgp optimal-route-reflection

Description

Commands in this context display optimal route reflection (ORR) information.

Platforms

All

17.11 optimize

optimize

Syntax

optimize lsp-container *lsp-container* **delay** *delay*

Context

[Tree] (tools>perform>router>mpls optimize)

Full Context

tools perform router mpls optimize

Description

This command optimizes a specific LSP container.

Parameters

lsp-container

Specifies the LSP container name, up to 64 characters.

delay

Specifies the delay amount in minutes.

Values 0 to 15

The 0 value leads to an immediate opitmization.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

17.12 origin-validation

origin-validation

Syntax

origin-validation

Context

[Tree] (show>router origin-validation)

Full Context

show router origin-validation

Description

Commands in this context display origin validation information.

Platforms

All

origin-validation

Syntax

origin-validation rpki-session *ip-address*

Context

[Tree] (clear>router origin-validation)

Full Context

clear router origin-validation

Description

This command creates the context to clear and reset origin validation entities.

Parameters

ip-address

Clears the origin validation entities associated with the specified IP address.

Values

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x	[-interface]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

x:x:x:x:x:x:d.d.d.d	[-interface]
x:	[0 to FFFF]H
d:	[0 to 255]D
interface	up to 32 characters, mandatory for link local addresses

Platforms

All

17.13 ospf

ospf

Syntax

ospf [**instance** *ospf-instance*] [**area** *area-id*]

Context

[Tree] (tools>dump>router>te-database ospf)

Full Context

tools dump router te-database ospf

Description

Commands in this context dump the OSPF traffic engineering database.

Parameters

ospf-instance

Specifies the OSPF instance.

Values 0 to 31

area-id

Specifies the OSPF area ID.

Values ip-address, 0 to 4294967295

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following outputs are examples of OSPF traffic engineering database information.

Output Example

```
*A:Dut-C# tools dump router te-database ospf
===============================================================================
Rtr: 10.10.10.3      Addr: 10.10.10.3                           OSPF/0/0.0.0.0
Rtr: 10.10.10.4      Addr: 0.0.0.0                              OSPF/0/0.0.0.0
AdvRtr: 10.10.10.3      Nghb: 10.10.10.4                        OSPF/0/0.0.0.0
  LocIp/Id 100.100.101.2  /0                     Status: OK
AdvRtr: 10.10.10.4      Nghb: 10.10.10.3                        OSPF/0/0.0.0.0
  LocIp/Id 100.100.101.1  /0                     Status: OK
===============================================================================

*A:Dut-C# tools dump router te-database detail ospf
===============================================================================
Rtr: 10.10.10.3      Addr: 10.10.10.3                           OSPF/0/0.0.0.0
Rtr: 10.10.10.4      Addr: 0.0.0.0                              OSPF/0/0.0.0.0
-------------------------------------------------------------------------------
AdvRtr: 10.10.10.3      Nghb: 10.10.10.4                        OSPF/0/0.0.0.0
    Local Addr:  100.100.101.2      Local Id:  0    If Index:  3
    Remote Addr: 0.0.0.0            Remote Id: 0    Link Type: p2p
                                    status:    OK
    IGP Metric:  100
-------------------------------------------------------------------------------
AdvRtr: 10.10.10.4      Nghb: 10.10.10.3                        OSPF/0/0.0.0.0
    Local Addr:  100.100.101.1      Local Id:  0    If Index:  0
    Remote Addr: 0.0.0.0            Remote Id: 0    Link Type: p2p
                                    status:    OK
    IGP Metric:  100
===============================================================================
*A:Dut-C#
```

ospf

Syntax

ospf [*ospf-instance* | **all**]

Context

[Tree] (show>router ospf)

Full Context

show router ospf

Description

Commands in this context display OSPF information.

Parameters

ospf-instance

Shows the specified OSPF instance.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0 to 31

all

Shows all configured OSPF instances.

Platforms

All

ospf

Syntax

ospf [*ospf-instance*]

Context

[Tree] (clear>router ospf)

Full Context

clear router ospf

Description

This command clears and resets OSPF protocol entities.

Parameters

ospf-instance

Clears the specified OSPF instance.

Values 0 to 31

Platforms

All

ospf

Syntax

ospf

Context

[Tree] (show ospf)

Full Context

show ospf

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays OSPFv2 related information for all instances.

Platforms

All

ospf

Syntax

ospf

Context

[Tree] (tools>dump>router ospf)

Full Context

tools dump router ospf

Description

This command enters the context to dump OSPFv2 related information.

Platforms

All

ospf

Syntax

ospf

Context

[Tree] (tools>perform>router ospf)

Full Context

tools perform router ospf

Description

Commands in this context perform OSPFv2 tasks.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ospf

Syntax

ospf [*ospf-instance*]

Context

[Tree] (monitor>router ospf)

Full Context

monitor router ospf

Description

Commands in this context configure monitor commands for the OSPF instance.

Parameters

ospf-instance

Specifies the OSPF instance.

Values 0 to 31

Platforms

All

17.14 ospf3

ospf3

Syntax

ospf3 [**instance** *ospf-instance*] [**area** *area-id*]

Context

[Tree] (tools>dump>router>te-database ospf3)

Full Context

tools dump router te-database ospf3

Description

Commands in this context dump the OSPF3 traffic engineering database.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ospf-instance

Specifies the OSPF3 instance.

Values 0 to 31 (ipv6-unicast address-family), 64 to 95 (ipv6-unicast address-family)

area-id

Specifies the OSPF3 area ID.

Values ip-address, 0 to 4294967295

Platforms

All

Output

The following outputs are examples of OSPF3 traffic engineering database information.

Output Example

```
*A:Dut-C# tools dump router te-database ospf3
===============================================================================
Rtr: 10.10.10.5      Addr: 0.0.0.0                    RTR V6 EXP OSPFv3/0/0.0.0.0
Rtr: 255.0.0.0       Addr: 0.0.0.0                    RTR V6 EXP OSPFv3/0/0.0.0.0
AdvRtr: 10.10.10.5      Nghb: 0.0.0.4:10.10.10.5              EXP OSPFv3/0/0.0.0.0
  LocIp/Id 0.0.0.0        /4                      Status: NO-RTRID
AdvRtr: 255.0.0.0       Nghb: 0.0.0.4:10.10.10.5              EXP OSPFv3/0/0.0.0.0
  LocIp/Id 0.0.0.0        /2                      Status: NO-RTRID
Net: 0.0.0.4:10.10.10.5              RTR V6                   EXP OSPFv3/0/0.0.0.0
     AttRtr: 10.10.10.5                                       EXP OSPFv3/0/0.0.0.0
     AttRtr: 255.0.0.0                                        EXP OSPFv3/0/0.0.0.0
===============================================================================
*A:Dut-C#

*A:Dut-C# tools dump router te-database detail ospf3
===============================================================================
Rtr: 10.10.10.5      Addr: 0.0.0.0                    RTR V6 EXP OSPFv3/0/0.0.0.0
    Pfx: 2001:db8::3/128                            INTRA-AREA Metric: 0             EXP
    Pfx: 2001:db8:1::/64                            INTRA-AREA Metric: 0             EXP
Rtr: 255.0.0.0       Addr: 0.0.0.0                    RTR V6 EXP OSPFv3/0/0.0.0.0
    Pfx: 2001:db8::5/128                            INTRA-AREA Metric: 0             EXP
-------------------------------------------------------------------------------
AdvRtr: 10.10.10.5      Nghb: 0.0.0.4:10.10.10.5              EXP OSPFv3/0/0.0.0.0
    Local Addr:  0.0.0.0            Local Id:  4    If Index:  4
    Remote Addr: 0.0.0.0            Remote Id: 4    Link Type: TRANS
                                    status:    NO-RTRID
    IGP Metric:  100
-------------------------------------------------------------------------------
AdvRtr: 255.0.0.0       Nghb: 0.0.0.4:10.10.10.5              EXP OSPFv3/0/0.0.0.0
    Local Addr:  0.0.0.0            Local Id:  2    If Index:  0
    Remote Addr: 0.0.0.0            Remote Id: 4    Link Type: TRANS
                                    status:    NO-RTRID
    IGP Metric:  100
-------------------------------------------------------------------------------
Net: 0.0.0.4:10.10.10.5              RTR V6                   EXP OSPFv3/0/0.0.0.0
     AttRtr: 10.10.10.5                                       EXP OSPFv3/0/0.0.0.0
     AttRtr: 255.0.0.0                                        EXP OSPFv3/0/0.0.0.0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-C#
```

ospf3

Syntax

ospf3 [*ospf-instance*]

Context

[Tree] (tools>perform>router ospf3)

Full Context

tools perform router ospf3

Description

Commands in this context perform OSPF3 tasks.

Parameters

ospf-instance

Shows the specified OSPF3 instance.

Values 0 to 31 | 64 to 95

0 to 31 — IPv6-unicast address-family

64 to 95— IPv4-unicast address-family

Platforms

All

ospf3

Syntax

ospf3 [*ospf-instance* | **all**]

Context

[Tree] (show>router ospf3)

Full Context

show router ospf3

Description

Commands in this context display OSPF3 information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ospf-instance

Shows the specified OSPF3 instance.

Values 0 to 31 | 64 to 95

0 to 31 — IPv6-unicast address-family

64 to 95— IPv4-unicast address-family

all

Shows all configured OSPF3 instances.

Platforms

All

ospf3

Syntax

ospf3 [*ospf-instance*]

Context

[Tree] (clear>router ospf3)

Full Context

clear router ospf3

Description

This command clears and resets OSPF3 protocol entities.

Parameters

ospf-instance

Clears the specified OSPF3 instance.

Values 0 to 31 | 64 to 95

0 to 31 — IPv6-unicast address-family

64 to 95 — IPv4-unicast address-family

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ospf3

Syntax

ospf3

Context

[Tree] (show ospf3)

Full Context

show ospf3

Description

This command displays OSPFv3 related information for all instances.

Platforms

All

ospf3

Syntax

ospf3

Context

[Tree] (tools>dump>router ospf3)

Full Context

tools dump router ospf3

Description

Commands in this context dump OSPFv3 related information.

Platforms

All

ospf3

Syntax

ospf [*ospf-instance*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (monitor>router ospf3)

Full Context

monitor router ospf3

Description

Commands in this context configure monitor commands for the OSPF3 instance.

Parameters

ospf-instance

Specifies the OSPF3 instance.

Values

ospf-instance	0 to 31, 64 to 95	
	0 to 31	ipv6-unicast address-family
	64 to 95	ipv4-unicast address-family

Platforms

All

17.15 overload

overload

Syntax

overload

overload card *slot-number* **fp** *fp-number*

overload card *slot-number* **fp** *fp-number* **cpm-ip**

overload card *slot-number* **fp** *fp-number* **cpm-ipv6**

overload card *slot-number* **fp** *fp-number* **cpm-mac**

overload card *slot-number* **fp** *fp-number* **ip** *ip-filter-id* **direction** *direction*

overload card *slot-number* **fp** *fp-number* **ipv6** *ipv6-filter-id* **direction** *direction*

overload card *slot-number* **fp** *fp-number* **mac** *mac-filter-id* **direction** *direction*

Context

[Tree] (tools>dump>filter overload)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump filter overload

Description

This command, when used without parameters, allows the operator to identify filter memory banks with one or more policies in overload in the system by slot number, FP number, direction (ingress or egress), and type (IP-MAC or IPv6).

The command, when used with only the **card** and **fp** parameters, lists the filter policy ID as well as the number of entries in overload on a specified FP when the optional parameters *slot-number* and *fp-number* are specified.

This command, when used with the **ip**, **ipv6**, or **mac** parameters in conjunction with the **direction** parameter, displays the entries not programmed for a specified filter policy due to an overload condition.

This command, when used with the **cpm-ip**, **cpm-ipv6**, or **cpm-mac** parameters, displays the entries not programmed for a specified CPM filter policy. This command is available on applicable platforms only. Refer to the *7450 ESS, 7750 SR, 7950 XRS, and VSR System Management Guide*, *CPM Filters and Traffic Management* section for more details.

Parameters

slot-number

Specifies the IOM slot number or CPM for the overload command.

Values 1 to 10

Values A (when used with **cpm-ip**, **cpm-ipv6**, or **cpm-mac** parameters)

fp-number

Specifies the FP number.

Values 1 to 8

ip-filter-id

Specifies the IP filter policy ID or name for which to display information.

Values 1 to 65535 (Specifies the policy ID)

name (Specifies a string of up to 64 characters uniquely identifying this filter policy name)

direction

Specifies the direction.

Values ingress or egress

ipv6-filter-id

Specifies the IPv6 filter policy ID or name for which to display information.

Values 1 to 65535 (Specifies the policy ID)

name (Specifies a string of up to 64 characters uniquely identifying this filter policy name)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mac-filter-id

Specifies the MAC filter ID policy for which to display information. Values can be expressed in different formats and refer to static or dynamic filters. The following values only shows decimal integer format.

Values 1 to 65535

filter-name (Specifies a string of up to 64 characters uniquely identifying this filter policy name)

Platforms

All

Output

The following output is an example of filter overload status.

Output Example

```
*A:Dut# tools dump filter overload
=========================================================
Filter Overload Status
=========================================================
Slot FP  Dir   Type
---------------------------------------------------------
1    1   Ing   ip-mac
1    1   Egr   ipv6
=========================================================
```

The following output is an example with **card** and **fp** parameters only.

```
A:Dut# tools dump filter overload card 1 fp 1
=========================================================
Filter Overload Status
=========================================================
Slot FP  Dir   Type                     Filter  #Entries
---------------------------------------------------------
1    1   Ing   ip                            5         1
1    1   Egr   ipv6                     40008        10
=========================================================
```

The following output is an example with **card**, **fp**, {**cpm-ip**, **cpm-ipv6**, or **cpm-mac**} parameters only.

```
*A:Dut# tools dump filter overload card "a" fp 1 cpm-ipv6
=========================================================
Filter Overload Status
=========================================================
Slot FP  Dir   Type                     Filter     Entry
---------------------------------------------------------
A    1         cpm-ipv6                              168
=========================================================
```

The following output is an example with **card**, **fp**, {**ip**, **ipv6**, or **mac**} and **direction** parameters only.

```
*A:Dut# tools dump filter overload card 1 fp 1 ip 9 direction ingress
=========================================================
Filter Overload Status
=========================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Slot FP  Dir   Type                      Filter     Entry
-------------------------------------------------------
1    1   Ing   ip                             9       100
=======================================================
```

overload

Syntax

overload {rtm | fib | prefix-limit}

Context

[Tree] (clear>router>isis overload)

Full Context

clear router isis overload

Description

This command clears the IS-IS overload.

Parameters

rtm

Clears the overload because IS-IS reached the configured maximum route limit set with **maximum-routes** or **maximum-ipv6-routes** in a VPRN.

fib

Clears the overload because adding routes to the hardware FIB failed.

prefix-limit

Clears the overload when IS-IS has reached the configured maximum prefix limit set with the **prefix-limit** command.

Platforms

All

overload

Syntax

overload {**rtm** | **fib** | **rtr-adv-lsa-limit**}

Context

[Tree] (clear>router>ospf3 overload)

[Tree] (clear>router>ospf overload)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear router ospf3 overload

clear router ospf overload

Description

This command clears the OSPF or OSPF3 overload.

Parameters

rtm

Clears the overload because OSPF or OSPF3 reached the configured maximum route limit set with **maximum-routes** or **maximum-ipv6-routes** in a VPRN.

fib

Clears the overload because adding routes to the hardware FIB failed.

rtr-adv-lsa-limit

Clears the overload because OSPF or OSPF3 exceeded the configured maximum limit on LSAs advertised by another router, which was set with **rtr-adv-lsa-limit**.

Platforms

All

17.16 overview

overview

Syntax

overview

Context

[Tree] (show>service>nat overview)

Full Context

show service nat overview

Description

This command displays NAT overview information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of NAT overview information and Table 396: Output fields: show service nat overview describes the output fields.

Output Example

```
# show service nat overview

===============================================================================
Firewall overview
===============================================================================
Inside/        Policy/                                  Type
Outside        Domain
-------------------------------------------------------------------------------
Base           fw-pol-66                                lsn IPv6
vprn12         demo-domain

===============================================================================
```

Table 396: Output fields: show service nat overview

Label	Description
Firewall overview	
Inside	Specifies the inside name
Policy	Specifies the firewall policy name
Type	Specifies the firewall policy type
Outside	Specifies the outside name
Domain	Specifies the domain name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18 p Commands – Part I

18.1 p2mp

p2mp

Syntax

p2mp p2mp-id *identifier* **root** *ip-address* [**session** *ip-addr* [*label-space*]] [**summary** | **detail**]

p2mp p2mp-id *identifier* **root** *ip-address* [**session** *ip-addr* [*label-space*]] [**summary** | **detail**] **inner-root** *ip-address*

p2mp p2mp-id *identifier* [**rd** *rd*] [**session** *ip-addr* [*label-space*]] [**family**] [**summary** | **detail**] [**innermost-root** *ip-address*]

p2mp p2mp-id *identifier* **root** *ip-address* **rd** *rd* [**session** *ip-addr* [*label-space*] [**family**] [**summary** | **detail**] [**innermost-root** *ip-address*]

p2mp [**session** *ip-addr* [*label-space*]] [**family**] [**summary** | **detail**] [**opaque-type** *opaque-type*]

p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**session** *ip-addr* [*label-space*]] [**family**] [**summary** | **detail**] **inner-root** *ip-address*

p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**rd** *rd*] [**session** *ip-addr* [*label-space*]] [**summary** | **detail**]

p2mp source *ip-address* **group** *mcast-address* [**session** *ip-addr* [*label-space*]] [**family**] [**summary** | **detail**] [**innermost-root** *ip-address*]

p2mp stitching [**p2mp-id** *identifier* **root** *ip-address* [**rd** *rd*] [**inner-root** *ip-address*]]

p2mp stitching source *ip-address* **group** *mcast-address* **root** *ip-address* **inner-root** *ip-address*

p2mp stitching p2mp-id *identifier* [**rd** *rd*] **innermost-root** *ip-address*

p2mp stitching source *ip-address* **group** *mcast-address* **innermost-root** *ip-address*

Context

[Tree] (show>router>ldp>bindings p2mp)

Full Context

show router ldp bindings p2mp

Description

This command displays LDP P2MP FEC bindings.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

detail

Displays detailed information.

family

Displays either IPv4 or IPv6 active LDP information.

group *mcast-address*

Displays the P2MP group multicast address bindings.

inner-root *ip-address*

Displays recursive FECs whose inner root address matches the specified address.

innermost-root *ip-address*

Displays recursive FECs whose inner root address matches the specified address and non-recursive FECs that have a root address that matches the specified address.

opaque-type *opaque-type*

Specifies the type of a Multi-Point Opaque Value Element.

Values generic, ssm, vpn-ssm, recursive-ssm, vpn-recursive, grt-recursive

p2mp-id *identifier*

Displays LDP active P2MP identifier bindings.

Values 0 to 4294967295

rd *rd*

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

root *ip-address*

Displays root IP address information.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

session *ip-addr*[label-space]

Displays information for the LDP session IP address and label space.

source *ip-address*

Displays LDP active P2MP source bindings.

Values

ipv4-address	- a.b.c.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

stitching

Displays stitching information for LDP P2MP FEC bindings.

summary

Displays information in a summarized format.

Platforms

All

Output

Output Example

The following show output displays recursive FECs.

```
A:Dut-C# show router ldp bindings p2mp stitching
===============================================================================
LDP GRT Recursive with Generic IPv4 P2MP Bindings
===============================================================================
RootAddr
InnerRootAddr                           P2MP-Id             Stitch
-------------------------------------------------------------------------------
10.20.1.3
10.20.1.5                               8193                lowerFec

10.180.5.5
10.20.1.5                               8193                primUpperFec

10.181.5.5
10.20.1.5                               8193                bkpUpperFec

-------------------------------------------------------------------------------
10.20.1.3
10.20.1.6                               8193                lowerFec

10.180.5.5
10.20.1.6                               8193                primUpperFec

10.181.5.5
10.20.1.6                               8193                bkpUpperFec

-------------------------------------------------------------------------------
10.180.5.3
10.20.1.1                               8193                lowerFec

10.20.1.1
--                                      8193                primUpperFec

-------------------------------------------------------------------------------
10.180.5.3
10.20.1.2                               8193                lowerFec
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.2
--                                      8193               primUpperFec

-------------------------------------------------------------------------------
No. of GRT Recursive with Generic IPv4 P2MP Bindings: 10
===============================================================================


A:Dut-C# show router ldp bindings active p2mp
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.3)
             (IPv6 LSR ID ::)
===============================================================================
Label Status:
        U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        e - Label ELC
FEC Flags:
        LF - Lower FEC, UF - Upper FEC, BA - ASBR Backup FEC
===============================================================================
LDP Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
8193                                    73730
10.20.1.1                               Pop             262134      --
  --                                      --

8193                                    73730
10.20.1.1 (UF)                          Swap            262134    Stitched
  --                                      --

8193                                    73729
10.20.1.2                               Pop             262135      --
  --                                      --

8193                                    73729
10.20.1.2 (UF)                          Swap            262135    Stitched
  --                                      --

8193                                    73728
10.20.1.3                               Push              --      262137
10.180.2.1                              1/1/1:0

8193                                    73728
10.20.1.3                               Push              --      262137
10.181.2.1                              1/1/1:1
-------------------------------------------------------------------------------
No. of Generic IPv4 P2MP Active Bindings: 6
===============================================================================

===============================================================================
LDP GRT Recursive with Generic IPv4 P2MP Bindings (Active)
===============================================================================
P2MP-Id                                 Interface
RootAddr                                Op              IngLbl    EgrLbl
InnerRootAddr
EgrNH                                   EgrIf/LspId
-------------------------------------------------------------------------------
8193                                    Unknw
10.20.1.3 (LF)                          Push              --      262135
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.5
10.180.2.1                                1/1/1:0

8193                                      Unknw
10.20.1.3 (LF)                            Push              --      262135
10.20.1.5
10.181.2.1                                1/1/1:1

8193                                      Unknw
10.20.1.3 (LF)                            Push              --      262136
10.20.1.6
10.180.2.1                                1/1/1:0

8193                                      Unknw
10.20.1.3 (LF)                            Push              --      262136
10.20.1.6
10.181.2.1                                1/1/1:1

8193                                      Unknw
10.180.5.3 (LF)                           Push              --      262132
10.20.1.1
10.180.5.5                                2/1/1:0

8193                                      Unknw
10.180.5.3 (LF)                           Push              --      262136
10.20.1.2
10.180.5.5                                2/1/1:0

8193                                      Unknw
10.180.5.3                                Push              --      262131
10.20.1.3
10.180.5.5                                2/1/1:0

8193                                      73731
10.180.5.5                                Pop             262126      --
10.20.1.5
  --                                        --

8193                                      73731
10.180.5.5 (UF)                           Swap            262126    Stitched
10.20.1.5
  --                                        --

8193                                      73732
10.180.5.5                                Pop             262124      --
10.20.1.6
  --                                        --

8193                                      73732
10.180.5.5 (UF)                           Swap            262124    Stitched
10.20.1.6
  --                                        --

8193                                      73731
10.181.5.5 (BA)                           Pop             262125      --
10.20.1.5
  --                                        --

8193                                      73731
10.181.5.5 (BA) (UF)                      Swap            262125    Stitched
10.20.1.5
  --                                        --

8193                                      73732
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.181.5.5 (BA)                              Pop             262123      --
10.20.1.6
  --                                           --

8193                                         73732
10.181.5.5 (BA) (UF)                         Swap            262123    Stitched
10.20.1.6
  --                                           --

-------------------------------------------------------------------------------
No. of GRT Recursive with Generic IPv4 P2MP Active Bindings: 15
===============================================================================
```

p2mp

Syntax

p2mp p2mp-id *identifier* **root** *ip-address* [**summary** | **detail**] [**egress-if** *port-id*]

p2mp p2mp-id *identifier* **root** *ip-address* [**summary** | **detail**] [**egress-lsp** *tunnel-id*]

p2mp p2mp-id *identifier* **root** *ip-address* [**summary** | **detail**] [**egress-nh** *ip-address*]

p2mp [*family*] [**summary** | **detail**] [**egress-if** *port-id*] [**opaque-type** *opaque-type*]

p2mp [*family*] [**summary** | **detail**] [**egress-lsp** *tunnel-id*] [**opaque-type** *opaque-type*]

p2mp [*family*] [**summary** | **detail**] [**egress-nh** *ip-address*] [**opaque-type** *opaque-type*]

p2mp p2mp-id *identifier* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-if** *port-id*] **inner-root** *ip-address*

p2mp p2mp-id *identifier* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-lsp** *tunnel-id*] **inner-root** *ip-address*

p2mp p2mp-id *identifier* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-nh** *ip-address*] **inner-root** *ip-address*

p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**summary** | **detail**] [**egress-if** *port-id*] **inner-root** *ip-address*

p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**summary** | **detail**] [**egress-lsp** *tunnel-id*] **inner-root** *ip-address*

p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-if** *port-id*]

p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-lsp** *tunnel-id*]

p2mp source *ip-address* **group** *mcast-address* **root** *ip-address* [**rd** *rd*] [**summary** | **detail**] [**egress-nh** *ip-address*]

p2mp p2mp-id *identifier* [**rd** *rd*] [*family*] [**summary** | **detail**] [**innermost-root** *ip-address*]

p2mp source *ip-address* **group** *mcast-address* [*family*] [**summary** | **detail**] [**innermost-root** *ip-address*]

Context

[Tree] (show>router>ldp>bindings>active p2mp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router ldp bindings active p2mp

Description

This command displays LDP active P2MP bindings.

Parameters

identifier

Specifies the P2MP ID.

Values 0 to 4294967295

ip-address

Specifies the IPv4 or IPv6 address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

mcast-address

Displays the P2MP group multicast address bindings.

Values ipv4-mcast-addr, ipv6-mcast-addr

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

family

Specifies the address family.

Values ipv4, ipv6

port-id

Specifies the port ID.

Values

slot[/*mda*[/*port*]] or *slot*/*mda*/*port* [.*channel*]

aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

eth-sat-id	**esat**-*id*[/*slot*/[**u**]*port*]	
	esat	keyword
	id	1 to 20
	u	keyword for up-link port
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a to b

tunnel-id

Specifies the tunnel ID.

Values 0 to 4294967295

opaque-type

Specifies the multi-point opaque value element type.

Values generic, ssm, vpn-ssm, recursive-ssm, vpn-recursive, grt-recursive

Platforms

All

18.2 p2mp-candidate-path

p2mp-candidate-path

Syntax

p2mp-candidate-path [*path-name*] [**oper** { **up** | **down**}] [**in-use**]

Context

[Tree] (show>router>p2mp-sr-tree>p2mp-policy p2mp-candidate-path)

Full Context

show router p2mp-sr-tree p2mp-policy p2mp-candidate-path

Description

This command displays candidate path information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

path-name

Specifies the candidate path name, up to 32 characters.

oper up

Displays the candidate paths with operational status up.

oper down

Displays the candidate paths with operational status down.

in-use

Displays candidate paths that are in use.

Platforms

All

18.3 p2mp-info

p2mp-info

Syntax

p2mp-info [**type** {**originate** | **transit** | **terminate**}] [**s2l-endpoint** *ip-address*]

Context

[Tree] (show>router>mpls p2mp-info)

Full Context

show router mpls p2mp-info

Description

This command displays P2MP cross-connect information.

Parameters

type

Specifies the P2MP type.

Values **originate** — Displays the static LSPs that originate at this virtual router.

transit — Displays the static LSPs that transit through this virtual router.

terminate — Displays the static LSPs that terminate at this virtual router

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of MPLS p2mp information.

Output Example

```
*A:Dut-C# show router mpls p2mp-info
===============================================================================
MPLS P2MP Cross Connect Information
===============================================================================
-------------------------------------------------------------------------------
S2L ipmsi-4000-73729::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.1             Tunnel ID     : 61441
P2MP ID              : 4000                  Lsp ID        : 29696
S2L Name             : ipmsi-4000-73729::pa* To            : 10.20.1.3
In Interface         : 1/1/1                 In Label      : 262129
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-65535-73730::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.1             Tunnel ID     : 61442
P2MP ID              : 65535                 Lsp ID        : 30208
S2L Name             : ipmsi-65535-73730::p* To            : 10.20.1.3
In Interface         : 1/1/1                 In Label      : 262128
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-1001-73728::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.1             Tunnel ID     : 61440
P2MP ID              : 1001                  Lsp ID        : 35840
S2L Name             : ipmsi-1001-73728::pa* To            : 10.20.1.3
In Interface         : 1/1/1                 In Label      : 262127
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-1001-73732::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.2             Tunnel ID     : 64944
P2MP ID              : 1001                  Lsp ID        : 34816
S2L Name             : ipmsi-1001-73732::pa* To            : 10.20.1.3
In Interface         : 1/1/2                 In Label      : 262114
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-4000-73729::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.3             Tunnel ID     : 61441
P2MP ID              : 4000                  Lsp ID        : 16384
S2L Name             : ipmsi-4000-73729::pa* To            : 10.20.1.1
Out Interface        : 1/1/1                 Out Label     : 262131
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-4000-73729::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.3             Tunnel ID     : 61441
P2MP ID              : 4000                  Lsp ID        : 16384
S2L Name             : ipmsi-4000-73729::pa* To            : 10.20.1.4
Out Interface        : 2/1/1                 Out Label     : 262121
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-1001-73728::path_ipmsi
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.3             Tunnel ID     : 61440
P2MP ID              : 1001                  Lsp ID        : 22016
S2L Name             : ipmsi-1001-73728::pa* To            : 10.20.1.1
Out Interface        : 1/1/1                 Out Label     : 262129
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-1001-73728::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.3             Tunnel ID     : 61440
P2MP ID              : 1001                  Lsp ID        : 22016
S2L Name             : ipmsi-1001-73728::pa* To            : 10.20.1.2
Out Interface        : 1/1/2                 Out Label     : 262115
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-1001-73728::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.3             Tunnel ID     : 61440
P2MP ID              : 1001                  Lsp ID        : 22016
S2L Name             : ipmsi-1001-73728::pa* To            : 10.20.1.4
Out Interface        : 2/1/1                 Out Label     : 262108
Num. of S2ls         : 2
-------------------------------------------------------------------------------
S2L ipmsi-1001-73728::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.3             Tunnel ID     : 61440
P2MP ID              : 1001                  Lsp ID        : 22016
S2L Name             : ipmsi-1001-73728::pa* To            : 10.20.1.5
Out Interface        : 2/1/1                 Out Label     : 262108
Num. of S2ls         : 2
-------------------------------------------------------------------------------
S2L ipmsi-65535-73730::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.3             Tunnel ID     : 61442
P2MP ID              : 65535                 Lsp ID        : 46592
S2L Name             : ipmsi-65535-73730::p* To            : 10.20.1.1
Out Interface        : 1/1/1                 Out Label     : 262130
Num. of S2ls         : 1
-------------------------------------------------------------------------------
S2L ipmsi-65535-73730::path_ipmsi
-------------------------------------------------------------------------------
Source IP Address    : 10.20.1.3             Tunnel ID     : 61442
P2MP ID              : 65535                 Lsp ID        : 46592
S2L Name             : ipmsi-65535-73730::p* To            : 10.20.1.4
Out Interface        : 2/1/1                 Out Label     : 262109
Num. of S2ls         : 1
-------------------------------------------------------------------------------
P2MP Cross-connect instances : 12
```

18.4 p2mp-lsp

p2mp-lsp

Syntax

p2mp-lsp [*lsp-name*] [**detail**]

p2mp-lsp [*lsp-name*] **p2mp-instance** [*p2mp-instance-name*] [**mbb**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

p2mp-lsp [*lsp-name*] **p2mp-instance** [*p2mp-instance-name*] **s2l** [*s2l-name* [**to** *s2l-to-address*]] [**status** {**up** | **down**}] [**detail**]

p2mp-lsp [*lsp-name*] **p2mp-instance** [*p2mp-instance-name*] **s2l** [*s2l-name* [**to** *s2l-to-address*]] [**mbb**]

p2mp-lsp using-template [**lsp-template** *template-name*] [**detail**]

p2mp-lsp [*lsp-name*] **p2mp-instance** [*p2mp-instance-name*] **s2l** [*s2l-name*] [**detail**] [**dns**]

Context

[Tree] (show>router>mpls p2mp-lsp)

Full Context

show router mpls p2mp-lsp

Description

This command displays MPLS P2MP LSP information.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters, used in the path.

detail

Keyword used to display detailed information.

p2mp-instance [*p2mp-instance-name*

Specifies the administrative name for the P2MP instance which must be unique within a virtual router instance.

mbb

Keyword used to display make-before-break (MBB) information.

s2l

Keyword used to display the source-to-leaf (S2L) name.

to *s2l-to-address*

Keyword used to display the IP address of the destination address of the S2L sub-LSP.

status

Keyword used to display the status of the P2MP LSP.

Values up — Displays the total time that this S2l has been operational.
down — Displays the total time that this S2l has not been operational.

dns

Keyword used to display reverse DNS resolution of actual and explicit hop information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of MPLS P2MP LSP detailed DNS information, and Table 397: Output fields: MPLS P2MP LSP detailed DNS describes the output fields.

Output Example

```
show router mpls p2mp-lsp p2mp-instance s2l detail dns

===============================================================================
MPLS LSP  S2L  (Detail)
===============================================================================
Legend :
    @ - Detour Available                          # - Detour In Use
    b - Bandwidth Protected                       n - Node Protected
    S - Strict                                    L - Loose
    A - ABR
    s - Soft Preemption
===============================================================================
LSP Name         : p2mp1
S2L LSP ID       : 40960
P2MP ID          : 888                      S2L Grp Id        : 1
Admin State      : Up                       Oper State        : Up
S2L State:       : Active                                     :
S2L Name         : S2L1
To               : 10.20.1.6
S2L Admin        : Up                       S2L Oper          : Up
OutInterface     : 2/2/1                    Out Label         : 524286
S2L Up Time      : 0d 00:01:18              S2L Dn Time       : 0d 00:00:00
RetryAttempt     : 0                        NextRetryIn       : 0 sec
S2L Trans        : 1                        CSPF Queries      : 0
Failure Code     : noError                  Failure Node      : n/a
Inter-area       : False
ExplicitHops     :
                   10.20.1.4(S)
                       Dut-D.nokia.com
                -> 10.20.1.6(S)
                       Dut-F.nokia.com
Actual Hops      :
    10.10.22.3(10.20.1.3)                        Record Label        : N/A
    toD.Dut-C.nokia.com
    (toC.system.nokia.com)
 -> 10.10.22.4(10.20.1.4)                        Record Label        : 524286
    toC.Dut-D.nokia.com
    (Dut-D.nokia.com)
 -> 10.180.9.6(10.20.1.6)                        Record Label        : 524286
    10.180.9.6
    (Dut-F.nokia.com)
LastResignal     : n/a
-------------------------------------------------------------------------------
LSP Name         : p2mp1
S2L LSP ID       : 40960
P2MP ID          : 888                      S2L Grp Id        : 2
Admin State      : Up                       Oper State        : Up
S2L State:       : Active                                     :
S2L Name         : S2L2
To               : 10.20.1.5
S2L Admin        : Up                       S2L Oper          : Up
OutInterface     : 2/2/1                    Out Label         : 524286
S2L Up Time      : 0d 00:01:20              S2L Dn Time       : 0d 00:00:00
RetryAttempt     : 0                        NextRetryIn       : 0 sec
S2L Trans        : 1                        CSPF Queries      : 0
Failure Code     : noError                  Failure Node      : n/a
Inter-area       : False
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ExplicitHops     :
                  10.20.1.4(S)
                      Dut-D.nokia.com
               -> 10.20.1.6(S)
                      Dut-F.nokia.com
               -> 10.20.1.5(S)
                      Dut-E.nokia.com
Actual Hops      :
    10.10.22.3(10.20.1.3)                        Record Label        : N/A
    toD.Dut-C.nokia.com
    (Dut-C.system.nokia.com)
 -> 10.10.22.4(10.20.1.4)                        Record Label        : 524286
    toC.Dut-D.nokia.com
    (Dut-D.nokia.com)
 -> 10.180.9.6(10.20.1.6)                        Record Label        : 524286
    10.180.9.6
    (Dut-F.nokia.com)
 -> 10.180.10.5(10.20.1.5)                       Record Label        : 524286
    10.180.10.5
    (Dut-E.nokia.com)
LastResignal     : n/a
-------------------------------------------------------------------------------
LSP Name         : p2mp1
S2L LSP ID       : 40960
P2MP ID          : 888                     S2L Grp Id        : 3
Admin State      : Up                      Oper State        : Up
S2L State:       : Active                                    :
S2L Name         : S2L3
To               : 10.20.1.2
S2L Admin        : Up                      S2L Oper          : Up
OutInterface     : 2/2/1                   Out Label         : 524286
S2L Up Time      : 0d 00:01:22             S2L Dn Time       : 0d 00:00:00
RetryAttempt     : 0                       NextRetryIn       : 0 sec
S2L Trans        : 1                       CSPF Queries      : 0
Failure Code     : noError                 Failure Node      : n/a
Inter-area       : False
ExplicitHops     :
                  10.20.1.4(S)
                      Dut-D.nokia.com
               -> 10.20.1.2(S)
                      Dut-B.nokia.com
Actual Hops      :
    10.10.22.3(10.20.1.3)                        Record Label        : N/A
    toD.Dut-C.nokia.com
    (toC.system.nokia.com)
 -> 10.10.22.4(10.20.1.4)                        Record Label        : 524286
    toC.Dut-D.nokia.com
    (Dut-D.nokia.com)
 -> 10.180.4.2(10.20.1.2)                        Record Label        : 524287
    10.180.4.2
    (Dut-B.nokia.com)
LastResignal     : n/a
-------------------------------------------------------------------------------
LSP Name         : p2mp1
S2L LSP ID       : 40960
P2MP ID          : 888                     S2L Grp Id        : 4
Admin State      : Up                      Oper State        : Up
S2L State:       : Active                                    :
S2L Name         : S2L4
To               : 10.20.1.1
S2L Admin        : Up                      S2L Oper          : Up
OutInterface     : 1/1/2:1                 Out Label         : 524286
S2L Up Time      : 0d 00:01:41             S2L Dn Time       : 0d 00:00:00
RetryAttempt     : 0                       NextRetryIn       : 0 sec
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
S2L Trans        : 1                        CSPF Queries      : 0
Failure Code     : noError                  Failure Node      : n/a
Inter-area       : False
ExplicitHops     :
                  10.181.3.2(S)
                      10.181.3.2
               -> 10.181.1.1(S)
                      10.181.1.1
Actual Hops      :
    10.181.3.3(10.20.1.3)                        Record Label        : N/A
    10.181.3.3
    (Dut-C.system.nokia.com)
 -> 10.181.3.2(10.20.1.2)                        Record Label        : 524286
    10.181.3.2
    (Dut-B.nokia.com)
 -> 10.181.1.1(10.20.1.1)                        Record Label        : 524286
    10.181.1.1
    (Dut-A.nokia.com)
LastResignal     : n/a
```

Table 397: Output fields: MPLS P2MP LSP detailed DNS

Label	Description
LSP Name	Displays the LSP name
S2L LSP ID	Displays the S2L LSP ID
P2MP ID	Displays the P2MP ID
S2L Grp Id	Displays the S2L group ID
Admin State	Displays the administrative state
Oper State	Displays the operational state
S2L State	Displays the S2L state
S2L Name	Displays the S2L name
To	Displays the to destination IP address
S2L Admin	Displays the S2L administrative state
S2L Oper	Displays the S2L operational state
Out Interface	Displays the outing interface port
Out Label	Displays the out label value
S2L Up Time	Displays the S2L up time
S2L Dn Time	Displays the S2L down time
RetryAttempt	Displays the retry attemp value
NextRetryIn	Displays the next retry time value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
S2L Trans	Displays the S2L trans value
CSPF Queries	Displays the CSPF queries value
Failure Code	Displays the failure code
Failure Node	Displays the failure node
Inter-area	Displays the inter area status
ExplicitHops	Displays the explicit hops
Actual Hops	Displays the actual hops
Record Label	Displays the record label
LastResignal	Displays the resignal time

The following output is an example of MPLS P2MP LSP information.

Output Example

```
*A:Dut-C# show router mpls p2mp-lsp
  - p2mp-lsp [<lsp-name>] [detail]
  - p2mp-lsp [<lsp-name>] p2mp-instance [<p2mp-instance-name>] [mbb]
  - p2mp-lsp [<lsp-name>] p2mp-instance [<p2mp-instance-name>] s2l [<s2l-name>
    [to <s2l-to-address>]][status {up | down}] [detail]
  - p2mp-lsp [<lsp-name>] p2mp-instance [<p2mp-instance-name>] s2l [<s2l-name>
    [to <s2l-to-address>]] <mbb>
  - p2mp-lsp using-template [lsp-template <template-name>] [detail]

<lsp-name>           : [64 chars max] - accepts * as wildcard char
<p2mp-instance>      : keyword
<p2mp-instance-name> : [max 32 chars]
<s2l>                : keyword
<s2l-name>           : [max 32 chars]
<up | down>            : keywords
<detail>             : keyword
<mbb>                : keyword
<s2l-to-address>     : [a.b.c.d]
<using-template>     : keyword
<lsp-template>       : [32 chars max]



*A:Dut-C# show router mpls p2mp-lsp
===============================================================================
MPLS P2MP LSPs (Originating)
===============================================================================
LSP Name                                                        Adm   Opr
-------------------------------------------------------------------------------
ipmsi-1001-73728                                                Up    Up
ipmsi-4000-73729                                                Up    Up
ipmsi-65535-73730                                               Up    Up
-------------------------------------------------------------------------------
LSPs : 3
===============================================================================
*A:Dut-C# show router mpls p2mp-lsp detail
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MPLS P2MP LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : ipmsi-1001-73728
LSP Type    : P2mpAutoLsp                       LSP Tunnel ID  : 61440
From        : 10.20.1.3
Adm State   : Up                                Oper State     : Up
LSP Up Time : 6d 21:08:37                       LSP Down Time  : 0d 00:00:00
Transitions : 1                                 Path Changes   : 1
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : n/a
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Enabled                           Oper FR        : Enabled
FR Method   : Facility                          FR Hop Limit   : 16
FR Bandwidth: 0 Mbps                            FR Node Protect: Disabled
FR Object   : Enabled
CSPF        : Enabled                           ADSPEC         : Disabled
Metric      : Disabled                          Use TE metric  : Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled

Auto BW     : Disabled
LdpOverRsvp : Disabled                          VprnAutoBind   : Disabled
IGP Shortcut: Disabled                          BGP Shortcut   : Disabled
BGPTransTun : Disabled
Oper Metric : Disabled
Prop Adm Grp: Disabled                          CSPFFirstLoose : Disabled
P2MPInstance: 1001                              P2MP-Inst-type : Primary
S2L Cfg Cou*: 4                                 S2L Oper Count*: 4
S2l-Name    : path_ipmsi                        To             : 10.20.1.1
S2l-Name    : path_ipmsi                        To             : 10.20.1.2
S2l-Name    : path_ipmsi                        To             : 10.20.1.4
S2l-Name    : path_ipmsi                        To             : 10.20.1.5
-------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------
LSP Name    : ipmsi-4000-73729
LSP Type    : P2mpAutoLsp                       LSP Tunnel ID  : 61441
From        : 10.20.1.3
Adm State   : Up                                Oper State     : Up
LSP Up Time : 6d 21:08:38                       LSP Down Time  : 0d 00:00:00
Transitions : 1                                 Path Changes   : 1
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : n/a
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Enabled                           Oper FR        : Enabled
FR Method   : Facility                          FR Hop Limit   : 16
FR Bandwidth: 0 Mbps                            FR Node Protect: Disabled
FR Object   : Enabled
CSPF        : Enabled                           ADSPEC         : Disabled
Metric      : Disabled                          Use TE metric  : Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled

Auto BW     : Disabled
LdpOverRsvp : Disabled                          VprnAutoBind   : Disabled
IGP Shortcut: Disabled                          BGP Shortcut   : Disabled
BGPTransTun : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Oper Metric : Disabled
Prop Adm Grp: Disabled                          CSPFFirstLoose : Disabled

P2MPInstance: 4000                              P2MP-Inst-type : Primary
S2L Cfg Cou*: 2                                 S2L Oper Count*: 2
S2l-Name    : path_ipmsi                        To             : 10.20.1.1
S2l-Name    : path_ipmsi                        To             : 10.20.1.4
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : ipmsi-65535-73730
LSP Type    : P2mpAutoLsp                       LSP Tunnel ID  : 61442
From        : 10.20.1.3
Adm State   : Up                                Oper State     : Up
LSP Up Time : 6d 21:08:39                       LSP Down Time  : 0d 00:00:00
Transitions : 1                                 Path Changes   : 1
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : n/a
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Enabled                           Oper FR        : Enabled
FR Method   : Facility                          FR Hop Limit   : 16
FR Bandwidth: 0 Mbps                            FR Node Protect: Disabled
FR Object   : Enabled
CSPF        : Enabled                           ADSPEC         : Disabled
Metric      : Disabled                          Use TE metric  : Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled

Auto BW     : Disabled
LdpOverRsvp : Disabled                          VprnAutoBind   : Disabled
IGP Shortcut: Disabled                          BGP Shortcut   : Disabled
BGPTransTun : Disabled
Oper Metric : Disabled
Prop Adm Grp: Disabled                          CSPFFirstLoose : Disabled

P2MPInstance: 65535                             P2MP-Inst-type : Primary
S2L Cfg Cou*: 2                                 S2L Oper Count*: 2
S2l-Name    : path_ipmsi                        To             : 10.20.1.1
S2l-Name    : path_ipmsi                        To             : 10.20.1.4
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-C#


*A:sim1>config>router>mpls>lsp$ show router mpls p2mp-lsp p2mp-instance s2l detail
===============================================================================
MPLS LSP  S2L  (Detail)
===============================================================================
Legend :
    @ - Detour Available                          # - Detour In Use
    b - Bandwidth Protected                       n - Node Protected
    S - Strict                                    L - Loose
    s - Soft Preemption
===============================================================================
-------------------------------------------------------------------------------
LSP 1 S2L 1
-------------------------------------------------------------------------------
LSP Name    : 1                                 S2l LSP ID  : 26624
P2MP ID     : 0                                 S2l Grp Id  : 0
Adm State   : Up                                Oper State  : Down
S2l State:  : Inactive                                      :
S2L Name    : 1                                 To          : 10.20.1.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
S2l Admin   : Up                                    S2l Oper    : Down
OutInterface: n/a                                   Out Label   : n/a
S2L Up Time : 0d 00:00:00                           S2L Dn Time : 0d 00:00:01
RetryAttempt: 0                                     NextRetryIn : 9 sec (Fast)
S2L Trans   : 8                                     CSPF Queries: 4
Failure Code: noError                               Failure Node: n/a
ExplicitHops:
    10.20.1.2(S)
Actual Hops :
    No Hops Specified
ComputedHops:
    No Hops Specified
LastResignal: n/a
===============================================================================


show router mpls p2mp-lsp p2mp-instance s2l detail
===============================================================================
-------------------------------------------------------------------------------
LSP 2 S2L 2
-------------------------------------------------------------------------------
LSP Name    : 2                                     S2l LSP ID  : 52230
P2MP ID     : 0                                     S2l Grp Id  : 2
Adm State   : Up                                    Oper State  : Up
S2l State:  : Active                                :
S2L Name    : 2                                     To          : 10.20.1.3
S2l Admin   : Up                                    S2l Oper    : Up
OutInterface: 1/1/1                                 Out Label   : 131071
S2L Up Time : 0d 00:04:43                           S2L Dn Time : 0d 00:00:00
RetryAttempt: 0                                     NextRetryIn : 0 sec
S2L Trans   : 5                                     CSPF Queries: 21
Failure Code: tunnelLocallyRepaired                 Failure Node: 10.20.1.2
ExplicitHops:
    10.20.1.2(S)
Actual Hops :
    10.10.1.1(10.20.1.1)                            Record Label    : N/A
 -> 10.10.1.2(10.20.1.2) @ #                        Record Label    : 131071
 -> 10.10.6.3(10.20.1.3)                            Record Label    : 131068
ComputedHops:
    10.10.1.1(S)       -> 10.10.1.2(S)       -> 10.10.5.3(S)
LastResignal: n/a
In Prog MBB :
 MBB Type   : GlobalRevert                          NextRetryIn : n/a
 Timeout In : 23 sec
 Started At : 06/29/2011 11:06:09                   RetryAttempt: 7
 FailureCode: noError                               Failure Node: n/a
===============================================================================


*A:Dut-C>config>router>mpls>lsp$ /show router mpls lsp path detail
===============================================================================
MPLS LSP  Path  (Detail)
===============================================================================
Legend :
    @ - Detour Available              # - Detour In Use
    b - Bandwidth Protected           n - Node Protected
    s - Soft Preemption
    S - Strict                        L - Loose
===============================================================================
-------------------------------------------------------------------------------
LSP 1 Path 1
-------------------------------------------------------------------------------
LSP Name    : 1                                     Path LSP ID : 56320
From        : 10.20.1.3                             To          : 10.10.1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Adm State   : Up                                  Oper State  : Up
Path Name   : 1                                   Path Type   : Primary
Path Admin  : Up                                  Path Oper   : Up
OutInterface: 1/1/1                               Out Label   : 131071
Path Up Time: 0d 00:03:09                         Path Dn Time: 0d 00:00:00
Retry Limit : 0                                   Retry Timer : 30 sec
RetryAttempt: 0                                   NextRetryIn : 0 sec
SetupPriori*: 7                                   Hold Priori*: 0
Preference  : n/a
Bandwidth   : No Reservation                      Oper Bw     : 0 Mbps
Hop Limit   : 255                                 Class Type  : 0
Backup CT   : None
MainCT Retry: n/a                                 MainCT Retry: 0
    Rem     :                                         Limit   :
Oper CT     : 0
Record Route: Record                              Record Label: Record
Oper MTU    : 1496                                Neg MTU     : 1496
Adaptive    : Enabled                             Oper Metric : 1000
Include Grps:                                     Exclude Grps:
None                                            None
Path Trans  : 1                                   CSPF Queries: 3
Failure Code: badNode                             Failure Node: 10.20.1.3

Oper Values :
Setup Prior*: 7                                   Hold Priori*: 0
Record Route: Record                              Record Label: Record
Hop Limit   : 255
Adspec      : Disabled
CSPF        : Enabled                             CSPFToFirst*: Disabled
Least Fill  : Disabled                            FR Node Pro*: Disabled
Prop Adm Grp: Disabled
Include Grps:                                     Exclude Grps:
None                                            None

ExplicitHops:
    No Hops Specified
Actual Hops :
    10.10.2.3(10.20.1.3) @ #                      Record Label    : N/A
 -> 10.10.1.1(10.20.1.1)                          Record Label    : 131071
ComputedHops:
    10.10.2.3(S)       -> 10.10.2.1(S)
ResigEligib*: False
LastResignal: n/a                                 CSPF Metric : 1000
In Prog MBB :
 MBB Type   : GlobalRevert                        NextRetryIn : 0 sec
 Timeout In : 22 sec
 Started At : 08/26/2011 23:59:29                 RetryAttempt: 2
 FailureCode: noError                             Failure Node: n/a
 Signaled BW: 0 Mbps
===============================================================================
* indicates that the corresponding row element may have been truncated.


show router mpls p2mp-lsp p2mp-instance s2l detail
-------------------------------------------------------------------------------
LSP 2 S2L 2
-------------------------------------------------------------------------------
LSP Name    : 2                                   S2l LSP ID  : 52230
P2MP ID     : 0                                   S2l Grp Id  : 4
Adm State   : Up                                  Oper State  : Down
S2l State:  : Inactive                                        :
S2L Name    : 2                                   To          : 10.20.1.3
S2l Admin   : Up                                  S2l Oper    : In Progress
OutInterface: n/a                                 Out Label   : n/a
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
S2L Up Time : 0d 00:00:00                          S2L Dn Time : 0d 00:00:20
RetryAttempt: 1                                    NextRetryIn : n/a
Timeout In  : 21 sec
S2L Trans   : 6                                    CSPF Queries: 27
Failure Code: noError                              Failure Node: n/a
ExplicitHops:
    10.20.1.2(S)
Actual Hops :
    No Hops Specified
LastResignal: n/a


*A:Dut-C# show router mpls p2mp-lsp
===============================================================================
MPLS P2MP LSPs (Originating)
===============================================================================
LSP Name                                                        Adm   Opr
-------------------------------------------------------------------------------
ipmsi-1001-73728                                                Up    Up
ipmsi-4000-73729                                                Up    Up
ipmsi-65535-73730                                               Up    Up
-------------------------------------------------------------------------------
LSPs : 3
===============================================================================


*A:Dut-C# show router mpls p2mp-lsp detail
===============================================================================
MPLS P2MP LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : ipmsi-1001-73728
LSP Type    : P2mpAutoLsp                      LSP Tunnel ID  : 61440
From        : 10.20.1.3
Adm State   : Up                               Oper State     : Up
LSP Up Time : 6d 21:08:37                      LSP Down Time  : 0d 00:00:00
Transitions : 1                                Path Changes   : 1
Retry Limit : 0                                Retry Timer    : 30 sec
Signaling   : RSVP                             Resv. Style    : SE
Hop Limit   : 255                              Negotiated MTU : n/a
Adaptive    : Enabled                          ClassType      : 0
FastReroute : Enabled                          Oper FR        : Enabled
FR Method   : Facility                         FR Hop Limit   : 16
FR Bandwidth: 0 Mbps                           FR Node Protect: Disabled
FR Object   : Enabled
CSPF        : Enabled                          ADSPEC         : Disabled
Metric      : Disabled                         Use TE metric  : Disabled
Include Grps:                                  Exclude Grps   :
None                                           None
Least Fill  : Disabled
Auto BW     : Disabled
LdpOverRsvp : Disabled                         VprnAutoBind   : Disabled
IGP Shortcut: Disabled                         BGP Shortcut   : Disabled
BGPTransTun : Disabled
Oper Metric : Disabled
Prop Adm Grp: Disabled                         CSPFFirstLoose : Disabled
P2MPInstance: 1001                             P2MP-Inst-type : Primary
S2L Cfg Cou*: 4                                S2L Oper Count*: 4
S2l-Name    : path_ipmsi                       To             : 10.20.1.1
S2l-Name    : path_ipmsi                       To             : 10.20.1.2
S2l-Name    : path_ipmsi                       To             : 10.20.1.4
S2l-Name    : path_ipmsi                       To             : 10.20.1.5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : ipmsi-4000-73729
LSP Type    : P2mpAutoLsp                       LSP Tunnel ID  : 61441
From        : 10.20.1.3
Adm State   : Up                                Oper State     : Up
LSP Up Time : 6d 21:08:38                       LSP Down Time  : 0d 00:00:00
Transitions : 1                                 Path Changes   : 1
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : n/a
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Enabled                           Oper FR        : Enabled
FR Method   : Facility                          FR Hop Limit   : 16
FR Bandwidth: 0 Mbps                            FR Node Protect: Disabled
FR Object   : Enabled
CSPF        : Enabled                           ADSPEC         : Disabled
Metric      : Disabled                          Use TE metric  : Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled
Auto BW     : Disabled
LdpOverRsvp : Disabled                          VprnAutoBind   : Disabled
IGP Shortcut: Disabled                          BGP Shortcut   : Disabled
BGPTransTun : Disabled
Oper Metric : Disabled
Prop Adm Grp: Disabled                          CSPFFirstLoose : Disabled
P2MPInstance: 4000                              P2MP-Inst-type : Primary
S2L Cfg Cou*: 2                                 S2L Oper Count*: 2
S2l-Name    : path_ipmsi                        To             : 10.20.1.1
S2l-Name    : path_ipmsi                        To             : 10.20.1.4
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : ipmsi-65535-73730
LSP Type    : P2mpAutoLsp                       LSP Tunnel ID  : 61442
From        : 10.20.1.3
Adm State   : Up                                Oper State     : Up
LSP Up Time : 6d 21:08:39                       LSP Down Time  : 0d 00:00:00
Transitions : 1                                 Path Changes   : 1
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : n/a
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Enabled                           Oper FR        : Enabled
FR Method   : Facility                          FR Hop Limit   : 16
FR Bandwidth: 0 Mbps                            FR Node Protect: Disabled
FR Object   : Enabled
CSPF        : Enabled                           ADSPEC         : Disabled
Metric      : Disabled                          Use TE metric  : Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled
Auto BW     : Disabled
LdpOverRsvp : Disabled                          VprnAutoBind   : Disabled
IGP Shortcut: Disabled                          BGP Shortcut   : Disabled
BGPTransTun : Disabled
Oper Metric : Disabled
Prop Adm Grp: Disabled                          CSPFFirstLoose : Disabled
P2MPInstance: 65535                             P2MP-Inst-type : Primary
S2L Cfg Cou*: 2                                 S2L Oper Count*: 2
S2l-Name    : path_ipmsi                        To             : 10.20.1.1
S2l-Name    : path_ipmsi                        To             : 10.20.1.4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
* indicates that the corresponding row element may have been truncated.


*A:Dut-C#
*A:sim1>config>router>mpls>lsp$ show router mpls p2mp-lsp p2mp-instance s2l detail
===============================================================================
MPLS LSP  S2L  (Detail)
===============================================================================
Legend :
    @ - Detour Available                          # - Detour In Use
    b - Bandwidth Protected                       n - Node Protected
    S - Strict                                    L - Loose
    s - Soft Preemption
===============================================================================
-------------------------------------------------------------------------------
LSP 1 S2L 1
-------------------------------------------------------------------------------
LSP Name    : 1                                 S2l LSP ID  : 26624
P2MP ID     : 0                                 S2l Grp Id  : 0
Adm State   : Up                                Oper State  : Down
S2l State:  : Inactive                                      :
S2L Name    : 1                                 To          : 10.20.1.3
S2l Admin   : Up                                S2l Oper    : Down
OutInterface: n/a                               Out Label   : n/a
S2L Up Time : 0d 00:00:00                       S2L Dn Time : 0d 00:00:01
RetryAttempt: 0                                 NextRetryIn : 9 sec (Fast)
S2L Trans   : 8                                 CSPF Queries: 4
Failure Code: noError                           Failure Node: n/a
ExplicitHops:
    10.20.1.2(S)
Actual Hops :
    No Hops Specified
ComputedHops:
    No Hops Specified
LastResignal: n/a
===============================================================================

A:ALU-25# show router mpls p2mp-lsp lsp_1
===============================================================================
MPLS LSPs (Originating)
===============================================================================
LSP Name                      To/P2MP ID             Fastfail     Adm   Opr
                                                       Config
-------------------------------------------------------------------------------
lsp_1                              18                  Yes        Up    Up
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
A:ALU-25#

A:ALU-25# show router mpls p2mp-lsp Test_p2mp detail
===============================================================================
MPLS P2MP LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : lsp_1                           LSP Tunnel ID  : 1
From        : 10.10.1.1                       P2MP ID        : 18
Adm State   : Up                              Oper State     : Down
LSP Up Time : 0d 00:00:00                     LSP Down Time  : 0d 20:39:48
Transitions : 0                               Path Changes   : 0
Retry Limit : 0                               Retry Timer    : 30 sec
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Signaling   : RSVP                              Resv. Style    : FF
Hop Limit   : 255                               Adaptive       : Enabled
FastReroute : Disabled                          Oper FR        : Disabled
FR Method   : Facility                          FR Hop Limit   : 45
FR Bandwidth: 0 Mbps                            FR Node Protect: Disabled
FR Object   : Enabled
CSPF        : Disabled                          ADSPEC         : Disabled
Metric      : 1                                 Use TE metric  : Disabled
Include Grps:                                   Exclude Grps   :
None                                            None

P2MPinstance:Test_p2mp                          p2mp-inst-type : primary

S2L Name    :Test-s2l1                          To             : 10.20.1.6
S2L Name    :Test-s2l2                          To             : 10.20.1.5
S2L Name    :Test-s2l3                          To             : 10.20.1.4
-------------------------------------------------------------------------------
A:ALU-25#


A:ALU-25# show router mpls p2mp-lsp Test_p2mp
===============================================================================
MPLS P2MP Instance (Originating)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : lsp_1                             LSP Tunnel ID  : 1
P2MP ID     : 18                                Path LSP ID    : 18
Adm State   : Up                                Oper State     : Down

P2MPinstance:Test_p2mp                          p2mp-inst-type : primary
Inst Name   : lsp_1                             P2MP Inst ID   : 1
Adm State   : Up                                Oper State     : Down
Inst Up Time: 0d 00:00:00                       Inst Down Time : 0d 20:39:48
Hop Limit   : 255                               Adaptive       : Enabled
Record Route: Record                            Record Label   : Record
Include Grps:                                   Exclude Grps   :
None                                            None
Bandwidth   : 0 Mbps                            Oper Bw        : 0 Mbps

S2L Name    :Test-s2l1                          To             : 10.20.1.6
S2L Name    :Test-s2l2                          To             : 10.20.1.5
S2L Name    :Test-s2l3                          To             : 10.20.1.4
-------------------------------------------------------------------------------
A:ALU-25#
```

Note that the normal output is in detailed format only. There is no separate detail format.

```
A:ALU-52# show router mpls p2mp-lsp [p2mp-lsp-name] p2mp-instance [p2mp-inst-name]
===============================================================================
MPLS P2MP Instance (Originating)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : lsp_1                             LSP Tunnel ID  : 1
P2MP ID     : 18                                Path LSP ID    : 18
Adm State   : Up                                Oper State     : Down

P2MPinstance:Test_p2mp                          p2mp-inst-type : primary
Inst Name   : lsp_1                             P2MP Inst ID   : 1
Adm State   : Up                                Oper State     : Down
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Inst Up Time: 0d 00:00:00                       Inst Down Time : 0d 20:39:48
Hop Limit   : 255                               Adaptive       : Enabled
Record Route: Record                            Record Label   : Record
Include Grps:                                   Exclude Grps   :
None                                            None
Bandwidth   : 0 Mbps                            Oper Bw        : 0 Mbps

S2L Name    :Test-s2l1                          To             : 10.20.1.6
S2L Name    :Test-s2l2                          To             : 10.20.1.5
S2L Name    :Test-s2l3                          To             : 10.20.1.4
-------------------------------------------------------------------------------
A:ALU-52#


A:ALU-52# show router mpls p2mp-lsp [p2mp-lsp-name] p2mp-instance [p2mp-inst-
name] mbb
===============================================================================
MPLS P2MP Instance (Originating)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : lsp_1                             LSP Tunnel ID  : 1
P2MP ID     : 18                                Path LSP ID    : 18
Adm State   : Up                                Oper State     : Down

P2MPinstance:Test_p2mp                          p2mp-inst-type : primary
Inst Name   : lsp_1                             P2MP Inst ID   : 1
Adm State   : Up                                Oper State     : Down
Inst Up Time: 0d 00:00:00                       Inst Down Time : 0d 20:39:48
Hop Limit   : 255                               Adaptive       : Enabled
Record Route: Record                            Record Label   : Record
Include Grps:                                   Exclude Grps   :
None                                            None
Bandwidth   : 0 Mbps                            Oper Bw        : 0 Mbps
Last MBB    :
MBB type    :                                   Mbb State      :
ended at    :                                   Old Metric     :
In Prog MBB :
MBB type    :                                   Next Retry In  :
Started at  :                                   Retry Attempt  :
Failure code:                                   Failure Node   :

S2L Name    :Test-s2l1                          To             : 10.20.1.6
S2l Admin   :                                   S2l Oper       :
Failure code:                                   Failure Node   : 10.12.1.1

S2L Name    :Test-s2l1                          To             : 10.20.1.6
S2l Admin   :                                   S2l Oper       :
Failure code:                                   Failure Node   : 10.12.1.1
-------------------------------------------------------------------------------
A:ALU-52#


A:ALU-52# show router mpls p2mp-lsp [p2mp-lsp-name] p2mp-instance [p2mp-inst-
name] s2l
[s2l-name]
===============================================================================
MPLS S2Ls (Originating)
===============================================================================
S2L Name                        To             Next Hop     Adm   Opr
-------------------------------------------------------------------------------
Test-s2l1                       10.20.1.6      10.10.1.2    Up    Up
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSPs : 1
===============================================================================
A:ALU-52#


A:ALU-52# show router mpls p2mp-lsp [p2mp-lsp-name] p2mp-instance [p2mp-inst-
name] s2l
[s2l-name] detail
===============================================================================
MPLS S2Ls (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : lsp_1                           LSP Tunnel ID  : 1
P2MP ID     : 18                              Path LSP ID    : 18
Adm State   : Up                              Oper State     : Down

P2MP Primary Instance:
Inst Name   : lsp_1                           P2MP Inst ID   : 1
Adm State   : Up                              Oper State     : Down

S2L Name    : Test-s2l1                       To             : 10.20.1.6
Adm State   : Up                              Oper State     : Down
OutInterface: 1/1/1                           Out Label      : 131071
S2L Up Time : 0d 00:00:00                     S2L Down Time  : 0d 20:39:48
Transitions : 0                               Path Changes   : 0
Retry Limit : 0                               Retry Timer    : 30 sec
RetryAttempt: 0                               NextRetryIn    : 0 sec
Bandwidth   : No Reservation                  Oper Bw        : 0 Mbps
Hop Limit   : 255                             Adaptive       : Enabled
Record Route: Record                          Record Label   : Record
Oper MTU    : 1496                            Neg MTU        : 1496
FastReroute : Disabled                        Oper FR        : Disabled
FR Method   : Facility                        FR Hop Limit   : 45
FR Bandwidth: 0 Mbps                          FR Node Protect: Disabled
FR Object   : Enabled
CSPF        : Disabled                        ADSPEC         : Disabled
Metric      : 1                               Use TE metric  : Disabled
Include Grps:                                 Exclude Grps   :
None                                          None
CSPF Queries: 9
Failure Code: noError                         Failure Node   : n/a
ExplicitHops:
    No Hops Specified
Actual Hops :
    10.10.1.1(10.20.1.1) @                    Record Label   : N/A
 -> 10.10.1.2(10.20.1.2)                      Record Label   : 131071
ComputedHops:
    10.10.1.1       -> 10.10.1.2
LastResignal: n/a                             CSPF Metric    : 1000
-------------------------------------------------------------------------------
A:ALU-52#


*A:Dut-C# show router mpls p2mp-lsp "ipmsi-1-73752" detail

===============================================================================
MPLS P2MP LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : ipmsi-1-73752
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP Type    : P2mpAutoLsp                       LSP Tunnel ID  : 61445
From        : 10.20.1.3
Adm State   : Up                                Oper State     : Up
LSP Up Time : 0d 00:00:51                       LSP Down Time  : 0d 00:00:00
Transitions : 3                                 Path Changes   : 3
Retry Limit : 0                                 Retry Timer    : 30 sec
Signaling   : RSVP                              Resv. Style    : SE
Hop Limit   : 255                               Negotiated MTU : n/a
Adaptive    : Enabled                           ClassType      : 0
FastReroute : Enabled                           Oper FR        : Enabled
FR Method   : Facility                          FR Hop Limit   : 16
FR Node Pro*: Disabled                          FR Prop Adm Grp: Disabled
FR Object   : Enabled
Egress Stats: Enabled                           Egress Oper St*: Out-of-resource
CSPF        : Enabled                           ADSPEC         : Disabled
Metric      : Disabled                          Use TE metric  : Disabled
Include Grps:                                   Exclude Grps   :
None                                            None
Least Fill  : Disabled

Auto BW     : Disabled
LdpOverRsvp : Enabled                           VprnAutoBind   : Enabled
IGP Shortcut: Enabled                           BGP Shortcut   : Enabled
IGP LFA     : Disabled                          IGP Rel Metric : Disabled
BGPTransTun : Enabled
Oper Metric : Disabled
Prop Adm Grp: Disabled

P2MPInstance: 1                                 P2MP-Inst-type : Primary
S2L Cfg Cou*: 4                                 S2L Oper Count*: 4
S2l-Name    : path_ipmsi                        To             : 10.20.1.1
S2l-Name    : path_ipmsi                        To             : 10.20.1.2
S2l-Name    : path_ipmsi                        To             : 10.20.1.5
S2l-Name    : path_ipmsi                        To             : 10.20.1.6
===============================================================================
```

18.5 p2mp-policy

p2mp-policy

Syntax

p2mp-policy [**root-address** *ip-address*] [**tree-id** *tree-id*] [**candidate-path** *path-name*] [**detail**]

Context

[Tree] (show>router>p2mp-sr-tree>database p2mp-policy)

Full Context

show router p2mp-sr-tree database p2mp-policy

Description

This command displays the policy information present in the P2MP SR tree database.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-address

Specifies the root IPv4 address.

tree-id

Specifies the P2MP SR tree ID.

Values 8193 to 16286

path-name

Specifies the candidate path name, up to 64 characters.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of P2MP SR tree database policy information.

Output Example

```
A:node-2>show>router>p2mp-sr-tree>database# p2mp-policy
===============================================================================
P2MP Policies
===============================================================================
Policy-Name
RootAddr                          TreeId              State         NumPaths
Tunnel                            Active-Path
  Candidate-Path                  Origin              ASN           PLSP-ID
  State                           Create-Time                       Desc
-------------------------------------------------------------------------------
test
100.0.0.103                       9000                inService     1
73729                             Primary-path
  Primary-path                    configuration       0             --
  inService                       0d 00:00:01                       1
test-spmsi
100.0.0.103                       9001                inService     1
0                                 Primary-path
  Primary-path                    configuration       0             --
  inService                       0d 00:00:01                       1
-------------------------------------------------------------------------------
Total P2MP Policies : 2
```

p2mp-policy

Syntax

p2mp-policy [*policy-name*] [**root-tree-id** *root-tree-id*] [**root-addr** *ip-address*]

Context

[Tree] (show>router>p2mp-sr-tree p2mp-policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router p2mp-sr-tree p2mp-policy

Description

This command displays the P2MP policy information.

Parameters

policy-name

Specifies the policy name, up to 256 characters.

root-tree-id

Specifies the root tree ID.

Values 8193 to 16286

ip-address

Specifies the root IPv4 address.

Platforms

All

Output

The following output is an example of P2MP SR tree policy information.

Output Example

```
A:swsim103>show>router>p2mp-sr-tree# p2mp-policy
===============================================================================
P2MP Policies
===============================================================================
Name                                TreeId NumPaths       Adm/Opr
RootAddr                                                  SvcId
activeCPName                                              ActInstId
-------------------------------------------------------------------------------
test                                9000   1              Up/Up
100.0.0.103                                               70
Primary-path                                              1

test-spmsi                          9001   1              Up/Up
100.0.0.103                                               70
Primary-path                                              1

-------------------------------------------------------------------------------
Total P2MP Policies : 2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.6 p2mp-sr-tree

p2mp-sr-tree

Syntax

p2mp-sr-tree

Context

[Tree] (show>router p2mp-sr-tree)

Full Context

show router p2mp-sr-tree

Description

Commands in this context display P2MP SR tree information.

Platforms

All

18.7 packet

packet

Syntax

packet *packet-number*

Context

[Tree] (show>test-oam>build-packet packet)

Full Context

show test-oam build-packet packet

Description

This command displays the OAM egress port finder information for a specific packet.

Parameters

packet-number

Specifies the packet number.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 65535

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

18.8 packet-size

packet-size

Syntax

packet-size *protocol* [**clear**]

Context

[Tree] (tools>dump>cflowd packet-size)

Full Context

tools dump cflowd packet-size

Description

This command displays packet size distribution for sampled IP traffic. Values are displays in decimal format (1.0 = 100%, .500 = 50%). Separate statistics are maintained and shown for IPv4 and IPv6 traffic.

Platforms

All

Output

The following output is an example of cflowd packet size information.

Output Example

```
SR-12# tools dump cflowd packet-size ipv4
 IP packet size distribution (801600 total packets):
   1-32   64   96  128  160  192  224  256  288  320  352  384  416  448  480
   .000 .250 .000 .000 .010 .100 .500 .090 .000 .000 .000 .000 .000 .000 .000

    512  544  576 1024 1536 2048 2560 3072 3584 4096 4608 9000
   .000 .000 .000 .050 .000 .000 .000 .000 .000 .000 .000 .000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.9 parameters

parameters

Syntax

parameters

Context

[Tree] (show>router>ldp parameters)

Full Context

show router ldp parameters

Description

This command displays configuration information about LDP parameters.

Platforms

All

Output

LDP Parameters Output

Table 398: Output fields: LDP parameters describes the LDP parameters output fields.

Table 398: Output fields: LDP parameters

Label	Description
Keepalive Timeout	The time interval (in s), that LDP waits before tearing down a session. If no LDP messages are exchanged during this time interval, the LDP session is torn down. Generally the value is configured to be 3 times the keepalive time (the time interval between successive LDP keepalive messages).
Timeout Factor	The value by which the keepalive timeout should be divided to give the keepalive time, for example, the time interval (in s), between LDP keepalive messages. LDP keepalive messages are sent to keep the LDP session from timing out when no other LDP traffic is being sent between the neighbors.
Hold Time	The hello time, also known as hold time. It is the time interval (in s), that LDP waits before declaring a neighbor to be down. Hello timeout is local to the system and is sent in the hello messages to a neighbor.
Hello Factor	The value by which the hello timeout should be divided to give the hello time, for example, the time interval (in s), between LDP hello messages. LDP uses hello messages to discover neighbors and to detect loss of connectivity with its neighbors.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Auth	Enabled — Authentication using MD5 message based digest protocol is enabled. Disabled — No authentication is used.
Admin Status	inService — The LDP is administratively enabled. outService — The LDP is administratively disabled.
Deaggregated FECs	False — LDP aggregates multiple prefixes into a single Forwarding Equivalence Class (FEC) and advertises a single label for the FEC. This value is only applicable to LDP interfaces and not for targeted sessions. True — LDP de-aggregates prefixes into multiple FECs.
Propagate Policy	The Propagate Policy value specifies whether the LSR should generate FECs and which FECs it should generate. system — LDP distributes label bindings only for the router's system IP address. interface — LDP distributes label bindings for all LDP interfaces. all — LDP distributes label bindings for all prefixes in the routing table. none — LDP does not distribute any label bindings.
Transport Address	interface — The interface's IP address is used to set up the LDP session between neighbors. If multiple interfaces exist between two neighbors, the 'interface' mode cannot be used because only one LDP session is actually set up between the two neighbors. system — The system's IP address is used to set up the LDP session between neighbors.
Label-Retention	liberal — All advertised label mappings are retained whether they are from a valid next hop or not. When the label distribution value is downstream unsolicited, a router may receive label bindings for the same destination for all its neighbors. Labels for the non-next hops for the FECs are retained in the software but not used. When a network topology change occurs where a non-nexthop becomes a true next hop, the label received earlier is then used. conservative — Advertised label mappings are retained only if they are used to forward packets; for example, if the label came from a valid next hop. Label bindings received from non-next hops for each FEC are discarded.
Control Mode	ordered — Label bindings are not distributed in response to a label request until a label binding has been received from the next hop for the destination. independent — Label bindings are distributed immediately in response to a label request even if a label binding has not yet been received from the next hop for the destination.
Route Preference	The route preference assigned to LDP routes. When multiple routes are available to a destination, the route with the lowest preference is used. This value is only applicable to LDP interfaces and not for targeted sessions.
Loop Detection	none — Loop detection is not supported on this router. This is the only valid value because Path Vector based loop detection is not supported.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	other — Loop detection is supported but by a method other than hopCount, path Vector, or hopCountAndPathVector. hopCount — Loop detection is supported by hop count only. pathVector — Loop detection is supported by path vector only. hopCountAndPathVector — Loop detection is supported by both path vector and hop count.
Keepalive Timeout	The factor used to derive the Keepalive interval.
Keepalive Factor	The time interval (in s), that LDP waits before tearing down the session.
Hold-Time	The time left before a neighbor is declared to be down.
Hello Factor	The value by which the hello timeout should be divided to give the hello time, for example, the time interval (in s), between LDP hello messages. LDP uses hello messages to discover neighbors and to detect loss of connectivity with its neighbors.
Auth	Enabled — Authentication using MD5 message based digest protocol is enabled. Disabled — No authentication is used.
Passive-Mode	true — LDP responds only when it gets a connect request from a peer and does not attempt to actively connect to its neighbors. false — LDP actively tries to connect to its peers.
Targeted-Sessions	true — Targeted sessions are enabled. false — Targeted sessions are disabled.

Output Example

```
*A:Dut-A# show router ldp parameters
===============================================================================
LDP Parameters (IPv4 LSR ID 10.20.1.1:0)
               (IPv6 LSR ID 3ffe::a14:101[0])
===============================================================================
-------------------------------------------------------------------------------
Graceful Restart Parameters
-------------------------------------------------------------------------------
Graceful Restart   : Disabled
Nbor Liveness Time : 120 sec            Max Recovery Time   : 120
-------------------------------------------------------------------------------
IPv4 Interface Parameters
-------------------------------------------------------------------------------
Keepalive Timeout  : 30 sec             Keepalive Factor    : 3
Hold Time          : 15 sec             Hello Factor        : 3
Transport Address  : system
-------------------------------------------------------------------------------
IPv6 Interface Parameters
-------------------------------------------------------------------------------
Keepalive Timeout  : 30 sec             Keepalive Factor    : 3
Hold Time          : 15 sec             Hello Factor        : 3
Transport Address  : system
-------------------------------------------------------------------------------
Targeted Session Parameters
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Import Pfx Policies: None               Export Pfx Policies : None
Prefer Tunl-in-Tunl: Disabled           SDP Auto Targ Sess  : Enabled
-------------------------------------------------------------------------------
IPv4 Targeted Session Parameters
-------------------------------------------------------------------------------
Keepalive Timeout  : 30 sec             Keepalive Factor    : 3
Hold Time          : 15 sec             Hello Factor        : 3
Hello Reduction    : Disabled           Hello Reduction Fctr: 3
-------------------------------------------------------------------------------
IPv6 Targeted Session Parameters
-------------------------------------------------------------------------------
Keepalive Timeout  : 40 sec             Keepalive Factor    : 4
Hold Time          : 45 sec             Hello Factor        : 3
Hello Reduction    : Disabled           Hello Reduction Fctr: 3
===============================================================================
*A:Dut-A#
```

18.10 partition

partition

Syntax

partition summary

Context

[Tree] (show>app-assure>group partition)

Full Context

show application-assurance group partition

Description

This command displays partition information.

Parameters

summary

Displays partition summary information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.11 passive-dns

passive-dns

Syntax

passive-dns

Context

[Tree] (tools>dump>app-assure>group>ipassist passive-dns)

Full Context

tools dump application-assurance group ip-identification-assist passive-dns

Description

Commands in this context display passive DNS monitoring statistics related to IP identification assist for top applications using IP addresses learned by passive monitoring of DNS traffic.

Platforms

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

18.12 password-options

password-options

Syntax

password-options

Context

[Tree] (show>system>security password-options)

Full Context

show system security password-options

Description

This command displays configured password options.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of password options information, and Table 399: Output fields: password options describes the output fields.

Output Example

```
A:ALA-7# show system security password-options
===============================================================================
Password Options
===============================================================================
Password aging in days                          : none
Time required between password changes          : 0d 00:10:00

Number of invalid attempts permitted per login  : 3
Time in minutes per login attempt               : 5
Lockout period (when threshold breached)        : 10
Authentication order                            : radius tacplus local
User password history length                    : disabled
Password hashing                                : bcrypt
Accepted password length                        : 6..56 characters
Credits for each character type                 : none
Required character types                        : none
Minimum number different character types        : 0
Required distance with previous password        : 5
Allow consecutively repeating a character       : always
Allow passwords containing username             : yes
Palindrome allowed                              : no
===============================================================================
A:ALA-7#
```

Table 399: Output fields: password options

Label	Description
Password aging in days	Displays the number of days a user password is valid before the user must change their password.
Time required between password changes	Displays the time interval between changed passwords.
Number of invalid attempts permitted per login	Displays the number of unsuccessful login attempts allowed for the specified **time**.
Time in minutes per login attempt	Displays the period of time, in minutes, that a specified number of unsuccessful attempts can be made before the user is locked out.
Lockout period (when threshold breached)	Displays the number of minutes that the user is locked out if the threshold of unsuccessful login attempts has been exceeded.
Authentication order	Displays the sequence in which password authentication is attempted among RADIUS, TACACS+, and local passwords.
User password history length	Displays the size of the password history file to be stored.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Password hashing	Displays the system hashing algorithm for passwords.
Accepted password length	Displays the minimum length required for local passwords.
Credits for each character type	Displays the credit for each character type. A credit is obtained for a specific character type; for example, uppercase, lowercase, numeric, or special character. Credits per character type are configurable. Credits can be used toward the minimum length of the password, so a trade-off can be made between a very long, simple password and a short, complex one.
Required character types	Displays the character types that are required in a password; for example, uppercase, lowercase, numeric, or special character.
Minimum number different character types	Displays the minimum number of each different character types in a password.
Required distance with previous password	Displays the minimum Levenshtein distance between a new password and the old password.
Allow consecutively repeating a character	Displays the number of times the same character is allowed to be repeated consecutively.
Allow passwords containing username	Displays whether the user name is allowed as part of the password.
Palindrome allowed	Displays whether palindromes are allowed as part of the password.

18.13 path

path

Syntax

path [*path-name*] [*lsp-binding*]

path *path-name p2mp-lsp-binding*

Context

[Tree] (show>router>mpls path)

Full Context

show router mpls path

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays MPLS paths.

Parameters

path-name

Specifies the unique name label for the LSP path.

lsp-binding

Displays binding information.

p2mp-lsp-binding

Displays binding information.

Platforms

All

Output

The following output is an example of MPLS path information.

Table 400: Output fields: MPLS path describes MPLS Path output fields.

Table 400: Output fields: MPLS path

Label	Description
Path Name	The unique name label for the LSP path.
Adm	Down — The path is administratively disabled. Up — The path is administratively enabled.
Hop Index	The value used to order the hops in a path.
IP Address	The IP address of the hop that the LSP should traverse on the way to the egress router.
Strict/Loose	Strict — The LSP must take a direct path from the previous hop router to the next router. Loose — The route taken by the LSP from the previous hop to the next hop can traverse through other routers.
LSP Name	The name of the LSP used in the path.
Binding	Primary — The preferred path for the LSP. Secondary — The standby path for the LSP.
Paths	Total number of paths configured.

Output Example

```
*A:SRU4>config>router>mpls# show router mpls path
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MPLS Path:
===============================================================================
Path Name                       Adm  Hop Index   IP Address       Strict/Loose
-------------------------------------------------------------------------------
to_10_30_1_1                    Up   no hops     n/a              n/a
to_10_30_1_2                    Up   no hops     n/a              n/a
to_10_30_1_3                    Up   no hops     n/a              n/a
to_10_30_1_4                    Up   no hops     n/a              n/a
to_10_30_1_5                    Up   no hops     n/a              n/a
to_10_30_1_6                    Up   no hops     n/a              n/a
to_10_30_1_110                  Up   no hops     n/a              n/a
to_10_8_100_15                  Up   no hops     n/a              n/a
to_10_20_1_20                   Up   no hops     n/a              n/a
to_10_20_1_22                   Up   no hops     n/a              n/a
to_10_100_1_1                   Up   no hops     n/a              n/a
-------------------------------------------------------------------------------
Paths : 11
===============================================================================
*A:SRU4>config>router>mpls#


*A:SRU4>config>router>mpls# show router mpls path lsp-binding
===============================================================================
MPLS Path:
===============================================================================
Path Name                        Opr  LSP Name                          Binding
-------------------------------------------------------------------------------
to_10_30_1_1                     Up   to_10_30_1_1_cspf                Primary
                                 Up   to_10_30_1_1_cspf_2              Primary
                                 Up   to_10_30_1_1_cspf_3              Primary
Up   to_10_30_1_1_cspf_16             Primary
                                 Up   to_10_30_1_1_cspf_17             Primary
                                 Up   to_10_30_1_1_cspf_18             Primary
                                 Up   to_10_30_1_1_cspf_19             Primary
                                 Up   to_10_30_1_1_cspf_20             Primary
to_10_30_1_2                     Up   to_10_30_1_2_cspf                Primary
                                 Up   to_10_30_1_2_cspf_2              Primary
                                 Up   to_10_30_1_2_cspf_3              Primary
                                 Up   to_10_30_1_2_cspf_4              Primary
                                 Up   to_10_30_1_2_cspf_5              Primary
...
to_10_100_1_1                    Down to_10_100_1_1_cspf               Primary
                                 Down to_10_100_1_1_cspf_2             Primary
                                 Down to_10_100_1_1_cspf_3             Primary
                                 Down to_10_100_1_1_cspf_4              Primary
                                 Down to_10_100_1_1_cspf_5              Primary
                                 Down to_10_100_1_1_cspf_6              Primary
Down to_10_100_1_1_cspf_13            Primary
                                 Down to_10_100_1_1_cspf_14             Primary
                                 Down to_10_100_1_1_cspf_15             Primary
                                 Down to_10_100_1_1_cspf_16             Primary
                                 Down to_10_100_1_1_cspf_17             Primary
                                 Down to_10_100_1_1_cspf_18             Primary
                                 Down to_10_100_1_1_cspf_19             Primary
                                 Down to_10_100_1_1_cspf_20             Primary
-------------------------------------------------------------------------------
Paths : 11
===============================================================================
*A:SRU4>config>router>mpls#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.14 path-request

path-request

Syntax

path-request [**lsp-type** *lsp-type*] [**dest** *ip-address*] [**detail**]

Context

[Tree] (show>router>pcep>pcc path-request)

Full Context

show router pcep pcc path-request

Description

This command displays the PCEP path request information.

Parameters

lsp-type

Specifies the LSP type.

Values rsvp-p2p, rsvp-p2mp, seg-rt

Note:
The LSP type, **rsvp-p2mp**, is not supported for PCE controlled or PCE initiated LSPs.

ip-address

Specifies the IP address.

Values a.b.c.d

detail

Specifies detailed information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.15 paths

paths

Syntax

paths

Context

[Tree] (show>router>bgp paths)

Full Context

show router bgp paths

Description

This command displays a summary of BGP path attributes.

Platforms

All

Output

The following output is an example of BGP path information. Table 401: Output fields: BGP path describes the output fields.

Output Example

```
*A:ALA-12# show router 3 bgp paths
===============================================================================
 BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
BGP Paths
-------------------------------------------------------------------------------
Path: 60203 65001 19855 3356  15412
-------------------------------------------------------------------------------
Origin           : IGP                 Next Hop         : 10.0.28.1
MED              : 60203               Local Preference : none
Refs             : 4                   ASes             : 5
Segments         : 1
Flags            : EBGP-learned
Aggregator       : 15412  62.216.140.1
-------------------------------------------------------------------------------
Path: 60203 65001 19855 3356  1     1236  1236  1236  1236
-------------------------------------------------------------------------------
Origin           : IGP                 Next Hop         : 10.0.28.1
MED              : 60203               Local Preference : none
Refs             : 2                   ASes             : 9
Segments         : 1
Flags            : EBGP-learned
-------------------------------------------------------------------------------
*A:ALA-12#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 401: Output fields: BGP path

Label	Description
BGP Router ID	The local BGP router ID.
AS	The configured autonomous system number.
Local AS	The configured local AS setting. If not configured, then the value is the same as the AS.
Path	The AS path attribute.
Origin	EGP — The NLRI is learned by an EGP protocol. IGP — The NLRI is interior to the originating AS. INCOMPLETE — NLRI was learned another way.
Next Hop	The advertised BGP nexthop.
MED	The Multi-Exit Discriminator value.
Local Preference	The local preference value.
Refs	The number of routes using a specified set of path attributes.
ASes	The number of autonomous system numbers in the AS path attribute.
Segments	The number of segments in the AS path attribute.
Flags	EBGP-learned — Path attributes learned by an EBGP peering. IBGP-Learned — Path attributes learned by an IBGP peering.
Aggregator	The route aggregator ID.
Community	The BGP community attribute list.
Originator ID	The originator ID path attribute value.
Cluster List	The route reflector cluster list.

18.16 pattern-match

pattern-match

Syntax

pattern-match [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump>filter>resources pattern-match)

Full Context

tools dump filter resources pattern-match

Description

This command displays pattern match records.

Parameters

detail

Displays detailed pattern match records.

Platforms

All

Output

The following output is an example of detailed pattern match records.

Output Example

```
A:Dut-A# tools dump filter resources pattern-match
===============================================================================
Unique filter pattern match patterns
===============================================================================
Used  : 1
Free  : 1022
Total : 1023
===============================================================================
A:Dut-A# tools dump filter resources pattern-match detail
===================================================================
Unique pattern match
===================================================================
Num  Pattern             Mask                  Not emb.       Emb.
-------------------------------------------------------------------
   1 0xff00000000000000  0xff00000000000000           1          0
===================================================================
===============================================================================
Unique filter pattern match patterns
===============================================================================
Used  : 1
Free  : 1022
Total : 1023
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.17 pbb

pbb

Syntax

pbb base

pbb mac-name

pbb mac-name *mac-name* **detail**

Context

[Tree] (show>service pbb)

Full Context

show service pbb

Description

This command displays PBB information.

Parameters

base

Displays information about a PBB base.

mac-name

Displays MAC name information.

detail

Displays detailed information.

mac-name

Displays information about a specific MAC name, up to 32 characters.

Platforms

All

Output

The following output is an example of PBB base information.

Output Example

```
*A:Dut-B# show service pbb base
===============================================================================
PBB MAC Information
===============================================================================
MAC-Notif Count : 3
MAC-Notif Interval : 1
Source BMAC : Default
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

The following output is an example of PBB MAC information.

Output Example

```
*A:Dut-B# show service pbb mac-name
===============================================================================
MAC Name Table
===============================================================================
MAC-Name MAC-Address
-------------------------------------------------------------------------------
test 00:03:03:03:03:02
===============================================================================
*A:Dut-B# show service pbb mac-name test detail
===============================================================================
Services Using MAC name='test' addr='00:03:03:03:03:02'
===============================================================================
Svc-Id ISID
-------------------------------------------------------------------------------
501 501
-------------------------------------------------------------------------------
Number of services: 1
===============================================================================
*A:Dut-B#
```

18.18 pbr-steering

pbr-steering

Syntax

pbr-steering

Context

[Tree] (show>router pbr-steering)

Full Context

show router pbr-steering

Description

This command displays PBR steering VAS interfaces with VAS interface type configuration.

Platforms

All

Output

The following output is an example of router PBR steering VAS interfaces information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:Dut-C# show router pbr-steering
===============================================================================
PBR Steering VAS interfaces
===============================================================================
Interface-Name                          VAS IF Type
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
PBR Steering IPv4 filters
===============================================================================
Ingress filter
  Interface                             Interface name
    PBR Control
    PBR Types
-------------------------------------------------------------------------------
1
  pxc-20.b:1.1                          N/A
    Mgmt
    IP
-------------------------------------------------------------------------------
Number of ingress IPv4 filters with PBR: 1
-------------------------------------------------------------------------------
Egress filter
  Interface                             Interface name
    PBR Control
    PBR Types
-------------------------------------------------------------------------------
2
  pxc-20.b:1.1                          N/A
    Mgmt
    IP
-------------------------------------------------------------------------------
Number of egress IPv4 filters with PBR: 1
===============================================================================
===============================================================================
PBR Steering IPv6 filters
===============================================================================
Ingress filter
  Interface                             Interface name
    PBR Control
    PBR Types
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
Egress filter
  Interface                             Interface name
    PBR Control
    PBR Types
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.19 pcap

pcap

Syntax

pcap [*session-name*] [**detail**]

Context

[Tree] (show pcap)

Full Context

show pcap

Description

This command shows the information about the packet capture session and confirms if the packet is reliable.

Parameters

session-name

Specifies the session name up to 32 characters.

Platforms

All

Output

The following output is an example of information about the packet capture session.

Output Example

```
===============================================================================
Pcap Session "1" Information
===============================================================================
Application Type   : mirror-dest        Session State   : ready
Capture            : stop               Last Changed    : 02/06/2018 19:52:07
Capture File Url   : ftp://*:*@192.168.40.1/pcap.pcap
Buffer Size        : 0 Bytes            File Size       : 0 Bytes
Write Failures     : 0                  Read Failures   : 0
Proc Time Bailouts : 0                  Last File Write : 02/06/2018 19:52:07
Dropped Packets    : 0 Packets
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 402: Output fields: PCAP

Label	Description
Buffer Size	The maximum buffer size is 20 Mb. If the number of packets in the buffer exceeds 20 Mb, packets are dropped.
File Size	The current size of the capture file.
Write Failures	The number of errors that occurred when packets were written into the buffer. A number greater than zero indicates that some packets were not captured.
Read Failures	The errors occurred when packets were read from the buffer for exporting to FTP or TFTP. A number greater than zero indicates that some packets were not captured.
Process Time Bailouts	A system process timeout. Some packets were not captured.
Dropped Packets	The number of packets dropped from the buffer due to errors.

18.20 pcc

pcc

Syntax

pcc

Context

[Tree] (clear>router>pcep pcc)

Full Context

clear router pcep pcc

Description

Commands in this context clear PCEP PCC related data.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

pcc

Syntax

pcc

Context

[Tree] (show>router>pcep pcc)

Full Context

show router pcep pcc

Description

Commands in this context display PCEP PCC related information.

Platforms

All

pcc

Syntax

pcc

Context

[Tree] (tools>dump>router>pcep pcc)

Full Context

tools dump router pcep pcc

Description

Commands in this context dump tools for PCEP PCC.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.21 pcc-rule

pcc-rule

Syntax

pcc-rule

pcc-rule monitoring-key *key* **detail**

pcc-rule rule-id *id* **detail**

pcc-rule rule-name *rule-name*

pcc-rule rule-name *rule-name* **detail**

pcc-rule summary

pcc-rule monitoring-key *key*

Context

[Tree] (show>subscr-mgmt pcc-rule)

Full Context

show subscriber-mgmt pcc-rule

Description

This command displays a list of PCC rules and associated monitoring keys in the system.

Parameters

key

Displays details about a specific monitoring-key.

id

Displays details about a specific PCC rule.

rule-name

Displays information about a specific PCC rule.

summary

Displays summarized information for active rules in the system.

key

Displays information about a specific monitoring-key.

detail

Displays detailed information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of subscriber management PCC rule information.

Output Example

```
show subscriber-mgmt pcc-rule summary
===============================================================================
PCC Rules Summary
===============================================================================
Nbr Active PCC Rules    : 26 / 1023
Nbr Active Combinations
  IPv4 Filter           : 2 / 4095
  IPv6 Filter           : 0 / 4095
  Egress Qos            : 1 / 4095
  Ingress Qos           : 1 / 4095
===============================================================================


show subscriber-mgmt pcc-rule
===============================================================================
                       Id      Dir  ForwardAction         QosAction
-------------------------------------------------------------------------------
name      : RULE_egress_FC
monitorKey: -
                       29      egr  -                     fc
name      : RULE_egress_UM
monitorKey: um_RULE_egress_UM
                       34      egr  -                     monitor
name      : RULE_ingress_FC
monitorKey: -
                       37      ingr -                     fc
name      : RULE_ingress_UM
monitorKey: um_RULE_ingress_UM
                       50      ingr -                     monitor
name      : RULE_egress_DROP
monitorKey: -
                       28      egr  drop                 -
name      : RULE_ingress_RDR
monitorKey: -
                       49      ingr fwd nh4              -
name      : RULE_egress_UM_FC
monitorKey: um_RULE_egress_UM_FC
                       35      egr  -                     fc monitor
…
===============================================================================


show subscriber-mgmt pcc-rule rule-name "RULE_ingress_RATE_LIMIT_UM_FC_RDR" detail
===============================================================================
PCC Rules
===============================================================================
PCC rule name         : RULE_ingress_RATE_LIMIT_UM_FC_RDR
PCC rule id           : 47
Monitoring key        : um_RULE_ingress_RATE_LIMIT_UM_FC_RDR
Flow status           : Enabled
Nbr of Flows          : 1 (ingress)
HTTP-Redirect         : -
Next-Hop Redir. IPv4  : 10.10.10.10
Next-Hop Redir. IPv6  : -
QoS Ingr. CIR/PIR     : 1000 kbps / 2000 kbps
QoS Egr. CIR/PIR      : - / -
FC change             : h2
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Flows
-------------------------------------------------------------------------------
Src. IP  : any                                  Src. Port: -
Dst. IP  : 75.24.24.17/32                       Dst. Port: -
Protocol : 6                                    DSCP     : cp60
-------------------------------------------------------------------------------
===============================================================================


show service active-subscribers pcc-rule subscriber "1/1/3:1.1|00:00:00:00:00:01"
===============================================================================
Active Subscribers
===============================================================================
-------------------------------------------------------------------------------
Subscriber 1/1/3:1.1|00:00:00:00:00:01 (subprof1)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
(1) SLA Profile Instance sap:1/1/3:1.1 - sla:sla1
-------------------------------------------------------------------------------
Ingr Qos Policy Override : 3:P2
Egr  Qos Policy Override : 2:P2
-------------------------------------------------------------------------------
IP Address
                MAC Address       PPPoE-SID Origin
-------------------------------------------------------
22.1.0.1
                00:00:00:00:00:01 N/A       DHCP
-------------------------------------------------------
Ingr Filter Override : 5:P4
Egr  Filter Override : 6:P5
=======================================================
Preference Rule Id   Rule Name
-------------------------------------------------------
0          28        RULE_egress_DROP
0          29        RULE_egress_FC
0          30        RULE_egress_RATE_LIMIT
0          31        RULE_egress_RATE_LIMIT_FC
0          32        RULE_egress_RATE_LIMIT_UM
0          33        RULE_egress_RATE_LIMIT_UM_FC
0          34        RULE_egress_UM
0          35        RULE_egress_UM_FC
0          36        RULE_ingress_DROP
0          37        RULE_ingress_FC
0          38        RULE_ingress_FC_HTTP
0          39        RULE_ingress_FC_RDR
0          40        RULE_ingress_HTTP
0          41        RULE_ingress_RATE_LIMIT
0          42        RULE_ingress_RATE_LIMIT_FC
0          43        RULE_ingress_RATE_LIMIT_FC_RDR
0          44        RULE_ingress_RATE_LIMIT_RDR
0          45        RULE_ingress_RATE_LIMIT_UM
0          46        RULE_ingress_RATE_LIMIT_UM_FC
0          47        RULE_ingress_RATE_LIMIT_UM_FC_RDR
0          48        RULE_ingress_RATE_LIMIT_UM_RDR
0          49        RULE_ingress_RDR
0          50        RULE_ingress_UM
0          51        RULE_ingress_UM_FC
0          52        RULE_ingress_UM_FC_RDR
0          53        RULE_ingress_UM_RDR
=======================================================
```

Table 403: Output fields: PCC rule describes subscriber management PCC rule output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 403: Output fields: PCC rule

Field	Description
Nbr Active PCC Rules	The number of active PCC rules
Nbr Active Combinations	The number of active IP PCC rule combinations
IPv4 Filter	The number of IPv4 filter combinations
IPv6 Filter	The number of IPv6 filter combinations
Egress QoS	The number of active egress QoS PCC rule combinations
Ingress QoS	The number of active ingress QoS PCC rule combinations
Id	The PCC ID
Dir	The flow direction on which the PCC-rule acts
ForwardAction	The filter action of the PCC-rule
QosAction	The Qos action of the PCC-rule. The value account(3) is only relevant if the PCC-rule was received by the system as part of a RADIUS Subscriber Service attribute
name	The PCC rule name
monitorKey	The monitor key name that can be received in a PCC rule. An empty string (length 0) indicates that no monitor key is defined in the PCC rule
PCC rule name	The name of a PCC rule
PCC rule id	The PCC rule ID
Monitoring key	The monitoring key defined in this PCC-rule. This value is only considered if **monitor** is set in the QoS action.
Flow status	The PCC rule flow status; enabled or disabled
Nbr of Flows	The number of flow rules defined in this PCC rule
HTTP-Redirect	The URL to which all data flows that pertain to this PCC-rule must be redirected
Next-Hop Redir. IPv4	The IPv4 address to which all IPv4 data flows that pertain to this PCC-rule be redirected
Next-Hop Redir. IPv6	The IPv6 address to which all IPv6 data flows that pertain to this PCC-rule be redirected
QoS Ingr. CIP/PIR	The ingress QoS CIP and PIR values

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
QoS Egr. CIP/PIR	The egress QoS CIP and PIR values
FC change	The forwarding class (FC) that is assigned to all data flows that pertain to this PCC-rule
Src. IP	The address type of the source address
Src. Port	The port type of the source address
Dst. IP	The address type of the destination address
Protocol	The IPv4 protocol value, and for IPv6 the next header type used in the match criteria for this flow • 6 — TCP • 7 — UDP
DSCP	The DSCP to be matched for this flow
Subscriber	The subscriber SAP
SLA Profile Instance sap	The SLA profile instance SAP
Ingr QoS Policy Override	The ID of the overriding ingress Qos policy
Egr QoS Policy Override	The ID of the overriding egress Qos policy
IP Address	The subscriber IP address
MAC Address	The subscriber MAC address
PPPoE-SID	The PPPoE session ID of this subscriber host
Origin	The origin of this subscriber host
Preference	The preference with respect to other PCC rules
Rule ID	The PCC rule ID
Rule Name	The PCC rule name

pcc-rule

Syntax

pcc rule [**subscriber** *sub-ident-string*]

pcc rule [**subscriber** *sub-ident-string*] **detail**

Context

[Tree] (show>service>active-subscribers pcc-rule)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service active-subscribers pcc-rule

Description

This command specifies the PCC rule.

Parameters

sub-ident-string

Specifies the sub-ident-string, up to 32 characters.

detail

Displays detailed information for the specified PCC rule.

Platforms

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

18.22 pce-associations

pce-associations

Syntax

pce-associations

Context

[Tree] (show>router>pcep>pcc pce-associations)

Full Context

show router pcep pcc pce-associations

Description

Commands in this context display information about PCE associations configured under the PCC.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.23 pcep

pcep

Syntax

pcep

Context

[Tree] (clear>router pcep)

Full Context

clear router pcep

Description

Commands in this context clear PCEP related data.

Platforms

All

pcep

Syntax

pcep

Context

[Tree] (show>router pcep)

Full Context

show router pcep

Description

Commands in this context display PCEP related information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

pcep

Syntax

pcep

Context

[Tree] (tools>dump>router pcep)

Full Context

tools dump router pcep

Description

Commands in this context dump tools for PCEP.

Platforms

All

18.24 pcm

pcm

Syntax

pcm [*pcm-slot*] [**chassis** *chassis-id*] [**detail**]

Context

[Tree] (show pcm)

Full Context

show pcm

Description

This command displays PCM information.

Parameters

pcm-slot

Specifies the PCM slot identifier.

Values 1 to 12

chassis-id

Specifies the chassis ID for the router chassis.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 2

detail

Displays detailed information.

Platforms

7950 XRS-20e

Output

The following output is an example of PCM information.

Output Example: show pcm

```
*A:Dut-A# show pcm
===============================================================================
PCM Summary
===============================================================================
Chassis/   Provisioned Type             Operational    Input      Zone
Slot           Equipped Type (if diff)  State          A B2 A2 B
-------------------------------------------------------------------------------
1/9        (not provisioned)            unprovisioned               1
               (present)
1/10       (not provisioned)            unprovisioned  Y Y   Y Y    1
               quad-pcm
1/11       quad-pcm                     unprovisioned  Y Y   Y Y    1
1/12       quad-pcm                     unprovisioned  Y Y   Y Y    1
```

18.25 pcp-server

pcp-server

Syntax

pcp-server

pcp-server *server-name*

pcp-server *server-name* **statistics interface** *interface-name*

pcp-server *server-name* **statistics**

Context

[Tree] (show>router pcp-server)

Full Context

show router pcp-server

Description

This command displays PCP server information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

server-name

Specifies the PCP server name, up to 32 characters.

statistics

Displays PCP server statistics information.

interface-name

Specifies the interface name, up to 32 characters.

Platforms

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

Output

The following outputs are examples of router PCP server information.

Output Example

```
*A:Dut-C# show router 20 pcp-server "pcp-server-1"
===============================================================================
PCP server "pcp-server-1"
===============================================================================
Description                 : (Not Specified)
Administrative state        : in-service
PCP server policy           : pcp-policy-1
Forwarding Inside Router    : 20
Dual Stack Lite address     : af::1
State                       : in-service
State description           : (Not Specified)
Epoch                       : 19684
Last management change      : 04/07/2020 13:19:34
===============================================================================
Interfaces
-------------------------------------------------------------------------------
toDut-B-lag2
toLinux2
-------------------------------------------------------------------------------
No. of Interface(s): 2
```

```
*A:Dut-C# show router 20 pcp-server "pcp-server-1" statistics
===============================================================================
PCP statistics for interface "toDut-B-lag2"
===============================================================================
Rx opcode "announce"                                    : 0
Rx opcode "map"                                         : 0
Rx opcode "peer"                                        : 0
Rx opcode "get"                                         : 0
Rx opcode unknown                                       : 0
Rx option "third party"                                 : 0
Rx option "prefer failure"                              : 0
Rx option "filter"                                      : 0
Rx option "description"                                 : 0
Rx option "next"                                        : 0
Rx option "port reservation"                            : 0
Rx option unknown                                       : 0
Rx dropped (packet too short)                           : 0
Rx dropped (wrong r bit)                                : 0
Rx dropped (invalid source address)                     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rx dropped (oper down)                                  : 0
Tx result "success"                                     : 6
Tx result "unsupported version"                         : 0
Tx result "not authorized"                              : 0
Tx result "malformed request"                           : 0
Tx result "unsupported opcode"                          : 0
Tx result "unsupported option"                          : 0
Tx result "malformed option"                            : 0
Tx result "network failure"                             : 0
Tx result "no resources"                                : 0
Tx result "unsupported protocol"                        : 0
Tx result "user exceeded quota"                         : 0
Tx result "cannot provide external"                     : 0
Tx result "address mismatch"                            : 0
Tx result "no more mappings"                            : 0
Tx result "ambiguous"                                   : 0
Tx v4                                                   : 2
Tx v6                                                   : 4
Tx dropped (tx error)                                   : 0
===============================================================================
```

pcp-server

Syntax

pcp-server *server-name* **interface** *interface-name* **statistics**

Context

[Tree] (clear>router pcp-server)

Full Context

clear router pcp-server

Description

This command clears NAT PCP server data.

Parameters

server-name

Clears NAT PCP server data for the specified PCP server, up to 32 characters.

interface-name

Clears NAT PCP server data for the specified interface, up to 32 characters.

statistics

Clears NAT PCP server statistics.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

pcp-server

Syntax

pcp-server *server-name*

Context

[Tree] (tools>perform>router pcp-server)

Full Context

tools perform router pcp-server

Description

This command configures performance tools for a specified NAT port control policy server.

Parameters

server-name

Specifies the PCP server name, up to 32 characters.

Platforms

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

18.26 pcp-server-policy

pcp-server-policy

Syntax

pcp-server-policy

pcp-server-policy *name*

Context

[Tree] (show>service>nat pcp-server-policy)

Full Context

show service nat pcp-server-policy

Description

This command displays PCP server policy information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.27 pcs

pcs

Syntax

pcs[**clear**]

Context

[Tree] (tools>dump>port pcs)

Full Context

tools dump port pcs

Description

This command dumps the Physical Coding Sublayer (PCS) information for the port.

Platforms

All

18.28 peak

peak

Syntax

peak

peak application *license-app*

Context

[Tree] (show>system>license-statistics peak)

Full Context

show system license-statistics peak

Description

This command displays peak values of application license statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

license-app

Specifies the application license.

Values lns, nat, sub-mgmt, wlan-gw, aa, ipsec

Platforms

VSR

18.29 peakvalue-stats

peakvalue-stats

Syntax

peakvalue-stats iom (*slot* | **all**) [**recursive**]

peakvalue-stats mda (*mda* | **all**) [**recursive**]

peakvalue-stats port (*port-id* | **all**)

peakvalue-stats pw-port (*pw-port* | **all**)

peakvalue-stats system [**recursive**]

peakvalue-stats service {*svc-id* | **all**} [**recursive**]

peakvalue-stats service {*svc-id*} **subscriber-interface** { *sub-itf* | **all**} [**recursive**]

peakvalue-stats service {*svc-id*} **group-interface** { *grp-itf* | **all**}

Context

[Tree] (clear>subscriber-mgmt peakvalue-stats)

Full Context

clear subscriber-mgmt peakvalue-stats

Description

This command resets the most recent peak enhanced subscriber management counter per port, PW port, MDA, IOM, system, service, subscriber interface, or group interface.

Note:
Clearing one counter will not impact other counters. For example, clearing the most recent peak value for an IOM will not impact chassis peak value.

Parameters

slot

Clears IOM host peak value statistics for the specified IOM.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mda

Clears MDA host peak value statistics for the specified MDA.

port-id

Clears port host peak value statistics for the specified port ID.

pw-port

Clears pseudowire port host peak value statistics for the specified port.

Values 1 to 10239

system

Clears system host peak value statistics.

all

Clears all host peak value statistics.

recursive

Resets the sub-level counters. For example, clearing IOM counters with the **recursive** keyword also clears counters of all port counters on that IOM.

service *svc-id*

Clears service host peak value statistics for the specified service.

Values 1 to 2148278386 | *svc-name*: up to 64 characters

subscriber-interface *sub-itf*

Clears subscriber interface host peak value statistics for the specified subscriber interface, up to 32 characters.

group-interface *grp-itf*

Clears group interface host peak value statistics for the specified group interface, up to 32 characters.

Platforms

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

18.30 peer

peer

Syntax

peer [**peer-profile** *profile-name*] [**local-address** *ip-address*] [**control** *protocol*] [**interface-type** *interface-type*]

peer remote-address {*ip-address* | *ipv6-address*] [**udp-port** *port*] [**dsm-local-ip-address** {*ip-address* | *ipv6-address*}

peer remote-address {*ip-address* | *ipv6-address*] [**udp-port** *port*] **statistics** [**dsm-local-ip-address** { *ip-address* | *ipv6-address*}

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>gtp peer)

Full Context

show router gtp peer

Description

This command displays GTP peer information.

Parameters

profile-name

Specifies the name that identifies the profile.

ip-address

Specifies the local IP address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

protocol

Specifies the control plane protocol used for the connection with this Mobile Gateway.

Values gtpv1-c, gtpv2-c

interface-type

Specifies the interface type used in the context of this peer.

Values gn — Gn interface
s2a — S2a interface
s2b —S2b interface
s11 —S11 interface

ip-address

Specifies the remote IP address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

d - [0 to 255]D

port

Specifies the UDP port.

Values 1 to 65535

statistics

Displays statistics information about the Mobile Gateways connected to this system.

Platforms

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

Output

The following output is an example of peer GTP information.

Output Example

```
Node# show router 10 gtp peer
===============================================================================
Peers
===============================================================================
Remote address              : 192.168.100.1
UDP port                    : 2123
-------------------------------------------------------------------------------
State                       : up
Local address               : 192.0.2.10
Profile                     : default_s11
Control protocol            : gtpv2-c
Interface type              : s11
Restart count               : 1
Time                        : 2018/05/31 11:12:59
-------------------------------------------------------------------------------
No. of Peers: 1
===============================================================================
```

peer

Syntax

peer remote-address *ip-address* [**remote-udp-port** *port*]

peer remote-address *ip-address* [**remote-udp-port** *port*] **statistics**

Context

[Tree] (clear>router>gtp peer)

Full Context

clear router gtp peer

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears all states for a given peer in this routing context. The system no longer sends keep-alive messages to the peer, and all active sessions are terminated.

If the optional statistics parameter is specified, only the peer statistics are cleared and all sessions remain.

Parameters

ip-address

Specifies the IP address of the peer.

Values

ipv4-address: a.b.c.d (host bits must be 0)

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

port

Specifies the UDP port used by the peer.

statistics

Specifies to clear only the peer statistics with all sessions remaining active.

Platforms

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

peer

Syntax

peer *ip-address* [**udp-port** *port*] [**ip**]

peer *ip-address* **statistics**[**udp-port** *port*] [**ip**]

peer [**draining**] [**blacklisted** | **selectable** | **unreachable**]

Context

[Tree] (show>router>l2tp peer)

Full Context

show router l2tp peer

Description

This command displays L2TP peer operational information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

If this command is executed without specifying a peer IP address, a list of all L2TP peers is displayed along with the type of transport used and statistics on the total number of tunnels and sessions, and the number of active tunnels and sessions.

If this command is executed with a specific peer IP address, a detailed view for that peer is displayed.

Parameters

ip-address

Specifies the L2TP peer address.

Values

ipv4-address	a.b.c.d
ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

port

Specifies the UDP port for the L2TP peer. This parameter is only supported with L2TPv2 peers.

Values 1 to 65535

ip

Keyword that displays peers that use IP transport.

statistics

Keyword that displays the statistics for the specified IP address.

draining

Keyword that displays peers with draining tunnels.

blacklisted

Keyword that displays information about the peers deemed unreachable and put in the tunnel selection denylist.

selectable

Keyword that displays peers that are selectable.

unreachable

Keyword that displays peers that are unreachable.

Platforms

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

Output

The following output is an example of L2TP peer operational information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:Dut-A# show router 200 l2tp peer
===============================================================================
L2TP Peers
===============================================================================
Peer IP                                          Port  Tun Active Ses Active
                                  Drain Reachability Tun Total  Ses Total
-------------------------------------------------------------------------------
10.1.1.2                                         ip    1          1
                                                       1          1
-------------------------------------------------------------------------------
No. of peers: 1
===============================================================================

A:Dut-A# show router 200 l2tp peer 10.1.1.2 ip
===============================================================================
Peer IP: 10.1.1.2
===============================================================================
Roles capab/actual: LAC LNS / -  -      Draining          : false
Tunnels           : 1                   Tunnels Active    : 1
Sessions          : 1                   Sessions Active   : 1
Reachability      : reachable           Time Unreachable  : N/A
===============================================================================
Conn ID    Loc-Tu-ID Rem-Tu-ID State              Blacklist-state   Ses Active
  Group                                                             Ses Total
    Assignment
-------------------------------------------------------------------------------
221118464  3374      0         established        not-blacklisted   1
  v3-group-1                                                        1
    tun-1-l2tp-v3
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================

*A:Fden-Dut2-BSA2# show router l2tp peer 10.0.0.1 statistics
===============================================================================
Peer IP: 10.0.0.1
===============================================================================
tunnels                                                 : 1
tunnels active                                          : 1
sessions                                                : 1
sessions active                                         : 1

rx ctrl octets                                          : 541
rx ctrl packets                                         : 5
tx ctrl octets                                          : 272
tx ctrl packets                                         : 5
tx error packets                                        : 0
rx error packets                                        : 0
rx accepted msg                                         : 4
rx duplicate msg                                        : 0
rx out of window msg                                    : 0

acceptedMsgType
  StartControlConnectionRequest                         : 1
  StartControlConnectionConnected                       : 1
  IncomingCallRequest                                   : 1
  IncomingCallConnected                                 : 1
  ZeroLengthBody                                        : 1
originalTransmittedMsgType
  StartControlConnectionReply                           : 1
  IncomingCallReply                                     : 1
  ZeroLengthBody                                        : 3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
last cleared time                                          : N/A
===============================================================================
```

peer

Syntax

peer *ip-address* [**udp-port** *port*] [**ip**]

Context

[Tree] (clear>router>l2tp peer)

Full Context

clear router l2tp peer

Description

This command clears L2TP peer data.

Parameters

ip-address

Clears the peers associated with the specified IP address.

Values

ipv4-address:	a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

port

Clears the peers associated with the specified UDP port.

Values 1 to 65535

Platforms

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

peer

Syntax

peer *ip-address* [**udp-port** *port*] [**ip**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>perform>router>l2tp peer)

Full Context

tools perform router l2tp peer

Description

This command configures performance tools for an L2TP peer.

Parameters

ip-address

Specifies the IP address of the L2TP peer.

port

Specifies the UDP port for the L2TP peer. This parameter is only supported with L2TPv2 peers.

ip

Enables performance tools for peers using IP transport.

Platforms

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

peer

Syntax

peer [*ip-int-name*]

Context

[Tree] (show>router>rip peer)

Full Context

show router rip peer

Description

This command displays RIP peer information.

Parameters

ip-int-name

Displays peer information for the specified IP peer interface name, up to 32 characters.

Default display peers for all interfaces

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

Table 404: Output fields: RIP peer describes the command output fields for a RIP peer.

Table 404: Output fields: RIP peer

Label	Description
Peer IP Addr	The IP address of the peer router.
Interface Name	The peer interface name.
Version	The version of RIP running on the peer.
Last Update	The number of days since the last update.
No. of Peers	The number of RIP peers.

The following output is an example of RIP peer information.

Output Example

```
A:ALA-A# show router rip peers
===============================================================================
RIP Peers
===============================================================================
Peer IP Addr      Interface Name                    Version     Last Update
-------------------------------------------------------------------------------
10.0.5.13         router-2/2                        RIPv2       0
10.0.6.16         router-2/3                        RIPv2       2
10.0.9.14         router-2/5                        RIPv2       8
10.0.10.15        router-2/4                        RIPv2       0
-------------------------------------------------------------------------------
No. of Peers: 4
===============================================================================
A:ALA-A#
```

peer

Syntax

peer [*ip-address*] [**statistics**]

Context

[Tree] (clear>router>ldp peer)

Full Context

clear router ldp peer

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command restarts or clears statistics for LDP targeted peers.

Parameters

ip-address

The IP address of a targeted peer.

statistics

Clears only the statistics for a targeted peer.

Platforms

All

peer

Syntax

peer *ip-address*

Context

[Tree] (tools>dump>router>ldp peer)

Full Context

tools dump router ldp peer

Description

This command dumps information for an LDP peer.

Platforms

All

peer

Syntax

peer [*ip-address*] [**detail**]

Context

[Tree] (show>router>pcep>pcc peer)

Full Context

show router pcep pcc peer

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the PCEP peer information.

Parameters

ip-address

Specifies the IP address.

Values a.b.c.d

detail

Specifies detailed information.

Platforms

All

Output

PCEP Peer Output

Table 405: Output fields: PCEP peer describes PCEP Peer output fields.

Output Example

```
*A:cses-V23# show router pcep pcc peer
===============================================================================
PCEP Path Computation Client (PCC) Peer Info
===============================================================================
IP Address             : 192.168.0.10
Admin Status           : Down            Oper Status             : Down
Peer Capabilities      : (Not Specified)
Speaker ID             : (Undefined)
Sync State             : not-initialized Peer Overloaded         : False
Session Establish Time: 0d 00:00:00
Oper Keepalive         : N/A             Oper DeadTimer          : N/A
===============================================================================
```

Table 405: Output fields: PCEP peer

Label	Description
IP Address	Specifies the IP address.
Peer Capabilities	Specifies the peer capabilities.
Speaker ID	Specifies the sender IP address.
Sync State	Specifies the synchronization state.
Peer Overload	Specifies the peer overload.
Session Establish Time	Specifies the session establish time.
Oper Keepalive	Specifies the operational keepalive value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper DeadTimer	Specifies the operational dead timer value.

peer

Syntax

peer [*ip-address*] [**group** *group-name*] [**detail**]

Context

[Tree] (show>router>msdp peer)

Full Context

show router msdp peer

Description

This command displays information about an MSDP peer.

Parameters

ip-address

Displays information about the specified IP address. If no IP address specified, information about all MSDP IP addresses display.

group *group-name*

Displays information about the specified group name, up to 32 characters. If no *group-name* is specified, information about all MSDP peers display.

detail

Keyword to displays detailed MSDP peer information.

Platforms

All

Output

The following output is an example of MSDP peer information, and Table 406: Output fields: MSDP peer describes the output fields.

Output example

```
A:ALA-48# show router msdp peer
===============================================================================
MSDP Peers
===============================================================================
Peer            Local Address    State       Last State Change     SA Learnt
-------------------------------------------------------------------------------
10.20.1.1       10.20.1.6        Established 08/30/2002 03:22:131008
-------------------------------------------------------------------------------
Peers : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
A:ALA-48#


A:ALA-48# show router msdp peer detail
===============================================================================
MSDP Peers
-------------------------------------------------------------------------------
Peer Address       : 10.20.1.1
-------------------------------------------------------------------------------
Group Name         : None
Local Address      : 10.20.1.6
Last State Change  : 08/30/2002 03:22:13 Last Act Src Limit : N/A
Peer Admin State   : Up                 Default Peer       : No
Peer Connect Retry : 0                  State              : Established
SA accepted        : 1008               SA received        : 709
State timer expires: 18                 Peer time out      : 62
Active Source Limit: None               Receive Msg Rate   : 0
Receive Msg Time   : 0                  Receive Msg Thd    : 0
Auth Status        : Disabled           Auth Key           : None
Export Policy      : None Specified / Inherited
Import Policy      : None Specified / Inherited
-------------------------------------------------------------------------------
Peers : 1
===============================================================================
A:ALA-48#
```

Table 406: Output fields: MSDP peer

Label	Description
Peer	The IP address of the peer
Group Name	The name of the group associated with the peer
Local Address	The local IP address
State	The current state of the peer
Last State Change	The date and time of the last state change of the peer
Last Act Src Limit	The date and time when the active source limit was reached for messages received by the peer
SA Learnt	The number of SAs learned through a peer
Peer Admin State	The administrative state of the MSDP peer
Default Peer	The default peer configuration status
Peer connect retry	The number of connection attempts to the peer
SA accepted	The number of SA messages accepted from the peer
SA received	The total number of SA messages received from the peer
Active Source Limit	The active source message limit
Receive Msg Rate	The rate that the messages are read from the TCP session

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Receive Msg Time	The time of MSDP messages that are read from the TCP session within the configured number of seconds
Receive Msg Thd	The configured threshold number of MSDP messages that can be processed before the MSDP message rate limiting function
Auth status	The authentication status of the peer
Auth Key	The authentication key for the peer
Export Policy	The export policy specified for the group
Import Policy	The import policy specified for the group

peer

Syntax

peer *ip-address* [**router** *router-instance* | **service-name** *service-name*] [**detail**]

Context

[Tree] (show>system>ptp peer)

Full Context

show system ptp peer

Description

This command displays PTP information for a specific peer.

Parameters

ip-address

Specifies the IPv4 or IPv6 address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

router-instance

Displays the information for the specified router instance.

Values router-name – Base

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

vprn-svc-id – 1 to 2147483647

service-name

Specifies the service name, up to 64 characters, used to identify the router instance.

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of IPv6 peer information, and Table 407: Output fields: PTP peer router detail describes the output fields.

Output Example

```
show system ptp peer 1.1.1.1
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router            : Base
IP Address        : 1.1.1.1
Announce Direction: rx
Admin State       : up                 G.8275 Priority    : 128
Sync Interval     : 64 pkt/s
Local PTP Port    : 1                  PTP Port State     : master
monitorReceiver   : false
Clock Id          : ca45fffffe000000   Remote PTP Port    : 1
GM Clock Id       : ca45fffffe000000   GM Clock Class     : 6
GM Clock Accuracy : within 100 ns      GM Clock Variance  : 0x4e5d (1.8E-15)
GM Clock Priority1: 128                GM Clock Priority2 : 128
Steps Removed     : 0
Alarms            : ptsfLossOfTimingMsgs
Tx Timestamp Point: port               Rx Timestamp Point : port
Last Tx Port      : 1/4/2              Last Rx Port       : 1/4/2
Port Asymmetry    : 0 ns               Port Asymmetry     : 0 ns
Best Master       : no                 Parent Clock       : no
Backup Source     : yes
Monitor Time State: acquiring                      Changed: 2023/05/29 13:57:36
Last Packet Offset From Master  : +1 ns          Last Calc: 2021/09/02 12:41:13
Last Packet Mean Path Delay     : +15 ns         Last Calc: 2021/09/02 12:41:13
APTS Asymmetry    : +140,737,488 ms    Last Calc          : 2023/05/29 13:57:36
Profile Name      : Primary
Profile           : ITU-T G.8275.2     Domain             : 44
===============================================================================
```

The following output is an example of detailed IPv6 peer information, and Table 407: Output fields: PTP peer router detail describes the output fields.

Output Example

```
show system ptp peer router detail
```

```
===============================================================================
IEEE 1588/PTP Peer Information
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Router Instance   : 5
IP Address        : 1111:2222:3333:4444:5555:70:1:4
Announce Direction : rx+tx
Admin State       : up                G.8275 Priority    : 128
Sync Interval     : 64 pkt/s
Local PTP Port    : 1                 PTP Port State     : master
Clock Id          : ac5dfffffe000000  Remote PTP Port    : 2
GM Clock Id       : ac5cfffffe000000  GM Clock Class     : 6
GM Clock Accuracy : within 100 ns     GM Clock Variance  : 0x4e5d (1.8E-15)
GM Clock Priority1: 128               GM Clock Priority2 : 128
Steps Removed     : 1                 Parent Clock       : no
Alarms            : ptsfLossOfTimingMsgs
Tx Timestamp Point: port              Rx Timestamp Point : port
Last Tx Port      : 1/4/2             Last Rx Port       : 1/4/2
Port Asymmetry    : 0 ns              Port Asymmetry     : 0 ns
Best Master       : no                Parent Clock       : no
Backup Source     : yes
APTS Asymmetry    : +140 ns           Last Calc          : 2023/05/29 13:57:36
Profile Name      : Primary
Profile           : ITU-T G.8275.2    Domain             : 44
===============================================================================

===============================================================================
IEEE 1588/PTP Unicast Negotiation Information
===============================================================================
IP Address
                Dir Type       Rate       Duration State    Time
-------------------------------------------------------------------------------
1111:2222:3333:4444:5555:70:1:4
                Rx  Announce   1 pkt/2 s  300      Granted  09/01/2010 17:23:04
1111:2222:3333:4444:5555:70:1:4
                Tx  Announce   1 pkt/2 s  300      Granted  09/01/2010 17:23:04
===============================================================================

===============================================================================
IEEE 1588/PTP Packet Statistics
===============================================================================
                                                              Input     Output
-------------------------------------------------------------------------------
PTP Packets                                                     253         11
  Announce                                                      243          1
  Sync                                                            0          0
  Follow Up                                                       0          0
  Delay Request                                                   0          0
  Delay Response                                                  0          0
  Signaling                                                      10         10
    Request TLVs                                                  6          4
      Announce                                                    6          4
      Sync                                                        0          0
      Delay Response                                              0          0
    Grant TLVs (Granted)                                          4          6
      Announce                                                    4          6
      Sync                                                        0          0
      Delay Response                                              0          0
    Grant TLVs (Rejected)                                         0          0
      Announce                                                    0          0
      Sync                                                        0          0
      Delay Response                                              0          0
    Cancel TLVs                                                   0          0
      Announce                                                    0          0
      Sync                                                        0          0
      Delay Response                                              0          0
    Ack Cancel TLVs                                               0          0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      Announce                                                    0          0
      Sync                                                        0          0
      Delay Response                                              0          0
    Other TLVs                                                    0          0
  Other                                                           0          0
Discards                                                          0          0
  Bad PTP domain                                                  0          0
  Alternate Master                                                0          0
  Out Of Sequence                                                 0          0
  Peer Disabled                                                   0          0
  Other                                                           0          0
===============================================================================
```

The following output is an example of detailed IPv4 peer information, and Table 407: Output fields: PTP peer router detail describes the output fields.

Output Example

```
show system ptp peer router detail
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router Instance   : 5
IP Address        : 6.1.1.2
Announce Direction: rx
Admin State       : up                 G.8275 Priority    : 128
Sync Interval     : 64 pkt/s
Local PTP Port    : 2                  PTP Port State     : master
Clock Id          : ac5dfffffe000000   Remote PTP Port    : 2
GM Clock Id       : ac5cfffffe000000   GM Clock Class     : 6
GM Clock Accuracy : within 100 ns      GM Clock Variance  : 0x4e5d (1.8E-15)
GM Clock Priority1: 128                GM Clock Priority2 : 128
Steps Removed     : 0
Alarms            : ptsfLossOfTimingMsgs
Tx Timestamp Point: port               Rx Timestamp Point : port
Last Tx Port      : 1/1/2              Last Rx Port       : 1/1/2
Port Asymmetry    : 0 ns               Port Asymmetry     : 0 ns
Best Master       : no                 Parent Clock       : no
Backup Source     : yes
APTS Asymmetry    : +140 ns            Last Calc          : 2023/05/29 13:57:36
Profile Name      : Primary
Profile           : ITU-T G.8275.2     Domain             : 44
===============================================================================
===============================================================================
IEEE 1588/PTP Unicast Negotiation Information
===============================================================================
IP Address      Dir Type       Rate       Duration State    Time
-------------------------------------------------------------------------------
6.1.1.2         Rx  Announce   1 pkt/2 s  300      Granted  09/01/2010 17:23:04
6.1.1.2         Tx  Announce   1 pkt/2 s  300      Granted  09/01/2010 17:23:04
===============================================================================
===============================================================================
IEEE 1588/PTP Packet Statistics
===============================================================================
                                                              Input     Output
-------------------------------------------------------------------------------
PTP Packets                                                     253         11
  Announce                                                      243          1
  Sync                                                            0          0
  Follow Up                                                       0          0
  Delay Request                                                   0          0
  Delay Response                                                  0          0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Signaling                                                    10         10
    Request TLVs                                               6          4
      Announce                                                 6          4
      Sync                                                     0          0
      Delay Response                                           0          0
    Grant TLVs (Granted)                                       4          6
      Announce                                                 4          6
      Sync                                                     0          0
      Delay Response                                           0          0
    Grant TLVs (Rejected)                                      0          0
      Announce                                                 0          0
      Sync                                                     0          0
      Delay Response                                           0          0
    Cancel TLVs                                                0          0
      Announce                                                 0          0
      Sync                                                     0          0
      Delay Response                                           0          0
    Ack Cancel TLVs                                            0          0
      Announce                                                 0          0
      Sync                                                     0          0
      Delay Response                                           0          0
    Other TLVs                                                 0          0
  Other                                                        0          0
Discards                                                       0          0
  Bad PTP domain                                               0          0
  Alternate Master                                             0          0
  Out Of Sequence                                              0          0
  Peer Disabled                                                0          0
  Other                                                        0          0
===============================================================================
```

Table 407: Output fields: PTP peer router detail

Label	Description
IEEE 1588/PTP Peer Information	
Router	The name of the router instance
IP Address	The IP address of the PTP peer
Announce Direction	The direction from which PTP announce messages were sent or received
Admin State	The administrative state of the PTP peer
G.8275 Priority	The priority used in the BTCA for the local port when the clock profile is G.8275.1 or G.8275.2
Sync Interval	The message rate for Sync messages for this peer
Local PTP Port	The number of local PTP ports
PTP Port State	The state of the PTP port
monitorReceiver	The monitorReceiver state
Clock Id	The clockIdentity value of the local PTP clock

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Remote PTP Port	The number of remote PTP ports
GM Clock Id	The clockIdentity value of the grandmaster clock advertised by the parent clock
GM Clock Class	The clockClass value of the grandmaster clock advertised by the parent clock
GM Clock Accuracy	The clockAccuracy value of the grandmaster clock advertised by the parent clock
GM Clock Variance	The offsetScaledLogVariance value of the grandmaster clock advertised by the parent clock
GM Clock Priority1	The priority1 value of the grandmaster clock advertised by the parent clock
GM Clock Priority2	The priority2 value of the grandmaster clock advertised by the parent clock
Steps Removed	The number of steps removed the PTP peer is from a grandmaster clock
Alarms	The alarm conditions raised against the PTP peer. ptsfLossOfTimingMsgs — the local clock is not receiving timing messages from the neighbor clock
Tx Timestamp Point	The transmit timestamp point
Rx Timestamp Point	The receive timestamp point
Last Tx Port	The *port-id* of the last port from which a synchronization packet was transmitted
Last Rx Port	The *port-id* of the last port into which a synchronization packet was received
Port Asymmetry	The configured asymmetry for the port (either Tx or Rx port)
Best Master	Indicates if this peer was selected as the best master clock by the BTCA
Parent Clock	Indicates if this is the parent clock. May differ from the Best Master if there is a local GNSS.
Backup Source	Indicates if this port is operating as a backup slave to the parent clock
Monitor Time State	Time recovery state of the monitored PTP port or peer
Last Packet Offset from Master	The offsetFromMaster calculated from the last packet exchange with the parent clock

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Last Packet Mean Path Delay	The meanPathDelay calculated from the last packet exchange with the parent clock
APTS Asymmetry	The asymmetry computed by the backup source. This is used to compensate if the clock switches to this backup.
Offset from LclClk	The offset from master computed by the PTP source. This is the difference between the backup PTP source and the local clock set by the GNSS. This is similar to APTS Asymmetry but when using G.8275.1 profile.
Last Calc	The date and time at which the APTS Asymmetry or Offset from LclClk was last updated
Profile Name	The profile in use with this peer
Profile	The underlying standard profile used in the profile identified by profile name
Domain	The domain number used for this peer
IEEE 1588/PTP Unicast Negotiation Information	
Dir	The direction (transmitted or received) of the unicast negotiation packet
Type	The unicast negotiation packet type
Rate	The rate of packet transmission or reception
Duration	The duration of the packet transmission or reception interval, in seconds
State	The state of the negotiation
Time	The date and time that the negotiation state was changed
IEEE 1588/PTP Packet Statistics	
Input	The number of input packets within the specified category
Output	The number of output packets within the specified category

peer

Syntax

peer *ip-address* [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id>ptp peer)

Full Context

show service id ptp peer

Description

This command displays PTP information for a specific peer.

Parameters

ip-address

Specifies the IP address.

Values a.b.c.d

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following command displays PTP information for a single peer and Table 408: Output fields: service PTP peer describes the output fields.

```
show service id ptp peer detail
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router Instance   : 5
IP Address        : 6.1.1.2           Announce Direction : rx+tx
Admin State       : up                G.8265.1 Priority  : n/a
Sync Interval     : 64 pkt/s
Local PTP Port    : 2                 PTP Port State     : passive
Clock Id          : ac5dfffffe000000  Remote PTP Port    : 2
GM Clock Id       : ac5cfffffe000000  GM Clock Class     : 13
GM Clock Accuracy : 0xfe (unknown)    GM Clock Variance  : ffff (not computed)
GM Clock Priority1: 128               GM Clock Priority2 : 128
Steps Removed     : 1                 Parent Clock       : no
Tx Timestamp Point: port              Rx Timestamp Point : port
Last Tx Port      : 1/1/2             Last Rx Port       : 1/1/2
===============================================================================
===============================================================================
IEEE 1588/PTP Unicast Negotiation Information
===============================================================================
IP Address      Dir Type       Rate       Duration State    Time
-------------------------------------------------------------------------------
6.1.1.2         Rx  Announce   1 pkt/2 s  300      Granted  09/01/2010 17:23:04
6.1.1.2         Tx  Announce   1 pkt/2 s  300      Granted  09/01/2010 17:23:04
===============================================================================
===============================================================================
IEEE 1588/PTP Packet Statistics
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
                                                    Input              Output
-------------------------------------------------------------------------------
PTP Packets                                           253                  11
  Announce                                            243                   1
  Sync                                                  0                   0
  Follow Up                                             0                   0
  Delay Request                                         0                   0
  Delay Response                                        0                   0
  Signaling                                            10                  10
    Request TLVs                                        6                   4
      Announce                                          6                   4
      Sync                                              0                   0
      Delay Response                                    0                   0
    Grant TLVs (Granted)                                4                   6
      Announce                                          4                   6
      Sync                                              0                   0
      Delay Response                                    0                   0
    Grant TLVs (Rejected)                               0                   0
      Announce                                          0                   0
      Sync                                              0                   0
      Delay Response                                    0                   0
    Cancel TLVs                                         0                   0
      Announce                                          0                   0
      Sync                                              0                   0
      Delay Response                                    0                   0
    Ack Cancel TLVs                                     0                   0
      Announce                                          0                   0
      Sync                                              0                   0
      Delay Response                                    0                   0
    Other TLVs                                          0                   0
  Other                                                 0                   0
Discards                                                0                   0
  Bad PTP domain                                        0                   0
  Alternate Master                                      0                   0
  Out Of Sequence                                       0                   0
  Peer Disabled                                         0                   0
  Other                                                 0                   0
===============================================================================
```

Table 408: Output fields: service PTP peer

Label	Description
IEEE 1588/PTP Peer Information	
Router	The name or ID of the router instance
IP Address	The IP address of the PTP peer
Announce Direction	The configured directions (transmit, receive, or both) for Announce messages
Admin State	The administrative state of the PTP peer
G.8265.1 Priority	Displays if the G.8265.1 profile has priority
Local PTP Port	The local PTP port number
PTP Port State	The PTP port state

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Clock ID	The ID of the referenced clock
Remote PTP Port	The remote PTP port number
GM Clock Id	The clockIdentity value of the grandmaster clock advertised by the parent clock
GM Clock Class	The clockClass value of the grandmaster clock advertised by the parent clock
GM Clock Accuracy	The clockAccuracy value of the grandmaster clock advertised by the parent clock
GM Clock Variance	The offsetScaledLogVariance value of the grandmaster clock advertised by the parent clock
GM Clock Priority1	The priority1 value of the grandmaster clock advertised by the parent clock
GM Clock Priority2	The priority2 value of the grandmaster clock advertised by the parent clock
Steps Removed	The number of steps removed the PTP peer is from a grandmaster clock
Parent Clock	Displays whether a parent clock is referenced
IEEE 1588/PTP Unicast Negotiation Information	
IP Address	The IP address of the PTP peer
Dir	The direction (transmitted or received) of the unicast negotiation packet
Type	The unicast negotiation packet type
Rate	The rate of packet transmission or reception
Duration	The duration of the packet transmission or reception interval, in seconds
State	The state of the negotiation
Time	The date and time that the negotiation state was changed
IEEE 1588/PTP Packet Statistics	
Input	The number of input packets within the specified category
Output	The number of output packets within the specified category
PTP Packets	The total number of PTP packets across all PTP packet categories

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Announce	The number of PTP Announce packets
Sync	The number of PTP Sync packets
Follow Up	The number of PTP Follow Up packets
Delay Request	The number of PTP Delay Request packets
Delay Response	The number of PTP Delay Response packets
Signaling	The number of PTP signaling packets
Request TLVs	The total number of Request TLV packets of all types (Announce, Sync, and Delay Response)
Grant TLVs (Granted)	The total number of granted Grant TLV packets of all types (Announce, Sync, and Delay Response)
Grant TLVs (Rejected)	The total number of rejected Grant TLV packets of all types (Announce, Sync, and Delay Response)
Cancel TLVs	The total number of Cancel TLV packets of all types (Announce, Sync, and Delay Response)
Ack Cancel TLVs	The total number of Ack Cancel TLV packets of all types (Announce, Sync, and Delay Response)
Announce	The number of Announce packets of the specified TLV category
Sync	The number of Sync packets of the specified TLV category
Delay Response	The number of Delay Response packets of the specified TLV category
Other TLVs	The total number of other TLV packets that do not match the other categories or types
Other	The number of PTP packets that do not match the other categories or types
Discards	The total number of discarded packets across all categories
Bad PTP domain	The number of packets discarded because of a bad PTP domain
Alternate Master	The number of packets discarded because of an alternate master being referenced
Out of Sequence	The number of out-of-sequence packets discarded

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Peer Disabled	The number of packets discarded because of the peer being disabled
Other	The number of packets discarded for reasons not matching the other categories or types

peer

Syntax

peer *ip-address*

Context

[Tree] (clear>redundancy>multi-chassis>mcr>statistics peer)

Full Context

clear redundancy multi-chassis mc-ring statistics peer

Description

This command clears multi-chassis ring peer statistics.

Parameters

ip-address

Clears ring peer statistics for the specified IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

Platforms

All

peer

Syntax

peer *ip-address* [**router** *router-instance* | **service name** *service-name*] **statistics**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>system>ptp peer)

Full Context

clear system ptp peer

Description

This command clears PTP peer information.

Parameters

ip-address

Specifies the IPv4 or IPv6 address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

router-instance

Clears information that is specific to a virtual router instance, up to 32 characters.

service-name

Clears information that is specific to a service name, up to 64 characters.

statistics

Clears statistics information of the specified IP address.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

peer

Syntax

peer [*ip-int-name*]

Context

[Tree] (show>router>ripng peer)

Full Context

show router ripng peer

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays RIPng peer information.

Parameters

ip-int-name

Displays peer information for peers on the specified IPv6 interface.

Default Display peers for all interfaces

Platforms

All

Output

The following output is an example of RIPng peer information.

Output Example

```
*A:Dut-C>config>router>if# show router ripng peer
===============================================================================
RIP-NG Peers
===============================================================================
Peer IP Addr                                        Version     Last Update
  Interface Name
-------------------------------------------------------------------------------
fe80::6629:ffff:fe00:0                              ripNg-v1    0
  one
fe80::6629:ffff:fe00:0                              ripNg-v1    0
  two
fe80::6629:ffff:fe00:0                              ripNg-v1    0
  three
fe80::6629:ffff:fe00:0                              ripNg-v1    0
  four
-------------------------------------------------------------------------------
No. of Peers: 4
===============================================================================
*A:Dut-C>config>router>if# show router ripng peer "one"
===============================================================================
RIP-NG Peers
===============================================================================
Peer IP Addr                                        Version     Last Update
  Interface Name
-------------------------------------------------------------------------------
fe80::6629:ffff:fe00:0                              ripNg-v1    0
  one
-------------------------------------------------------------------------------
No. of Peers: 1
===============================================================================
```

peer

Syntax

peer [**peer-address** {*ip-address* | *ipv6-address*}] [**router** *router-instance*] [**local-address** {*ip-address* | *ipv6-address*}]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>subscr-mgmt>pfcp peer)

Full Context

show subscriber-mgmt pfcp peer

Description

This command displays connectivity details for a specific PFCP connection to a peer and the PFCP association to which the peer is linked. Multiple connections can exist per PFCP association.

Parameters

ip-address

Specifies the peer or local IPv4 address.

Values a.b.c.d

ipv6-address

Specifies the peer or local IPv6 address.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

router-instance

Specifies the identifier of the router where the peer is terminated.

Values *router-name* – base

vprn-svc-id – 1 to 2147483647

Platforms

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

Output

The following output is an example of output of the **show subscriber-mgmt PFCP peer** command.

Output Example

```
A:BNG-UPF# show subscriber-mgmt pfcp peer
===============================================================================
PFCP Peers
===============================================================================
Peer router                 : 990002
Peer Address                : 17.17.17.10
Local Address               : 192.0.2.11
Association                 : bng-cpf
Path Mgmt State             : up
Restoration Timer Expiry    : (Not Specified)
Restart Reason              : none
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of PFCP Peers: 1
===============================================================================
```

peer

Syntax

peer *ip-address* **statistics**

Context

[Tree] (clear>service>id>ptp peer)

Full Context

clear service id ptp peer

Description

This command clears PTP peer information.

Parameters

ip-address

Specifies the IP address.

Values a.b.c.d

statistics

Clears statistics information of the specified peer.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

peer

Syntax

peer *[ip-address]* **statistics**

Context

[Tree] (clear>router>pcep>pcc peer)

Full Context

clear router pcep pcc peer

Description

This command clears PCEP PCC peer statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-address

Specifies the IP address.

Values a.b.c.d

statistics

Clears PCEP PCC peer statistics.

Platforms

All

18.31 peer-profile

peer-profile

Syntax

peer-profile [*profile-name*]

peer-profile *profile-name* **associations**

Context

[Tree] (show>subscr-mgmt>gtp peer-profile)

Full Context

show subscriber-mgmt gtp peer-profile

Description

This command displays GTP peer profile information.

Parameters

profile-name

Specifies the name that identifies the profile.

associations

Specifies the associated contexts for the specified peer profile.

Platforms

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

Output

The following output is an example of GTP peer profile information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
Node# show subscriber-mgmt gtp peer-profile
===============================================================================
GTP peer profiles
===============================================================================
Name                            Description
-------------------------------------------------------------------------------
default                          (Not Specified)
default_s11                      (Not Specified)
-------------------------------------------------------------------------------
No. of profiles: 2
===============================================================================
Node# show subscriber-mgmt gtp peer-profile "default_s11"
===============================================================================
GTP peer profile "default_s11"
===============================================================================
Description                 : (Not Specified)
Retransmit timeout (s)      : 5
Retransmit retries          : 3
Keepalive interval (s)      : 60
Keepalive retries           : 4
Keepalive retry timeout (s) : 5
Time to live                : 255
IPv4 MTU                    : 1400
Interface type              : s11
Charging char home UE       : (None)
Charging char roaming UE    : (None)
Session hold time (s)       : 30
Report WLAN location        : disabled
Procotol Config Options I.E.: pco
Python policy               : (Not Specified)
Radio Access Technology type: wlan
Last management change      : 05/31/2018 11:05:46
GGSN uplink GBR (Kbps)      : 5000
GGSN uplink MBR (Kbps)      : 5000
GGSN downlink GBR (Kbps)    : 2000
GGSN downlink MBR (Kbps)    : 2000
GGSN Alloc/Retention Prio   : 1
GGSN uplink AMBR (Kbps)     : (Not Specified)
GGSN downlink AMBR (Kbps)   : (Not Specified)
GGSN last management change : 05/31/2018 11:05:46
PGW uplink GBR (Kbps)       : 0
PGW uplink MBR (Kbps)       : 0
PGW downlink GBR (Kbps)     : 0
PGW downlink MBR (Kbps)     : 0
PGW Alloc/Retention Prio    : 1
PGW Qos Class ID            : 8
PGW uplink AMBR (Kbps)      : 10000
PGW downlink AMBR (Kbps)    : 20000
PGW last management change  : 05/31/2018 11:05:46
MME uplink GBR (Kbps)       : 0
MME uplink MBR (Kbps)       : 0
MME downlink GBR (Kbps)     : 0
MME downlink MBR (Kbps)     : 0
MME Alloc/Retention Prio    : 1
MME Qos Class ID            : 8
MME uplink AMBR (Kbps)      : 10000
MME downlink AMBR (Kbps)    : 20000
MME last management change  : 05/31/2018 11:05:46
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.32 peer-profile-map

peer-profile-map

Syntax

peer-profile-map

Context

[Tree] (show>router>gtp>s11 peer-profile-map)

Full Context

show router gtp s11 peer-profile-map

Description

This command displays the peer profile mapping that is used to connect to S11 peers.

Platforms

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

Output

The following output is an example of GTP peer profile map information.

Output Example

```
Node# show router 20 gtp s11 peer-profile-map
===============================================================================
Peer profile map
===============================================================================
Address prefix                          Profile
-------------------------------------------------------------------------------
0.0.0.0/0                               default_s11
192.2.0.0/24                            specific_profile
-------------------------------------------------------------------------------
No. of address prefixes: 2
===============================================================================
```

peer-profile-map

Syntax

peer-profile-map

Context

[Tree] (show>router>gtp>uplink peer-profile-map)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router gtp uplink peer-profile-map

Description

This command displays the peer profile map.

Platforms

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

18.33 peers

peers

Syntax

peers [**router** *router-instance* | **service-name** *service-name*] [**detail**]

Context

[Tree] (show>system>ptp peers)

Full Context

show system ptp peers

Description

This command displays summary information for all the PTP peers.

Parameters

router-instance

Displays only the information for a specific router instance.

Values router-name – Base
vprn-svc-id – 1 to 2147483647

service-name

Specifies the service name, up to 64 characters, used to identify the router instance.

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following command displays PTP peers information and Table 409: Output fields: PTP peers describes the output fields.

```
show system ptp peers
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router
  IP Address
                            Anno Flow Admin State PTP Port State Parent Clock
-------------------------------------------------------------------------------
Base
  1.4.1.21
                            tx        n/a         master         no
1
  1111:2222:3333:4444:5555:70:1:4
                            rx+tx     up          master         no
  1111:2222:3333:4444:5555:70:1:5
                            rx        up          slave          yes
2
  1.1.1.21
                            tx        n/a         master         no
-------------------------------------------------------------------------------
No. of PTP Peers: 4
===============================================================================
```

The following command displays PTP peers router information and Table 409: Output fields: PTP peers describes the output fields.

```
show system ptp peers router Base
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router
  IP Address
                            Anno Flow Admin State PTP Port State Parent Clock
-------------------------------------------------------------------------------
Base
  1.4.1.21
                            tx        n/a         master         no
-------------------------------------------------------------------------------
No. of PTP Peers: 1
===============================================================================
```

The following command displays PTP peers router information and Table 409: Output fields: PTP peers describes the output fields.

```
show system ptp peers router
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router
  IP Address                Anno Flow Admin State PTP Port State Parent Clock
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1
  1111:2222:3333:4444:5555:70:1:4
                            rx+tx     up          master         no
  1111:2222:3333:4444:5555:70:1:5
                            rx        up          slave          yes
-------------------------------------------------------------------------------
No. of PTP Peers: 2
===============================================================================
```

The following command displays detailed PTP peers information and Table 409: Output fields: PTP peers describes the output fields.

```
show system ptp peers detail
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router            : Base
IP Address        : 1.4.1.21
Announce Direction: tx
Admin State       : n/a               G.8265.1 Priority  : n/a
Local PTP Port    : 3                 PTP Port State     : master
Clock Id          : ac65fffffe000000  Remote PTP Port    : 1
-------------------------------------------------------------------------------
Router            : 1
IP Address        : 1111:2222:3333:4444:5555:70:1:4
Announce Direction: rx+tx
Admin State       : up                G.8265.1 Priority  : n/a
Local PTP Port    : 2                 PTP Port State     : master
Clock Id          : ac5effffe000000   Remote PTP Port    : 1
-------------------------------------------------------------------------------
Router            : 1
IP Address        : 1111:2222:3333:4444:5555:70:1:4
Announce Direction: rx
Admin State       : up                G.8265.1 Priority  : n/a
Local PTP Port    : 1                 PTP Port State     : slave
Clock Id          : ac5dfffffe000000  Remote PTP Port    : 1
GM Clock Id       : ac5dfffffe000000  GM Clock Class     : 13
GM Clock Accuracy : unknown           GM Clock Variance  : ffff (not computed)
GM Clock Priority1: 0                 GM Clock Priority2 : 128
Steps Removed     : 0                 Parent Clock       : yes
-------------------------------------------------------------------------------
Router            : 2
IP Address        : 1.1.1.21
Announce Direction: tx
Admin State       : n/a               G.8265.1 Priority  : n/a
Local PTP Port    : 4                 PTP Port State     : master
Clock Id          : ac65fffffe000000  Remote PTP Port    : 1
===============================================================================
```

The following command displays detailed PTP peers router information and Table 409: Output fields: PTP peers describes the output fields.

```
show system ptp peers router detail
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router            : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IP Address        : 1.2.1.20
Announce Direction: rx+tx
Admin State       : up                 G.8265.1 Priority  : n/a
Local PTP Port    : 2                  PTP Port State     : master
Clock Id          : ac5effffe000000    Remote PTP Port    : 1
-------------------------------------------------------------------------------
Router            : 1
IP Address        : 1.3.1.19
Announce Direction: rx
Admin State       : up                 G.8265.1 Priority  : n/a
Local PTP Port    : 1                  PTP Port State     : slave
Clock Id          : ac5dfffffe000000   Remote PTP Port    : 1
GM Clock Id       : ac5dfffffe000000   GM Clock Class     : 13
GM Clock Accuracy : unknown            GM Clock Variance  : ffff (not computed)
GM Clock Priority1: 0                  GM Clock Priority2 : 128
Steps Removed     : 0                  Parent Clock       : yes
===============================================================================
```

Table 409: Output fields: PTP peers

Label	Description
Router	The name of the router instance
IP Address	The IP address of the PTP peer
Announce Direction Anno Flow	The direction from which PTP announce messages were sent or received
Admin State	The administrative state of the PTP peer
G.8275 Priority	The priority used in the best master clock algorithm (BMCA) for the local PTP port when the clock profile is G.8275.*x*
Sync Interval	The network synchronization interval, in packets per second
Local PTP Port	The number of local PTP ports
PTP Port State	The state of the PTP port
Clock Id	The clockIdentity value of the local PTP clock
Remote PTP Port	The number of remote PTP ports
GM Clock Id	The clockIdentity value of the grandmaster clock advertised by the parent clock
GM Clock Class	The clockClass value of the grandmaster clock advertised by the parent clock
GM Clock Accuracy	The clockAccuracy value of the grandmaster clock advertised by the parent clock
GM Clock Variance	The offsetScaledLogVariance value of the grandmaster clock advertised by the parent clock

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
GM Clock Priority1	The priority1 value of the grandmaster clock advertised by the parent clock
GM Clock Priority2	The priority2 value of the grandmaster clock advertised by the parent clock
Steps Removed	The number of steps removed the PTP peer is from a grandmaster clock
Last Tx Port	The *port-id* of the last port from which a synchronization packet was transmitted
Last Rx Port	The *port-id* of the last port into which a synchronization packet was received
Port Asymmetry	The asymmetry value of the PTP peer, in nanoseconds
Best Master	Whether the clock has been deemed to be the best master clock
Parent Clock	Whether there is an external parent clock
APTS Asymmetry	The APTS asymmetry value of the PTP peer, in nanoseconds
Last Calc	The date and time of the last asymmetry value calculation
Profile Name	The name of the alternate profile configuration. If an alternate profile is not configured, Primary is displayed as the profile name.
Profile	The PTP profile used for the alternate profile configuration. • g8275dot1-2014 — The PTP profile specified in the ITU-T G.8275.1 recommendation. • g8275dot2-2016 — The PTP profile specified in the ITU-T G.8275.2 recommendation.
Domain	The domain in which PTP 1588 runs on the system.

peers

Syntax

peers [**detail**]

Context

[Tree] (show>service>id>ptp peers)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id ptp peers

Description

This command displays summary information for all the PTP peers.

Parameters

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following command displays PTP information for all peers.

```
show service id ptp peers
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router
  IP Address
                            Anno Flow Admin State PTP Port State Parent Clock
-------------------------------------------------------------------------------
1
  1.2.1.20
                            rx+tx     up          master         no
  1.3.1.19
                            rx        up          slave          yes
-------------------------------------------------------------------------------
No. of PTP Peers: 4
===============================================================================
```

The following command displays detailed PTP information for all peers.

```
show service id ptp peers detail
```

```
===============================================================================
IEEE 1588/PTP Peer Information
===============================================================================
Router            : 1
IP Address        : 1.2.1.20
Announce Direction: rx+tx
Admin State       : up                G.8265.1 Priority  : n/a
Local PTP Port    : 2                 PTP Port State     : master
Clock Id          : ac5effffe000000   Remote PTP Port    : 1
-------------------------------------------------------------------------------
Router            : 1
IP Address        : 1.3.1.19
Announce Direction: rx
Admin State       : up                G.8265.1 Priority  : n/a
Local PTP Port    : 1                 PTP Port State     : slave
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Clock Id          : ac5dfffffe000000   Remote PTP Port    : 1
GM Clock Id       : ac5dfffffe000000   GM Clock Class     : 13
GM Clock Accuracy : unknown            GM Clock Variance  : ffff (not computed)
GM Clock Priority1: 0                  GM Clock Priority2 : 128
Steps Removed     : 0                  Parent Clock       : yes
===============================================================================
```

Table 410: Output fields: service PTP peers

Label	Description
Router	The name of the router instance
IP Address	The IP address of the PTP peer
Announce Direction Anno Flow	The direction from which PTP announce messages were sent or received
Admin State	The administrative state of the PTP peer
G.8265 Priority	The priority used in the best master clock algorithm (BMCA) for the local PTP port when the clock profile is G.8265.*x*
Sync Interval	The network synchronization interval, in packets per second
Alarms	The alarms that are active for the PTP peer
Tx Timestamp Point	The transmission timestamp point
Rx Timestamp Point	The reception timestamp point
Last Tx Port	The *port-id* of the last port from which a synchronization packet was transmitted
Last Rx Port	The *port-id* of the last port into which a synchronization packet was received
Port Asymmetry	The asymmetry value of the PTP peer, in nanoseconds
Best Master	Whether the clock has been deemed to be the best master clock
Parent Clock	Whether there is an external parent clock
Profile Name	The name of the alternate profile configuration. If an alternate profile is not configured, Primary is displayed as the profile name.
Profile	The PTP profile used for the alternate profile configuration. • g8275dot1-2014 — The PTP profile specified in the ITU-T G.8275.1 recommendation. • g8275dot2-2016 — The PTP profile specified in the ITU-T G.8275.2 recommendation.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Domain	The domain in which PTP 1588 runs on the system.

18.34 peq

peq

Syntax

peq [*peq-slot*] [**chassis** *chassis-id*] [**detail**]

Context

[Tree] (show peq)

Full Context

show peq

Description

This command displays APEQ information.

Parameters

peq-slot

Specifies the APEQ slot identifier.

Values 1 to 12

chassis-id

Specifies the chassis ID for the router chassis.

Values 1 to 2

detail

Displays detailed information.

Platforms

7750 SR-12e, 7750 SR-s, 7950 XRS

Output

The following outputs are examples of PEQ information, and Table 411: Output fields: PEQ describes the output fields.

Output Example: show peq

```
*A:Dut-A# show peq
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PEQ Summary
===============================================================================
Chassis/   Provisioned Type             Admin Operational   Input  Zone  Input
Slot           Equipped Type (if diff)  State State         A B          Mode
-------------------------------------------------------------------------------
1/1        apeq-dc-2000                 up    down          Y Y    1     N/A
1/2        (not provisioned)            up    unprovisioned Y Y    1     N/A
               apeq-dc-2000
1/3        apeq-dc-2000                 up    up            Y Y    1     N/A
1/4        apeq-dc-2000                 up    up            Y Y    1     N/A
1/5        apeq-dc-2000                 up    up            Y Y    1     N/A
1/6        apeq-dc-2000                 up    down          Y Y    1     N/A
1/7        apeq-dc-2000                 up    down          Y Y    1     N/A
1/8        apeq-dc-2000                 up    down          Y Y    1     N/A
1/9        apeq-dc-2000                 up    down          Y Y    1     N/A
1/10       apeq-dc-2000                 up    down          Y Y    1     N/A
1/11       apeq-dc-2000                 up    down          Y Y    1     N/A
1/12       apeq-dc-2000                 up    down          Y Y    1     N/A
2/1        apeq-dc-2000                 up    provisioned   - -    2     N/A
               (not equipped)
===============================================================================
```

Output Example: show peq <peq-slot> detail

```
*A:Dut-A# show peq 1 detail
===============================================================================
PEQ 1
===============================================================================
Slot   Provisioned Type                 Admin Operational   Input  Zone  Input
           Equipped Type (if diff)      State State         A B          Mode
-------------------------------------------------------------------------------
1      apeq-dc-2000                          down  down     Y N    1     N/A

Hardware Data
    Part number                  : 3HE07114AARA01
    CLEI code                    : IPUPAJHUAA
    Serial number                : NS1250G0116
    Manufacture date             : 12202012
    Manufacturing deviations     : (Not Specified)
    Manufacturing assembly number: 8205320107
    Time of last boot            : 2014/01/07 11:01:44
    Current alarm state          : alarm active
===============================================================================
```

Output Example: show peq detail

In the following example, the entries for PEQ 2 to PEQ 11 are not shown.

```
*A:Dut-A# show peq detail
===============================================================================
PEQ 1
===============================================================================
Slot   Provisioned Type                 Admin Operational   Input  Zone  Input
           Equipped Type (if diff)      State State         A B          Mode
-------------------------------------------------------------------------------
1/1    apeq-dc-2000                    down  down          Y N     1    N/A

Hardware Data
    Part number                  : 3HE07114AARA01
    CLEI code                    : IPUPAJHUAA
    Serial number                : NS1250G0116
    Manufacture date             : 12202012
    Manufacturing deviations     : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Manufacturing assembly number: 8205320107
    Time of last boot            : 2014/01/07 11:01:44
    Current alarm state          : alarm active

===============================================================================

...

===============================================================================
PEQ 12
===============================================================================
Slot   Provisioned Type                 Admin Operational   Input  Zone  Input
           Equipped Type (if diff)      State State         A B          Mode
-------------------------------------------------------------------------------
12     apeq-dc-2000                     up    up            Y N    1     N/A

Hardware Data
    Part number                  : 3HE07114AARA01
    CLEI code                    : IPUPAJHUAA
    Serial number                : NS1250G0115
    Manufacture date             : 12202012
    Manufacturing deviations     : (Not Specified)
    Manufacturing assembly number: 8205320107
    Time of last boot            : 2014/01/07 11:01:44
    Current alarm state          : alarm active
===============================================================================
```

Output Fields: show peq

Table 411: Output fields: PEQ

Label	Description
Slot	The number of the slot in which the APEQ is installed.
Provisioned Type Equipped Type (if different)	The APEQ type provisioned.
Admin State	The administrative state.
Operational State	The operational state.
Input	Specifies the input battery feed: A, or B.
Zone	Specifies the chassis power zone.
Hardware Data:	
Part number	The APEQ part number.
CLEI code	The APEQ CLEI code.
Serial number	The APEQ serial number.
Manufacture date	The date the APEQ was manufactured.
Manufacturing deviations	Specifies any manufacturing deviations.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Manufacturing assembly number	The APEQ assembly number.
Administrative state	Specifies the administrative state of the APEQ.
Operational state	Specifies the operational state of the APEQ.
Time of last boot	Indicates the time stamp of the last system restart.
Current alarm state	Indicates the current alarm state.

18.35 per-link-hash

per-link-hash

Syntax

per-link-hash [**class** {**1** | **2** | **3**}]

per-link-hash port *port-id*

Context

[Tree] (show>lag per-link-hash)

Full Context

show lag per-link-hash

Description

This command displays LAG per-link hash information.

Parameters

port-id

Displays information about a specified LAG link-map profile.

Values 1 to 32 (VSR)
1 to 64 (all other platforms)

Platforms

All

Output

The following output is an example of per-link hash SAP information.

Table 412: Output fields: per-link hash SAP describes per-link hash SAP output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show lag 1 associations per-link-hash sap [class]
===============================================================================
SAP Associations
===============================================================================
SvcId      SAP                               Active Link         Oper
                                                                 Class  Weight
-------------------------------------------------------------------------------
10         lag-1:1                           1/1/c1/1            1      111
10         lag-1:2                           1/2/c1/1            2      222
10         lag-1:4                           2/1/c1/4            2      333
10         lag-1:10                          1/1/c1/1            3      444
10         lag-1:99                          1/1/c1/1            2      1000
30         lag-1:31                          1/1/c1/1            1      1
40         lag-1:41                          1/2/c1/1            1      512
===============================================================================
Number of SAP associations: 7
===============================================================================
```

Table 412: Output fields: per-link hash SAP

Label	Description
SvcID	The associated service ID
SAP	The associated LAG ID
Active Link	The associated SAP ID
Oper Class	The per-link-hash class
Weight	The per-link-hash weight
Number of SAP associations	The total number of SAPs associated with the specified LAG ID

The following output is an example of per hash link Vport information.

Table 413: Output fields: per-link hash Vport describes per hash link Vport output fields.

```
show lag 1 associations per-link-hash vport
===============================================================================
VPort Associations
===============================================================================
VPort Name                        Active Link
-------------------------------------------------------------------------------
my_vport_lag1                     1/1/c1/1
my_vport_lag1bis                  1/2/c1/1
my_vport_lag1_extra1              2/1/c1/4
my_vport_lag1_extra2              1/2/c1/1
my_vport_lag1_extra3              2/1/c1/4
===============================================================================
Number of VPort associations: 5
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 413: Output fields: per-link hash Vport

Label	Description
Vport Name	The name of the virtual port
Active Link	The associated SAP ID
Number of Vport associations	The total number of Vports associated with the specified LAG ID

The following output is an example of service subscriber host Vport information.

```
show service id subscriber-hosts detail
===============================================================================
Subscriber Host table
===============================================================================
Sap
  IP Address
    MAC Address               PPPoE-SID       Origin          Fwding State
      Subscriber
-------------------------------------------------------------------------------
lag-1:4
  10.2.2.41
    00:00:00:00:00:14         N/A             DHCP            Fwding
      subscr2
-------------------------------------------------------------------------------
Subscriber-interface  : subscr_lag1
Group-interface       : group_lag1
Sub Profile           : sub_profile
SLA Profile           : sla_profile
Egress Vport          : my_vport_lag1
LAG Active Link       : 1/1/c1/1
-------------------------------------------------------------------------------
```

Table 414: Output fields: subscriber hosts detail

Label	Description
Sap	The LAG ID
IP Address	The subscriber host IP address
MAC Address	The subscriber host 48-bit MAC address
Subscriber	The associated subscriber profile name
PPPoE-SID	The PPPoE address of the segment identifier (SID)
Origin	The protocol or mechanism that created the service
Fwding State	The forwarding state
Subscriber-interface	The subscriber interface name associated with this service ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Group-interface	The group interface name associated with this service ID
Sub Profile	The subscriber profile associated with this service ID
SLA Profile	The service level profile associated with this service ID
Egress Vport	The egress Vport name associated with this service ID
LAG Active Link	The associated SAP ID

18.36 per-peer-queuing

per-peer-queuing

Syntax

per-peer-queuing [**detail**]

Context

[Tree] (show>system>security per-peer-queuing)

Full Context

show system security per-peer-queuing

Description

This command displays the number of queues in use by the Qchip, which in turn is used by PPQ, CPM filter, SAP, and so on.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of per peer queuing information, and Table 415: Output fields: per-peer queuing describes the output fields.

Output Example

```
A:ALA-48>show>system>security# per-peer-queuing
===============================================
CPM Hardware Queuing
===============================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Per Peer Queuing        : Enabled
Total Num of Queues     : 8192
Num of Queues In Use    : 0
===============================================
A:ALA-48>show>system>security#
```

Table 415: Output fields: per-peer queuing

Label	Description
Per Peer Queuing	Displays whether per-peer-queuing is enabled or disabled. When enabled, a peering session is established and the router automatically allocates a separate CPM hardware queue for that peer. When disabled, no hardware queuing per peer occurs.
Total Num of Queues	Total number of CPM hardware queues
Num of Queues In Use	Number of CPM hardware queues that are in use

18.37 perfect-stream

perfect-stream

Syntax

perfect-stream

Context

[Tree] (show>video perfect-stream)

Full Context

show video perfect-stream

Description

Commands in this context display perfect stream information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.38 perform

perform

Syntax

perform

Context

[Tree] (tools perform)

Full Context

tools perform

Description

Commands in this context perform troubleshooting operations.

Platforms

All

18.39 performance

performance

Syntax

performance mda *mda-id* **last** *time-span time-unit*

Context

[Tree] (tools>dump>wlan-gw>isa performance)

Full Context

tools dump wlan-gw isa performance

Description

This command generates an overview of the processing load and data processed by the specified ISA over a period of time. The following time periods are supported:

- last minute with seconds granularity
- last hour with minutes granularity
- last day with hours granularity

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- last day with days granularity

Parameters

mda-id

Specifies the MDA for getting performance measurements in *slot*/*mda* format.

Values slot — 1 to 10
mda — 1 to 2

time-span

Specifies the period for which to get measurements.

Values 1 to 60 (sec), 1 to 60 (min), 1 to 24 (hrs), 1 (days)

time-unit

Specifies the period for which to get measurements.

Values sec, min, hrs, days

Platforms

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

Output

This command displays performance information.

Output Example

```
Node# /tools dump wlan-gw isa performance mda 2/1 last 5 min
===============================================================================
Measurements for last 5 minutes on Slot #2 MDA #1
===============================================================================
Timestamp            |     Wait     Idle     Work | Total jobs |    Total data
---------------------+----------------------------+------------+---------------
01/22/2018 10:14:04  |   99.47%    0.53%    0.00% |          0 |           - -
01/22/2018 10:13:41  |   99.46%    0.54%    0.00% |          3 |           3 Kb
01/22/2018 10:12:41  |   99.47%    0.53%    0.00% |          0 |           - -
01/22/2018 10:11:41  |   99.47%    0.53%    0.00% |          0 |           - -
01/22/2018 10:10:41  |   99.45%    0.55%    0.00% |          0 |           - -
===============================================================================
```

performance

Syntax

performance mda *mda-id* **last** *time-span time-unit*

Context

[Tree] (tools>dump>nat>isa performance)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump nat isa performance

Description

This command generates an overview of the processing load and data processed by the specified ISA over a period of time. The following time periods are supported:

- last minute with seconds granularity
- last hour with minutes granularity
- last day with hours granularity
- last 31 days with days granularity

Parameters

mda-id

Specifies the MDA for getting performance measurements in format *slot*/*mda*.

Values slot — 1 to 10
mda — 1 to 2

time-span

Specifies the period for which to get measurements.

Values 1 to 60 (sec) | 1 to 60 (min) | 1 to 24 (hrs) | 1 to 31 (days)

time-unit

Specifies the period for which to get measurements.

Values sec | min | hrs | days

Platforms

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

18.40 performance-monitoring

performance-monitoring

Syntax

performance-monitoring record *record*

Context

[Tree] (show>system>ptp performance-monitoring)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show system ptp performance-monitoring

Description

This command displays the collected performance monitoring information for the PTP clock.

Parameters

record

Specifies the time window for the record.

Values		
	0	current 15-minute interval
	1-96	15-minute interval within the last 24 hours
	97	current 24-hour interval
	98	previous 24-hour interval
	501	current minute interval
	502-516	one-minute interval within the last 15 minutes

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of PTP monitoring performance statistics and Table 416: Output fields: PTP performance monitoring describes the output fields.

Output Example

```
show system ptp performance-monitoring record 503
```

```
===============================================================================
IEEE 1588 Performance Monitoring Statistics
===============================================================================

-------------------------------------------------------------------------------
Record
-------------------------------------------------------------------------------
Index             : 503
Valid             : Yes
Start time        : 2023/03/24 19:43:00 UTC
Complete          : Yes
Duration          : 1 minute

-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
offset-from-master
   average        : 0 ns
   minimum        : 0 ns
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   maximum        : +1 ns
   stddev         :  0 ns

mean-path-delay
   average        : +10 ns
   minimum        : +10 ns
   maximum        : +11 ns
   stddev         :  0 ns

master-to-slave-delay
   average        : +10 ns
   minimum        : +10 ns
   maximum        : +11 ns
   stddev         :  0 ns

slave-to-master-delay
   average        : +10 ns
   minimum        : +10 ns
   maximum        : +11 ns
   stddev         :  0 ns
===============================================================================
```

Table 416: Output fields: PTP performance monitoring

Label	Description
IEEE 1588 Performance Monitoring Statistics	
Record	
Index	The name of the router instance
Valid	The IP address of the PTP peer
Start time	The direction from which PTP announce messages were sent or received
Complete	The administrative state of the PTP peer
Duration	The priority used in the best master clock algorithm (BMCA) for the local PTP port when the clock profile is G.8265.*x*
offset-from-master mean-path-delay master-to-slave-delay slave-to-master-delay	Parameters from the time recovery algorithm as defined in the IEEE1588-2019 standard
average minimum maximum stddev	The average, minimum, maximum, and standard deviation of the values over the time interval of the record

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.41 persistence

persistence

Syntax

persistence

Context

[Tree] (tools>perform persistence)

Full Context

tools perform persistence

Description

Commands in this context configure downgrade parameters.

Platforms

All

18.42 persistent

persistent

Syntax

persistent

Context

[Tree] (show>system>telemetry persistent)

Full Context

show system telemetry persistent

Description

Commands in this context display persistent telemetry information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.43 pfcp

pfcp

Syntax

pfcp

Context

[Tree] (show>subscr-mgmt pfcp)

Full Context

show subscriber-mgmt pfcp

Description

Commands in this context display all related PFCP information.

Platforms

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

18.44 pfcp-association

pfcp-association

Syntax

pfcp-association *name* **statistics**

Context

[Tree] (clear>subscr-mgmt pfcp-association)

Full Context

clear subscriber-mgmt pfcp-association

Description

This command clears all message statistics associated with the specified PFCP association.

Parameters

name

Specifies the name of a PFCP association, up to 32 characters, for which information is cleared.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Specifies that statistics for the specified PFCP association are cleared.

Platforms

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

18.45 pfcp-session

pfcp-session

Syntax

pfcp-session session-id *session-id*

pfcp-session sap *sap-id* **mac** *mac-address*

Context

[Tree] (clear>subscr-mgmt pfcp-session)

Full Context

clear subscriber-mgmt pfcp-session

Description

This command locally clears a PFCP session, either by providing the session ID or the associated SAP ID and MAC address.

Note:
This command does not delete the session on the BNG CPF and should only be used as a last attempt to delete the PFCP sessions. It is always recommended to first attempt to gracefully delete the session from the BNG CPF.

Parameters

session-id

Specifies the locally assigned PFCP session ID, up to 20 characters.

sap-id

Specifies the SAP ID associated with the session.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id* | *eth-sat-id*:[qtag1 | *cp-conn-prof-id*]
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id* | *eth-sat-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-conn-prof-id]
cp	keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	conn-prof-id	*1 to 8000*
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | lag-*string*	
	lag	keyword
	id	1 to 800
	string	23 characters max
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	* | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	tunnel-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094
eth-sat-id	**esat**-*id* / *slot* / *port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	sub-port	a, b

mac-address

Specifies the MAC address associated with the session, in the form xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

Platforms

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

18.46 pgw-edr

pgw-edr

Syntax

pgw-edr fields

Context

[Tree] (show>app-assure>cflowd pgw-edr)

Full Context

show application-assurance cflowd pgw-edr

Description

This command displays the fields in the AA cflowd PGW-EDR template.

Platforms

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

Output

The following output is an example of AA cflowd PGW-EDR template fields, and Table 417: Output fields: PGW-EDR template describes the output fields.

Output Example

```
show application-assurance cflowd pgw-edr fields

===============================================================================
Fields for Application Assurance cflowd pgw-edr template
===============================================================================
Name                            ID     Len Mode  Dy Description
-------------------------------------------------------------------------------
aaApp                           32770  32  MRVL  *  AA Application
aaAppGrp                        32771  32  MRVL  *  AA Application Group
aaChargingGrp                   32888  32  MRVL  *  AA Charging Group
aaProt                          32769  32  MRVL  *  AA Protocol
aaSubTetheringState             32896  1   MRVL  *  AA subscriber tethering
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                                    state
anlCongestionState                32874  1   MRVL  *  access network location
                                                    congestion state
anlTopology                       32873  16  MRVL  *  access network location
                                                    topology
anlType                           32872  1   MRVL  *  access network location
                                                    type
apn                               32876  33  MRV-  *  access point name
apnExtended                       32928  64  MRV-  *  extended access point name
bsid                              32883  12  MRV-  *  base station id
cellId                            32886  4   MRV-  *  cell id
chargeId                          32877  4   MRV-  *  charging group id
chargingChar                      32901  2   MRV-  *  3GPP charging
                                                    characteristic
customerId                        32902  4   M---  *  Customer identifier
destinationIPv4Address            12     4   MRVL  .  Destination IPv4 address
destinationIPv6Address            28     16  MRVL  .  Destination IPv6 address
destinationTransportPort          11     2   MRVL  .  Destination transport port
deviceId                          32865  2   MRVL  *  device ID
deviceMfgId                       32866  2   MRVL  *  device manufacturer ID
deviceOsId                        32867  2   MRVL  *  device operating system ID
deviceOsVer1                      32869  1   MRVL  *  device operating system
                                                    version number 1
deviceOsVer2                      32870  1   MRVL  *  device operating system
                                                    version number 2
deviceOsVer3                      32871  1   MRVL  *  device operating system
                                                    version number 3
flowAttr_abr_service              32890  1   MRVL  *  flow attribute: abr
                                                    service
flowAttr_audio                    32891  1   MRVL  *  flow attribute: audio
flowAttr_download                 32893  1   MRVL  *  flow attribute: download
flowAttr_encrypted                32892  1   MRVL  *  flow attribute: encrypted
flowAttr_realtime_communication   32895  1   MRVL  *  flow attribute: real time
                                                    communication
flowAttr_upload                   32894  1   MRVL  *  flow attribute: upload
flowAttr_video                    32889  1   MRVL  *  flow attribute: video
hostName                          32864  64  MRVL  *  host name
hostNameExtended                  32920  101 MRVL  *  host name extended
imei                              32897  8   MRV-  *  International Mobile
                                                    Equipment Identity
imei-aes-128                      32916  32  MRV-  *  imei AES-128 encrypted
imei-aes-256                      32919  32  MRV-  *  imei AES-256 encrypted
imei-sha-1                        32910  20  MRV-  *  imei SHA-1 hashed
imei-sha-256                      32913  32  MRV-  *  imei SHA-256 hashed
imsi                              32879  8   MRV-  *  international mobile
                                                    subscriber identity
imsi-aes-128                      32915  16  MRV-  *  imsi AES-128 encrypted
imsi-aes-256                      32918  16  MRV-  *  imsi AES-256 encrypted
imsi-sha-1                        32909  20  MRV-  *  imsi SHA-1 hashed
imsi-sha-256                      32912  32  MRV-  *  imsi SHA-256 hashed
ipFamily                          32868  1   MRVL  *  IP Family
ipTTL                             192    1   MRVL  *  IP packet time to live
mcc                               32899  2   MRV-  *  Mobile country code
mnc                               32878  2   MRV-  *  mobile network code
msisdn                            32880  8   MRV-  *  mobile station
                                                    international subscriber
                                                    directory number
msisdn-aes-128                    32914  16  MRV-  *  msisdn AES-128 encrypted
msisdn-aes-256                    32917  16  MRV-  *  msisdn AES-256 encrypted
msisdn-sha-1                      32908  20  MRV-  *  msisdn SHA-1 hashed
msisdn-sha-256                    32911  32  MRV-  *  msisdn SHA-256 hashed
observationPointId                138    4   MRVL  .  Observation point Id
octetTotalCount                   85     8   MRVL  .  Octet total count
pgw-ggsnAddr                      32882  16  MRV-  *  public data network
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                                    gateway
plmnid                          32903  4   MRV-  *  Public land mobile
                                                    network identifier
postIpPrecedence                257    1   MRVL  *  Post IP precedence
pra-id                          32940  4   M---  *  presence reporting area ID
protocolIdentifier              4      1   MRVL  .  Protocol Identifier
ratType                         32884  2   MRV-  *  radio access technology
                                                    type
regionId                        32885  2   MRV-  *  region id
roamingStatus                   32898  1   M---  *  Roaming status
sessionDirection                32781  1   MRVL  .  Session Direction
sessionEndSeconds               32875  4   MRVL  *  session end time
sessionStartSeconds             32863  4   MRVL  *  session start time
sgw-sgsnAddr                    32881  16  M---  *  serving gateway
sourceIPv4Address               8      4   MRVL  .  Source IPv4 address
sourceIPv6Address               27     16  MRVL  .  Source IPv6 address
sourceTransportPort             7      2   MRVL  .  Source transport port
timeZone                        32887  2   M---  *  time zone
uli                             32900  18  MRV-  *  User location information
wireless-device-os-id           32941  1   MRV-  *  wireless device operating
                                                    system ID
wireless-device-type-id         32942  1   MRV-  *  wireless device type ID
-------------------------------------------------------------------------------
Legend :
  Mode (aa-sub-scale mode)   M mobile-gateway
                             R residential
                             V vpn
                             L lightweight-internet
  Dy (dynamic field)         . always included in this record type
                             * can be dynamically included in this record type
===============================================================================
```

Table 417: Output fields: PGW-EDR template

Label	Description
Name	Displays the name of the template field.
ID	Displays the ID of the template field.
Len	Displays the string length of the template field.
Mode	Displays the mode: • M — mobile gateway • R — residential • V — VPN • L — lightweight Internet
Dy	Displays whether the field is dynamic: • . — always included in this record type • * — can be dynamically included in this record type
Description	Displays the description of the template field.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.47 pim

pim

Syntax

pim

Context

[Tree] (clear>router pim)

Full Context

clear router pim

Description

Commands in this context clear and reset PIM entities.

Platforms

All

pim

Syntax

pim

Context

[Tree] (show>router pim)

Full Context

show router pim

Description

Commands in this context display PIM related information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

pim

Syntax

pim

Context

[Tree] (tools>perform>router pim)

Full Context

tools perform router pim

Description

This command enables tools to perform certain PIM tasks.

Platforms

All

pim

Syntax

pim

Context

[Tree] (monitor>router pim)

Full Context

monitor router pim

Description

This command monitors commands for the PIM instance.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.48 pim-policy

pim-policy

Syntax

pim-policy

pim-policy *name* **associations**

Context

[Tree] (show>subscr-mgmt pim-policy)

Full Context

show subscriber-mgmt pim-policy

Description

This command displays PIM policy information.

Parameters

name

Specifies the PIM policy name, up to 32 characters.

associations

Displays information associated with the policy.

Platforms

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

18.49 pim-snooping

pim-snooping

Syntax

pim-snooping

Context

[Tree] (show>service>id pim-snooping)

Full Context

show service id pim-snooping

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display PIM snooping information.

Platforms

All

pim-snooping

Syntax

pim-snooping

Context

[Tree] (clear>service>id pim-snooping)

Full Context

clear service id pim-snooping

Description

Commands in this context clear PIM snooping information.

Platforms

All

18.50 ping-template

ping-template

Syntax

ping-template *template-name*

ping-template

Context

[Tree] (show>test-oam>icmp ping-template)

Full Context

show test-oam icmp ping-template

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays a summary of configured ping templates and the total number service interfaces that reference the template. By specifying template name, the values for the specified interface and the total and active references for that specific template are displayed.

Parameters

template-name

Specifies the name of the ping template to be queried, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of ping template information.

Output Example

```
show test-oam icmp ping-template
===============================================================================
Ping Templates
===============================================================================
Name                                                            IP Refs
-------------------------------------------------------------------------------
base-template                                                       21
-------------------------------------------------------------------------------
No. of ping templates: 1
===============================================================================
show test-oam icmp ping-template base-template
===============================================================
Tmpl Name :   base-template
===============================================================
Description        : Basic standard template
Dscp               : nc1
Dot1p              : 7
Interval           : 60
Timeout            : 5
Failure Threshold  : 3
React Interval     : 1
React Fail Thresh  : 3
React Timeout      : 1
React Threshold    : 3
Size               : 56
TTL                : 1
---------------------------------------------------------------
Active Refs        : 20
Total Refs         : 21
===============================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.51 ping-template-sync

ping-template-sync

Syntax

ping-template-sync *template-name*

Context

[Tree] (tools>perform>test-oam>icmp ping-template-sync)

Full Context

tools perform test-oam icmp ping-template-sync

Description

This command updates all values for service IP interfaces that reference the specified **config>test-oam>icmp>ping-template** *template-name*. Changes to the **ping-template** in this context are not automatically pushed to service IP interfaces. Values imported by the service interface are those configured when the service IP interface referenced the ping- template.

Parameters

template-name

Specifies the ping template name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

18.52 ping-template-using

ping-template-using

Syntax

ping-template-using [*template-name*]

Context

[Tree] (show>test-oam>icmp ping-template-using)

Full Context

show test-oam icmp ping-template-using

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information about service IP interfaces that reference a ping template, the associated router instance, and the administrative state of the ping template under that interface.

Parameters

template-name

Displays the interfaces mapped to the **ping-template** *template-name*, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example ping template output information.

Output Example

```
show test-oam icmp ping-template-using
===============================================================================
Ping Templates
===============================================================================
Template Name                           Router Instance           Admin
 Interface Name
-------------------------------------------------------------------------------
base-template
 int-PE-2-CE-101                        vprn12101                 up
base-template
 int-PE-2-CE-103                        vprn12103                 up
base-template
 int-PE-2-CE-104                        vprn12104                 up
base-template
 int-PE-2-CE-105                        vprn12105                 up
base-template
 int-PE-2-CE-106                        vprn12106                 up
base-template
 int-PE-2-CE-107                        vprn12107                 up
base-template
 int-PE-2-CE-108                        vprn12108                 up
base-template
 int-PE-2-CE-109                        vprn12109                 up
base-template
 int-PE-2-CE-110                        vprn12110                 up
base-template
 int-PE-2-CE-111                        vprn12111                 up
base-template
 int-PE-2-CE-112                        vprn12112                 up
base-template
 int-PE-2-CE-113                        vprn12113                 up
base-template
 int-PE-2-CE-114                        vprn12114                 up
base-template
 int-PE-2-CE-115                        vprn12115                 up
base-template
 int-PE-2-CE-116                        vprn12116                 up
base-template
 int-PE-2-CE-117                        vprn12117                 up
base-template
 int-PE-2-CE-118                        vprn12118                 up
base-template
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 int-PE-2-CE-119                      vprn12119                 up
base-template
 int-PE-2-CE-120                      vprn12120                 up
base-template
 int-PE-2-CE-121                      vprn12121                 down
base-template
 int-PE-2-CE-122                      vprn12122                 up
===============================================================================
```

Table 418: Output fields: OAM ICMP ping template describes ping template fields.

Table 418: Output fields: OAM ICMP ping template

Label	Description
Template Name	The template name
Router Instance	The router instance name
Admin	The administrative state
Interface Name	The interface name

18.53 pip

pip

Syntax

pip

Context

[Tree] (clear>service>statistics>id pip)

Full Context

clear service statistics id pip

Description

This command clears the Provider Internal Port statistics for this service.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.54 policer

policer

Syntax

policer

policer *policer-name* [**detail**]

policer summary

Context

[Tree] (show>app-assure>group policer)

Full Context

show application-assurance group policer

Description

This command displays application-assurance policer information.

Parameters

policer-name

Displays information about the specified policer.

detail

Displays detailed information about policers on this node.

summary

Displays summarized information about policers on this node.

Platforms

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

Output

The following output is an example of the **policer** command information.

Output Example

```
show application-assurance group 1 policer <policer-name> detail
===============================================================================
Policer Instance "1m-dwn"
===============================================================================
Description     : (Not Specified)
Type            : dual-bucket-bandwidth
Granularity     : subscriber
Adaptation Rule : pir closest cir closest

Active tod-override : none
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PIR : max              Oper PIR : max
CIR : 0 kbps           Oper CIR : 0 kbps
MBS : 20000 KB         Oper MBS : 20000 KB
CBS : 0 KB             Oper CBS : 0 KB

No. of tod-overrides : 2
-------------------------------------------------------------------------------
Time of Day Override Instance 10
-------------------------------------------------------------------------------
Description : (Not Specified)
Admin State : in-service

Occurrence  : daily (monday tuesday wednesday thursday friday)
Start time  : 19:00
End time    : 22:00

PIR         : max
CIR         : 0 kbps
MBS         : 10000 KB
CBS         : 0 KB
-------------------------------------------------------------------------------
Time of Day Override Instance 20
-------------------------------------------------------------------------------
Description : (Not Specified)
Admin State : in-service

Occurrence  : daily (sunday saturday)
Start time  : 19:00
End time    : 22:00

PIR         : max
CIR         : 0 kbps
MBS         : 5000 KB
CBS         : 0 KB
===============================================================================
```

Output Example

```
*A:Dut-C>show>app-assure>group# policer "test"
===============================================================================
Policer Instance "test"
===============================================================================
Description     : (Not Specified)
Type            : single-bucket-bandwidth
Granularity     : access-network-location
Action          : permitDeny
Adaptation Rule : pir closest
Rate-Percentage : 10
===============================================================================
```

policer

Syntax

policer *policer-name* **day** *day* **time** *time-of-day*

Context

[Tree] (tools>dump>app-assure>group policer)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump application-assurance group policer

Description

This command displays rates for the policer for a specific day and time.

Parameters

policer-name

Specifies an existing policer name up to 256 characters in length.

day *day*

Specifies a day to display policer rates.

Values sunday, monday, tuesday, wednesday, thursday, friday, saturday

time *time-of-day*

Specifies a time of day (in hours and minutes) to display policer rates.

Values hh : 0 to 24
mm : 0, 15, 30, 45

Platforms

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

policer

Syntax

policer

Context

[Tree] (show>qos policer)

Full Context

show qos policer

Description

Commands in this context display QoS policer information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

18.55 policer-control-policy

policer-control-policy

Syntax

policer-control-policy [*policy-name*] [**association**]

Context

[Tree] (show>qos policer-control-policy)

Full Context

show qos policer-control-policy

Description

This command displays policer control policy information.

Parameters

policy-name

Specifies the policer control policy name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

18.56 policer-hierarchy

policer-hierarchy

Syntax

policer-hierarchy

Context

[Tree] (show>qos policer-hierarchy)

Full Context

show qos policer-hierarchy

Description

This command displays policer hierarchy information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

18.57 policers

policers

Syntax

policers

Context

[Tree] (show>app-assure>group>aa-sub policers)

Full Context

show application-assurance group aa-sub policers

Description

This command displays policer configuration information.

Platforms

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

Output

The following output is an example of the **policers** command.

Output Example

```
A:cpm-a>show>app-assure>group>aa-sub# policers
===============================================================================
Application-Assurance Subscriber Policer Summary
===============================================================================
AA-Subscriber       : Alex (esm)
-------------------------------------------------------------------------------
Type: single-bucket-bandwidth Direction: subscriber-to-network
-------------------------------------------------------------------------------
AQP   Policer                          Resources Exceeded?
-------------------------------------------------------------------------------
61    SuspectUp_policer                N
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Type: single-bucket-bandwidth Direction: network-to-subscriber
-------------------------------------------------------------------------------
AQP   Policer                          Resources Exceeded?
-------------------------------------------------------------------------------
62    SuspectDown_policer              N
-------------------------------------------------------------------------------
Policer usage counts:
single-bucket-bandwidth
  subscriber-to-network  1     out of    32
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  network-to-subscriber  1     out of    32
dual-bucket-bandwidth
  subscriber-to-network  0     out of     1
  network-to-subscriber  0     out of     1
flow-count-limit         0     out of     8
flow-rate-limit          0     out of     8
===============================================================================
A:cpm-a>show>app-assure>group>aa-sub#
```

18.58 policy

policy

Syntax

policy

Context

[Tree] (show>app-assure>group policy)

Full Context

show application-assurance group policy

Description

Commands in this context display application-assurance policy configuration information.

Platforms

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

policy

Syntax

policy [*policy-name* [**bundle** *bundle-name*] [**protocol** *protocol-name*] [**interface** *if-name*] [**detail**]]

Context

[Tree] (show>router>mcac policy)

Full Context

show router mcac policy

Description

This command displays MCAC policy information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

policy-name

Specifies an existing multicast CAC (MCAC) policy name.

bundle *bundle-id*

Specifies an existing multicast bundle name.

protocol *protocol-name*

specifies an applicable protocol to display.

Values igmp, pim, igmpSnpg

interface *if-name*

Specifies an interface name to display.

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of MCAC policy information.

Output Example

```
*A:ALA-48>show>router>mcac# policy
===============================================================================
Multicast CAC Policies
===============================================================================
Policy                          Description
-------------------------------------------------------------------------------
btv_fr                          foreign TV offering
btv_vl                          eastern TV offering
policy1                         this is policy1
policy2                         this is policy 2
-------------------------------------------------------------------------------
Policies : 4
===============================================================================
*A:ALA-48>show>router>mcac#


*A:ALA-48>show>router>mcac# policy btv_fr
===============================================================================
Multicast CAC policy
===============================================================================
Policy           : btv_fr
Description      : foreign TV offering
Default Action   : discard
Bundle(s)        : FOR
===============================================================================
*A:ALA-48>show>router>mcac#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

policy

Syntax

policy admin

policy as-path-group [*asp-group-name*]

policy as-path [*asp-name*]

policy community [*community-name*]

policy damping [*damping-profile-name*]

policy exclusive-access

policy extended-community-set [*ext-comm-set-name*]

policy global-variables

policy [*plcy-name*] [**expand-variables**]

policy prefix-list [*prefix-list-name*]

policy route-distinguisher-list [*rd-list-name*]

policy *plcy-name* **sub-policy entry** *entry-id* [**name** *subpol-name*]

policy *plcy-name* **sub-policy entry** *entry-id* **name** *subpol-name* **entry-2** *entry-id* **name-2** *subpol-name*

policy *plcy-name* **sub-policy entry** *entry-id* **name** *subpol-name* **entry-2** *entry-id* **name-2** *subpol-name* **entry-3** *entry-id* **name-3** *subpol-name*

Context

[Tree] (show>router policy)

Full Context

show router policy

Description

This command displays configured policy statement information.

Parameters

admin

When this keyword is specified, the entire policy option configuration is displayed, including any uncommitted configuration changes. This command is similar to the **info** command.

Note:
This parameter is not available in the MD-CLI.

as-path

When this keyword is specified, the parameter displays configured as-path regular expressions (optionally filtered by name).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

as-path-group

When this keyword is specified, the command displays configured as-path-groups, optionally filtered by name.

community

When this keyword is specified, the command displays configured community lists, optionally filtered by name.

damping

When this keyword is specified, the information about the route policy damping configurations is displayed.

entry *entry-id*

Displays the configuration (with parameter value substitution) of the subroutine policy called by the entry with entry ID.

exclusive-access

Displays the policy that edits exclusive access and lock information.



Note:
This parameter is not available in the MD-CLI.

extended-comm-set-name

Specifies the name of the extended community set.

expand-variables

Displays the variables that are replaced with values in main policies or in sub-policies.

prefix-list *name*

Displays the prefix lists configured in the route policy.

policy *name*

Displays information similar to the info command for a specific policy-statement. If a *name* is provided, the matching policy-statement displays. If no *statement* name is specified, a list of all policies statements and descriptions display.

route-distinguisher *rd-list-name*

Keyword to display all the configured route distinguisher lists. If an *rd-list-name* is provided, the specified route distinguisher list is displayed.

sub-policy

When this keyword is specified, the configuration of a subroutine policy is displayed.

subpol-name

Specifies the policy name up to 64 characters.

entry-id

Specifies the numeric entry identifier of the policy.

Values 1 to 4294967295

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

Table 419: Output fields: route policy describes route policy output fields.

Use the following command to display all configured route policies.

```
show router policy
```

Output Example

```
===============================================================================
Route Policies
===============================================================================
Policy                          Description
-------------------------------------------------------------------------------
Direct And Aggregate            Policy Statement ABC
-------------------------------------------------------------------------------
Policies :
===============================================================================
```

Use the following command to display the entire policy option configuration, including any uncommitted configuration changes.

```
show router policy admin
```

Note: This command option is similar to the **info** command, which displays information about the route policies and parameters.

Output Example

```
prefix-list "All-Routes"
            prefix 0.0.0.0/0 longer
            prefix 2.0.0.0/8 longer
            prefix 3.0.0.0/8 longer
            prefix 4.0.0.0/8 longer
            prefix 5.0.0.0/8 longer
            prefix 6.0.0.0/8 exact
            prefix 224.0.0.0/24 longer
    exit
...
```

Use the following command to display information about a specific route policy.

```
show router policy name
```

Output Example

```
description "Policy Statement For 'BGP To RIP'"
    entry 10
        description "Entry For Policy 'BGP To RIP'"
        from
            protocol bgp
        exit
        to
            protocol rip
        exit
        action accept
            metric set 1
            next-hop 10.0.18.200
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            tag 805
        exit
    exit
    default-action reject
```

Use the following command to display information about the route policy damping configurations.

```
show router policy damping
```

Output Example

```
==========================================
Route Damping Profiles
==========================================
    damping "TEST-LOW"
        half-life 22
        max-suppress 720
        reuse 10000
        suppress 15000
    exit
    damping "TEST-HIGH"
        half-life 22
        max-suppress 720
        reuse 1000
        suppress 5000
    exit
    damping "TEST-MEDIUM"
        half-life 22
        max-suppress 720
        reuse 5000
        suppress 11000
    exit
==========================================
```

Use the following command to display information about the subroutine called by an entry of the route policy.

```
show router policy "poll" sub-policy entry 10 name "pol2"
```

Output Example

```
===============================================================================
pol1 entry 10 sub-policies
===============================================================================
-------------------------------------------------------------------------------
Level1 Sub-policy : pol2    Parent-policy : pol1, Parent-entry 10
-------------------------------------------------------------------------------
    entry 20
        from
            community "telnet"
        exit
    exit
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 419: Output fields: route policy

Label	Description
Policy	Displays a list of route policy names.
Description	Displays the description of each route policy.
Policies	The total number of policies configured.

policy

Syntax

policy [*policy-id* [**event** *event-type specific-qualifier*]]

Context

[Tree] (show>vrrp policy)

Full Context

show vrrp policy

Description

This command displays VRRP priority control policy information.

If no command line options are specified, a summary of the VRRP priority control event policies displays.

Parameters

policy-id

Displays information on the specified priority control policy ID.

Default All VRRP policies IDs

Values 1 to 9999

event-type

Displays information on the specified VRRP priority control event within the policy ID.

Default All event types and qualifiers

Values port-down, lag-port-down, host-unreachable, route-unknown, mc-ipsec-non-forwarding

specific-qualifier

Display information about the specified qualifier.

Values port-id, lag-id, host-ip-addr, route-prefix/mask, tunnel-group-id

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

VRRP Policy Output — The following output is an example of VRRP policy information, and Table 420: Output fields: VRRP policy describes the fields.

Table 420: Output fields: VRRP policy

Label	Description
Policy Id	The VRRP priority control policy associated with the VRRP virtual router instance A value of 0 indicates that no control policy is associated with the virtual router instance
Current Priority & Effects	
Current Explicit	When multiple explicitly defined events associated with the priority control policy happen simultaneously, the lowest value of all the current explicit priorities will be used as the in-use priority for the virtual router
Current Delta Sum	The sum of the priorities of all the delta events when multiple delta events associated with the priority control policy happen simultaneously; this sum is subtracted from the base priority of the virtual router to give the in-use priority
Delta Limit	The delta-in-use-limit for a VRRP policy; once the total sum of all delta events has been calculated and subtracted from the base-priority of the virtual router, the result is compared to the delta-in-use-limit value; if the result is less than this value, the delta-in-use-limit value is used as the virtual router in-use priority value; if an explicit priority control event overrides the delta priority control events, the delta-in-use-limit has no effect If the delta-in-use-limit is 0, the sum of the delta priority control events to reduce the virtual router's in-use-priority to 0 can prevent it from becoming or staying master
Current Priority	The configured delta-in-use-limit priority for a VRRP priority control policy or the configured delta or explicit priority for a priority control event
Applied	The number of virtual router instances to which the policy has been applied; the policy cannot be deleted unless this value is 0
Description	A text string which describes the VRRP policy
Event Type & ID	A delta priority event is a conditional event defined in a priority control policy that subtracts a given amount from the base

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	priority to give the current in-use priority for the VRRP virtual router instances to which the policy is applied An explicit priority event is a conditional event defined in a priority control policy that explicitly defines the in-use priority for the VRRP virtual router instances to which the policy is applied Explicit events override all delta events; when multiple explicit events occur simultaneously, the event with the lowest priority value defines the in-use priority
Event Oper State	The operational state of the event
Hold Set Remaining	The amount of time that must pass before the set state for a VRRP priority control event can transition to the cleared state to dampen flapping events
Priority & Effect	Delta — the *priority-level* value is subtracted from the associated virtual router instance's base priority when the event is set and no explicit events are set; the sum of the priority event *priority-level* values on all set delta priority events are subtracted from the virtual router base priority to derive the virtual router instance in-use priority value If the **delta** priority event is cleared, the *priority-level* is no longer used in the in-use priority calculation
	Explicit — the *priority-level* value is used to override the base priority of the virtual router instance if the priority event is set and no other **explicit** priority event is set with a lower *priority-level* The set **explicit** priority value with the lowest *priority-level* determines the actual in-use protocol value for all virtual router instances associated with the policy
In Use	Specifies whether the event is currently affecting the in-use priority of some virtual router

Output Example

```
A:ALA-A# show vrrp policy
===============================================================================
VRRP Policies
===============================================================================
Policy    Current             Current      Current      Delta       Applied
Id        Priority & Effect   Explicit     Delta Sum    Limit
-------------------------------------------------------------------------------
1         None                None         None         1           Yes
2         None                None         None         1           No
===============================================================================
A:ALA-A#


A:ALA-A# show vrrp policy 1
===============================================================================
VRRP Policy 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Description     : 10.10.200.253 reachability
Current Priority: None                Applied           : No
Current Explicit: None                Current Delta Sum : None
Delta Limit     : 1

-------------------------------------------------------------------------------
Applied To                      VR     Opr     Base    In-use  Master  Is
Interface Name                  Id             Pri     Pri     Pri     Master
-------------------------------------------------------------------------------
None

-------------------------------------------------------------------------------
Priority Control Events
-------------------------------------------------------------------------------
Event Type & ID                 Event Oper State        Hold Set  Priority In
                                                        Remaining &Effect  Use
-------------------------------------------------------------------------------
Host Unreach 10.10.200.252      n/a                     Expired    20 Del  No
Host Unreach 10.10.200.253      n/a                     Expired    10 Del  No
Route Unknown 10.10.100.0/24    n/a                     Expired     1 Exp  No
===============================================================================
```

VRRP Policy Event Output — The following output is an example of VRRP policy event information, and Table 421: Output fields: VRRP policy event describes the fields.

Output Example

```
A:ALA-A#show vrrp policy 1 event port-down
===============================================================================
VRRP Policy 1, Event Port Down 1/1/1
===============================================================================
Description     :
Current Priority: None                Applied           : Yes
Current Explicit: None                Current Delta Sum : None
Delta Limit     : 1

-------------------------------------------------------------------------------
Applied To                      VR     Opr     Base    In-use  Master  Is
Interface Name                  Id             Pri     Pri     Pri     Master
-------------------------------------------------------------------------------
ies301backup                    1      Down    100     100     0       No

-------------------------------------------------------------------------------
Priority Control Event Port Down 1/1/1
-------------------------------------------------------------------------------
Priority        : 30                  Priority Effect   : Delta
Hold Set Config : 0 sec               Hold Set Remaining: Expired
Value In Use    : No                  Current State     : Cleared
# trans to Set  : 6                   Previous State    : Set-down
Last Transition : 04/13/2007 04:54:35
===============================================================================
A:ALA-A#

A:ALA-A# show vrrp policy 1 event host-unreachable
===============================================================================
VRRP Policy 1, Event Host Unreachable 10.10.200.252
===============================================================================
Description     : 10.10.200.253 reachability
Current Priority: None                Applied           : No
Current Explicit: None                Current Delta Sum : None
Delta Limit     : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Applied To                      VR     Opr     Base    In-use  Master  Is
Interface Name                  Id             Pri     Pri     Pri     Master
-------------------------------------------------------------------------------
None

-------------------------------------------------------------------------------
Priority Control Event Host Unreachable 10.10.200.252
-------------------------------------------------------------------------------
Priority        : 20                  Priority Effect   : Delta
Interval        : 1 sec               Timeout           : 1 sec
Drop Count      : 3
Hold Set Config : 0 sec               Hold Set Remaining: Expired
Value In Use    : No                  Current State     : n/a
# trans to Set  : 0                   Previous State    : n/a
Last Transition : 04/13/2007 23:10:24
===============================================================================
A:ALA-A#


A:ALA-A# show vrrp policy 1 event route-unknown
===============================================================================
VRRP Policy 1, Event Route Unknown 10.10.100.0/24
===============================================================================
Description     : 10.10.200.253 reachability
Current Priority: None                Applied           : No
Current Explicit: None                Current Delta Sum : None
Delta Limit     : 1

-------------------------------------------------------------------------------
Applied To                      VR     Opr     Base    In-use  Master  Is
Interface Name                  Id             Pri     Pri     Pri     Master
-------------------------------------------------------------------------------
None

-------------------------------------------------------------------------------
Priority Control Event Route Unknown 10.10.100.0/24
-------------------------------------------------------------------------------
Priority        : 1                   Priority Effect   : Explicit
Less Specific   : No                  Default Allowed   : No
Next Hop(s)     : None
Protocol(s)     : None
Hold Set Config : 0 sec               Hold Set Remaining: Expired
Value In Use    : No                  Current State     : n/a
# trans to Set  : 0                   Previous State    : n/a
Last Transition : 04/13/2007 23:10:24
===============================================================================
```

Table 421: Output fields: VRRP policy event

Label	Description
Description	A text string which describes the VRRP policy
Policy Id	The VRRP priority control policy associated with the VRRP virtual router instance A value of 0 indicates that no control policy is associated with the virtual router instance

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Current Priority	The Base router priority for the virtual router instance used in the master election process
Current Explicit	When multiple explicitly defined events associated with the priority control policy happen simultaneously, the lowest value of all the current explicit priorities will be used as the in-use priority for the virtual router
Applied	The number of virtual router instances to which the policy has been applied; the policy cannot be deleted unless this value is 0
Current Delta Sum	The sum of the priorities of all the delta events when multiple delta events associated with the priority control policy happen simultaneously; this sum is subtracted from the base priority of the virtual router to give the in-use priority
Delta Limit	The delta-in-use-limit for a VRRP policy; once the total sum of all delta events has been calculated and subtracted from the base-priority of the virtual router, the result is compared to the delta-in-use-limit value; if the result is less than this value, the delta-in-use-limit value is used as the virtual router in-use priority value; if an explicit priority control event overrides the delta priority control events, the delta-in-use-limit has no effect If the delta-in-use-limit is 0, the sum of the delta priority control events to reduce the virtual router's in-use-priority to 0 can prevent it from becoming or staying master
Applied to Interface Name	The interface name where the VRRP policy is applied
VR ID	The virtual router ID for the IP interface
Opr	Up — indicates that the operational state of the VRRP instance is up
	Down — indicates that the operational state of the VRRP instance is down
Base Pri	The base priority used by the virtual router instance
InUse Priority	The current in-use priority associated with the VRRP virtual router instance
Master Priority	The priority of the virtual router instance which is the current master
Priority	The base priority used by the virtual router instance
Priority Effect	Delta — a delta priority event is a conditional event defined in a priority control policy that subtracts a given amount from the

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	base priority to give the current in-use priority for the VRRP virtual router instances to which the policy is applied
	Explicit — a conditional event defined in a priority control policy that explicitly defines the in-use priority for the VRRP virtual router instances to which the policy is applied Explicit events override all delta events; when multiple explicit events occur simultaneously, the event with the lowest priority value defines the in-use priority
Current Priority	The configured delta-in-use-limit priority for a VRRP priority control policy or the configured delta or explicit priority for a priority control event
Event Oper State	The operational state of the event
Hold Set Remaining	The amount of time that must pass before the set state for a VRRP priority control event can transition to the cleared state to dampen flapping events
Priority	The base priority used by the virtual router instance
Priority Effect	Delta — the *priority-level* value is subtracted from the associated virtual router instance's base priority when the event is set and no explicit events are set; the sum of the priority event *priority-level* values on all set delta priority events are subtracted from the virtual router base priority to derive the virtual router instance in-use priority value If the **delta** priority event is cleared, the *priority-level* is no longer used in the in-use priority calculation
	Explicit — the *priority-level* value is used to override the base priority of the virtual router instance if the priority event is set and no other **explicit** priority event is set with a lower *priority-level* The set **explicit** priority value with the lowest *priority-level* determines the actual in-use protocol value for all virtual router instances associated with the policy
Hold Set Config	The configured number of seconds that the hold-set timer waits after an event enters a set state or enters a higher threshold set state, depending on the event type
Value In Use	Yes — the event is currently affecting the in-use priority of some virtual router
	No — the event is not affecting the in-use priority of some virtual router
# trans to Set	The number of times the event has transitioned to one of the 'set' states

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Last Transition	The time and date when the operational state of the event last changed

policy

Syntax

policy [*policy-id*] **association**

Context

[Tree] (show>system>security>dist-cpu-protection policy)

[Tree] (show>system>security>cpu-protection policy)

Full Context

show system security dist-cpu-protection policy

show system security cpu-protection policy

Description

This command displays CPU protection policy information.

Parameters

policy-id

Displays CPU protection policy information for the specified policy ID.

association

This keyword displays associations for the specified policy ID.

Platforms

All

- show system security dist-cpu-protection policy

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

- show system security cpu-protection policy

policy

Syntax

policy *policy-assoc-name*

Context

[Tree] (show>router>pcep>pcc>pce-assoc policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router pcep pcc pce-associations policy

Description

This command displays the policy association information.

If a policy association name is not specified, the information for all configured policy associations is displayed.

Parameters

policy-assoc-name

Specifies the name of the policy association, up to 32 characters.

Platforms

All

Output

The following output is an example of policy association information, and Table 422: Output fields: policy association describes the output fields.

Output Example

```
*A:Dut-C>config>router>mpls>lsp# show router pcep pcc pce-associations policy "test_pol"
===============================================================================
PCEP PCC Policy Associations Info
===============================================================================
Assocation Name    : test_pol
Association ID     : 10                Association Source : 192.168.213.59
===============================================================================
```

Table 422: Output fields: policy association

Label	Description
Association Name	The policy association name
Association ID	The policy association ID
Association Source	The source IP address of the policy association. Both IPv4 and IPv6 are supported.

18.59 policy-edits

policy-edits

Syntax

policy-edits

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router policy-edits)

Full Context

show router policy-edits

Description

This command displays edited policy information that was entered in the classic CLI.

Note:
This command is not available in the MD-CLI.

Platforms

All

18.60 policy-test

policy-test

Syntax

policy-test *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*...{up tp 14 max}] [**family** *family*] [**rd** *rd*] **prefix** *ip-prefix/ip-prefix-length* [**longer**] [**neighbor** *ip-address*] [**display-rejects**] [{**detail** | **brief**}] [**display-rejects-only**] [**export**] [**protocol** *protocol*]

Context

[Tree] (show>router>bgp policy-test)

Full Context

show router bgp policy-test

Description

This command allows the operator to evaluate existing route policy or chain of route policies or route policy logical expression effects, as a BGP import or export policy, by identifying the routes that would be accepted or rejected after the complete evaluation.

When the policy, list of policies or logical expression is used as a BGP export policy, the **export** keyword must be included. When the policy is used as a BGP import policy, the **export** keyword should not be included.

Parameters

plcy-or-long-expr

Specifies up to 14 policy names or a long expression.

Values policy-name: a policy name, up to 64 characters

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

long-expr: a long expression, up to 255 characters.

plcy-or-expr

Specifies the policy name or expression.

Values policy-name: a policy name, up to 64 characters

expr: an expression, up to 64 characters

family

ipv4, ipv6, vpn-ipv4, vpn-ipv6, label-ipv4, label-ipv6.

Default ipv4

rd

Specifies the route distinguisher value in one of the following formats:

- *ip-addr*:*comm-val*
- *2byte-asnumber*:*ext-comm-val*
- *4byte-asnumber*:*comm-val*

ip-prefix/ip-prefix-length

Specifies an IPv4 or IPv6 prefix/mask to be evaluated. The keyword **longer** may be specified to evaluate longer prefix matches (optional).

ip-address

Specifies the IPv4 or IPv6 address of a peer from which the BGP routes to be evaluated were sent, up to 64 characters.

longer

Matches prefixes with a longer prefix-length.

display-rejects

Displays routes that were rejected by the policy. If not specified, only a count of rejected routes are shown.

detail

When the policy modifies route attributes, it displays the modifications made to the routes. This command requires an exact prefix to be specified.

brief

Provides a summarized display of the route attributes modifications. This command requires an exact prefix to be specified.

display-rejects-only

Displays only routes rejected by the policy test.

export

Indicates that the policy test is conducted in the context of a BGP export policy. The analyzed set of routes also include non-BGP routes that can be redistributed by BGP.

protocol

Displays routes by the protocol type. This keyword is only applicable when the **export** keyword is also present.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of policy test information, and Table 423: Output fields: policy test field describes the output fields.

Output Example

```
A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 0.0.0.0/0
longer neighbor 220.0.0.2
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network                                          LocalPref   MED
      Nexthop                                          Path-Id     VPNLabel
      As-Path
-------------------------------------------------------------------------------
Accepted by Policy
u*>?  4.0.0.6/32                                       None        None
      220.0.0.2                                        None        -
      14
-------------------------------------------------------------------------------
 Total Routes : 17 Routes rejected : 16
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 prefix 0.0.0.0/0 longer neighbor
220.0.0.2
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network
-------------------------------------------------------------------------------
Accepted by Policy
u*>?  4.0.0.6/32
-------------------------------------------------------------------------------
 Total Routes : 17 Routes rejected : 16
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 0.0.0.0/0
longer neighbor 220.0.0.2 display-rejects brief
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rejected by Default action
u*>?  2.2.2.2/32
Rejected by Default action
u*>?  4.0.0.1/32
Rejected by Default action
u*>?  4.0.0.2/32
Rejected by Default action
u*>?  4.0.0.3/32
Rejected by Default action
u*>?  4.0.0.4/32
Rejected by Default action
u*>?  4.0.0.5/32
Accepted by Policy
u*>?  4.0.0.6/32
Rejected by Default action
u*>?  6.0.0.1/32
Rejected by Default action
u*>?  7.0.0.1/32
Rejected by Default action
u*>i  10.0.4.0/24
Rejected by Default action
*i    10.12.0.0/24
Rejected by Default action
*i    10.14.0.0/24
Rejected by Default action
u*>i  10.24.0.0/24
Rejected by Default action
*i    12.12.12.12/32
Rejected by Default action
*i    220.0.0.2/32
Rejected by Default action
*i    220.0.0.3/32
Rejected by Default action
u*>i  221.0.0.2/32
-------------------------------------------------------------------------------
 Total Routes : 17 Routes rejected : 16
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 prefix 0.0.0.0/0 longer neighbor
220.0.0.2 display-rejects
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network                                          LocalPref   MED
      Nexthop                                          Path-Id     VPNLabel
      As-Path
-------------------------------------------------------------------------------
Rejected by Default action
u*>?  2.2.2.2/32                                       None        None
      220.0.0.2                                        None        -
      14
Rejected by Default action
u*>?  4.0.0.1/32                                       None        None
      220.0.0.2                                        None        -
      14
Rejected by Default action
u*>?  4.0.0.2/32                                       None        None
      220.0.0.2                                        None        -
      14
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rejected by Default action
u*>?  4.0.0.3/32                                        None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>?  4.0.0.4/32                                        None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>?  4.0.0.5/32                                        None        None
      220.0.0.2                                         None        -
      14
Accepted by Policy
u*>?  4.0.0.6/32                                        None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>?  6.0.0.1/32                                        None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>?  7.0.0.1/32                                        None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>i  10.0.4.0/24                                       None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
*i    10.12.0.0/24                                      None        20
      220.0.0.2                                         None        -
      14
Rejected by Default action
*i    10.14.0.0/24                                      None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>i  10.24.0.0/24                                      None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
*i    12.12.12.12/32                                    None        20
      220.0.0.2                                         None        -
      14
Rejected by Default action
*i    220.0.0.2/32                                      None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
*i    220.0.0.3/32                                      None        10
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>i  221.0.0.2/32                                      None        None
      220.0.0.2                                         None        -
      14
-------------------------------------------------------------------------------
 Total Routes : 17 Routes rejected : 16
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 prefix 4.0.0.1/32 detail neighbor
220.0.0.2 display-rejects
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP IPv4 Routes
===============================================================================
Rejected by Default action
Network        : 4.0.0.1/32
Nexthop        : 220.0.0.2
Path Id        : None
From           : 220.0.0.2
Res. Nexthop   : 10.14.0.4
Local Pref.    : None                  Interface Name : to-sim-6
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None
Connector      : None
Community      : target:65530:20
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 14.14.14.10
Fwd Class      : None                  Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : External
AS-Path        : 14

-------------------------------------------------------------------------------
 Total Routes : 1 Routes rejected : 1
===============================================================================

A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 4.0.0.6/32
neighbor 220.0.0.2
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Accepted by Policy
-------------------------------------------------------------------------------
Original Attributes

Network        : 4.0.0.6/32
Nexthop        : 220.0.0.2
Path Id        : None
From           : 220.0.0.2
Res. Nexthop   : 10.14.0.4
Local Pref.    : n/a                   Interface Name : to-sim-6
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None
Connector      : None
Community      : target:65530:20
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 14.14.14.10
Fwd Class      : None                  Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : External
AS-Path        : 14

Modified Attributes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Network        : 4.0.0.6/32
Nexthop        : 220.0.0.2
Path Id        : None
From           : 220.0.0.2
Res. Nexthop   : 10.14.0.4
Local Pref.    : None                  Interface Name : to-sim-6
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None
Connector      : None
Community      : 2:11  2:12  2:13  target:65530:20
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 14.14.14.10
Fwd Class      : None                  Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : External
AS-Path        : 14

-------------------------------------------------------------------------------
Routes : 1
===============================================================================

A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 4.0.0.6/32
longer neighbor 220.0.0.2
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network                                          LocalPref   MED
      Nexthop                                          Path-Id     VPNLabel
      As-Path
-------------------------------------------------------------------------------
Accepted by Policy
u*>?  4.0.0.6/32                                       None        None
      220.0.0.2                                        None        -
      14
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 4.0.0.6/32
longer neighbor 220.0.0.2 detail
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network
-------------------------------------------------------------------------------
Accepted by Policy
u*>?  4.0.0.6/32
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 4.0.0.0/24
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
longer neighbor 220.0.0.2 brief
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network
-------------------------------------------------------------------------------
Accepted by Policy
u*>?  4.0.0.6/32
-------------------------------------------------------------------------------
 Total Routes : 6 Routes rejected : 5
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 4.0.0.0/24
longer neighbor 220.0.0.2 display-rejects detail
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network
-------------------------------------------------------------------------------
Rejected by Default action
u*>?  4.0.0.1/32
Rejected by Default action
u*>?  4.0.0.2/32
Rejected by Default action
u*>?  4.0.0.3/32
Rejected by Default action
u*>?  4.0.0.4/32
Rejected by Default action
u*>?  4.0.0.5/32
Accepted by Policy
u*>?  4.0.0.6/32
-------------------------------------------------------------------------------
 Total Routes : 6 Routes rejected : 5
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 4.0.0.0/24
longer neighbor 220.0.0.2 display-rejects
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network                                          LocalPref   MED
      Nexthop                                          Path-Id     VPNLabel
      As-Path
-------------------------------------------------------------------------------
Rejected by Default action
u*>?  4.0.0.1/32                                       None        None
      220.0.0.2                                        None        -
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      14
Rejected by Default action
u*>?  4.0.0.2/32                                        None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>?  4.0.0.3/32                                        None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>?  4.0.0.4/32                                        None        None
      220.0.0.2                                         None        -
      14
Rejected by Default action
u*>?  4.0.0.5/32                                        None        None
      220.0.0.2                                         None        -
      14
Accepted by Policy
u*>?  4.0.0.6/32                                        None        None
      220.0.0.2                                         None        -
      14
-------------------------------------------------------------------------------
 Total Routes : 6 Routes rejected : 5
===============================================================================
A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 4.0.0.0/24
longer neighbor 220.0.0.2 display-rejects brief
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network
-------------------------------------------------------------------------------
Rejected by Default action
u*>?  4.0.0.1/32
Rejected by Default action
u*>?  4.0.0.2/32
Rejected by Default action
u*>?  4.0.0.3/32
Rejected by Default action
u*>?  4.0.0.4/32
Rejected by Default action
u*>?  4.0.0.5/32
Accepted by Policy
u*>?  4.0.0.6/32
-------------------------------------------------------------------------------
 Total Routes : 6 Routes rejected : 5
===============================================================================

A:sim-1# show router bgp policy-test bgpprefix6 family ipv4 prefix 4.0.0.0/24
longer neighbor 220.0.0.2
===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Flag  Network                                          LocalPref   MED
      Nexthop                                          Path-Id     VPNLabel
      As-Path
-------------------------------------------------------------------------------
Accepted by Policy
u*>?  4.0.0.6/32                                       None        None
      220.0.0.2                                        None        -
      14
-------------------------------------------------------------------------------
 Total Routes : 6 Routes rejected : 5


A:sim-1# show router bgp policy-test bgpprefix44rj family vpn-ipv4 prefix 0.0.0.0/0
longer neighbor display-rejects

===============================================================================
 BGP Router ID:11.11.11.10      AS:11          Local AS:11
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP VPN-IPv4 Routes
===============================================================================
Flag  Network                                          LocalPref   MED
      Nexthop                                          Path-Id     VPNLabel
      As-Path
-------------------------------------------------------------------------------
Accepted by Policy
u*>i  1:30:192.14.15.0/24                              None        None
      220.0.0.2                                        None        131069
      14
Accepted by Policy
u*>i  65530:20:8.0.0.1/32                              None        None
      220.0.0.2                                        None        131070
      14
Accepted by Policy
u*>i  65530:20:10.0.3.0/24                             None        None
      220.0.0.2                                        None        131070
      14 101
Accepted by Policy
u*>i  65530:20:10.13.0.0/24                            None        None
      220.0.0.2                                        None        131070
      14 101
Accepted by Policy
u*>i  65530:20:10.23.0.0/24                            None        None
      220.0.0.2                                        None        131070
      14 101
Accepted by Policy
u*>i  65530:20:13.13.13.13/32                          None        None
      220.0.0.2                                        None        131070
      14 101
Accepted by Policy
u*>i  65530:20:20.20.20.5/32                           None        None
      220.0.0.2                                        None        131070
      14
Accepted by Policy
u*>i  65530:20:20.20.20.6/32                           None        None
      220.0.0.2                                        None        131070
      14
Rejected by Policy Entry = 10
u*>i  65530:20:44.44.44.0/24                           None        None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      220.0.0.2                                          None        131070
      14 101
Accepted by Policy
u*>i  65530:20:192.14.15.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.16.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.17.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.18.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.19.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.20.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.21.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.22.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.23.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:192.14.25.0/24                            None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  65530:20:196.34.0.0/24                             None        None
      220.0.0.2                                          None        131070
      14
Accepted by Policy
u*>i  220.0.0.2:50:192.50.50.0/24                        None        None
      220.0.0.2                                          None        131067
      14
Accepted by Policy
u*>i  220.0.0.2:50:220.0.0.2/32                          None        None
      220.0.0.2                                          None        131067
      14
-------------------------------------------------------------------------------
 Total Routes : 22 Routes rejected : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 423: Output fields: policy test field

Field	Description
Status codes	Codes used for used, suppressed, history, decayed or valid status
Origin codes	Codes used for IGP, EGP, incomplete, best or backup origin
Flag	Indicator for network, nexthop or as-path routes

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

19 p Commands – Part II

19.1 pool

pool

Syntax

pool *pool-name*

Context

[Tree] (tools>perform>router>dhcp6>server pool)

[Tree] (tools>perform>router>dhcp>server pool)

Full Context

tools perform router dhcp6 local-dhcp-server pool

tools perform router dhcp local-dhcp-server pool

Description

This command performs local DHCP or DHCP6 server IP address pool tasks.

Parameters

pool-name

Specifies the pool name.

Platforms

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

pool

Syntax

pool *pool-name*

pool

Context

[Tree] (show>router>nat pool)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router nat pool

Description

This command displays NAT pool information.

Parameters

pool-name

Specifies the pool name, up to 32 characters.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
show router nat pool
===============================================================================
NAT pools
===============================================================================
Pool NAT-group Type Admin-state
-------------------------------------------------------------------------------
MyPool 1 l2Aware inService
MyPool2 1 l2Aware inService
-------------------------------------------------------------------------------
No. of pools: 2
===============================================================================


*A:SR12_PPPOE>show>router>nat# show router "Base" nat pool "privpool"
===============================================================================
NAT Pool privpool
===============================================================================
ISA NAT Group                       : 3
Pool type                           : largeScale
Admin state                         : inService
Mode                                : auto (napt)
Port forwarding range               : 1 - 1023
Port reservation                    : 128 blocks
Block usage High Watermark (%)      : (Not Specified)
Block usage Low Watermark (%)       : (Not Specified)
Subscriber limit per IP address     : 65535
Active                              : true
Last Mgmt Change                    : 01/28/2012 14:47:59
===============================================================================
NAT address ranges of pool privpool
===============================================================================
Range                                                        Drain Num-blk
-------------------------------------------------------------------------------
10.0.0.5 - 10.0.0.6                                              1
-------------------------------------------------------------------------------
No. of ranges: 1
===============================================================================
NAT members of pool privpool ISA NAT group 3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Member                                                                  Block-Usage-% Hi
-------------------------------------------------------------------------------------
1                                                                       < 1           N
2                                                                       < 1           N
-------------------------------------------------------------------------------------
No. of members: 2
=====================================================================================
A:SR12_PPPOE#
```

19.2 pool-ext-stats

pool-ext-stats

Syntax

pool-ext-stats [*pool-name*]

Context

[Tree] (show>router>dhcp>server pool-ext-stats)

Full Context

show router dhcp local-dhcp-server pool-ext-stats

Description

This command displays extended statistics per DHCPv4 pool in local DHCPv4 server.

The following statistics are included in output:

- The number of stable leases in the pool
- The number of provisioned address in the pool
- The number of used address in the pool
- The number of free address in the pool
- The percentage of used address
- The percentage of free address

For each statistic (except for provisioned addresses), there is current value and peak value, peak value is the highest value since pool creation or last reset via the **clear router** *rt-id* **dhcp local-dhcp-server** *svr-name* **pool-ext-stats** command.

Parameters

pool-name

Specifies the name of DHCPv4 local server pool.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of pool extended statistics information.

Output Example

```
show router 500 dhcp local-dhcp-server "d4" pool-ext-stats "pool-1"
===============================================================================
Extended pool statistics for server "d4"
===============================================================================
                           Current         Peak            TimeStamp
-------------------------------------------------------------------------------
Pool                       pool-1
Local:
  Stable Leases            0               0               01/07/2013 19:07:11
  Provisioned Addresses    101
  Used Addresses           0               0               01/07/2013 19:07:11
  Free Addresses           101             101             01/07/2013 19:07:11
  Used Pct                 0               0               01/07/2013 19:07:11
  Free Pct                 100             100             01/07/2013 19:07:11
Last Reset Time                                            01/07/2013 19:07:11
-------------------------------------------------------------------------------
Number of entries          1
===============================================================================
```

Table 424: Output fields: extended pool statistics describes extended pool statistics output fields.

Table 424: Output fields: extended pool statistics

Field	Description
Current	The current pool statistics
Peak	The peak value since the last reset
Timestamp	The date and time of the last reset
Pool	The pool name
Stable Leases	The number of stable leases in the pool
Provisioned Addresses	The number of provisioned addresses in the pool
Used Addressed	The number of used addresses in the pool
Free Addresses	The number of free addresses in the pool
Used Pct	The percentage of subnets in use in the pool
Free Pct	The percentage of unused subnets in the pool
Last Reset Time	The date and time of the last reset in the pool
Number of entries	The total number of entries

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

pool-ext-stats

Syntax

pool-ext-stats [*pool-name*]

Context

[Tree] (show>router>dhcp6>server pool-ext-stats)

Full Context

show router dhcp6 local-dhcp-server pool-ext-stats

Description

This command displays extended statistics per DHCPv6 pool in local DHCPv6 server.

The following statistics are included in output:

- The number of stable leases in the pool
- The number of provisioned /64 address block in the pool
- The number of used /64 address block in the pool
- The number of free /64 address block in the pool
- The percentage of used address (with /64 address block)
- The percentage of free address (with /64 address block)

For each statistic (except for Provisioned Addresses), there is current value and peak value, peak value is the highest value since pool creation or last reset via command "clear router <rt-id> dhcp6 local-dhcp-server <svr-name> pool-ext-stats".

Parameters

pool-name

Specifies the name of DHCPv6 local server pool.

Platforms

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

Output

The following output is an example of subnet statistics information.

Output Example

```
show router 500 dhcp6 local-dhcp-server "d6" pool-ext-stats "pool-v6"
===============================================================================
Extended pool statistics for server "d6"
===============================================================================
                            Current         Peak            TimeStamp
-------------------------------------------------------------------------------
Pool                        pool-v6
Local:
  Stable Leases             0               0               01/07/2013 19:54:52
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Provisioned Blks         4
  Used Blks                0               0               01/07/2013 19:54:52
  Free Blks                4               4               01/07/2013 19:54:52
  Used Pct                 0               0               01/07/2013 19:54:52
  Free Pct                 100             100             01/07/2013 19:54:52
Last Reset Time                                           01/07/2013 19:54:52
-------------------------------------------------------------------------------
Number of entries          1
===============================================================================
```

Table 425: Output fields: DHCP6 pool extended statistics describes DHCP6 extended pool statistics output fields.

Table 425: Output fields: DHCP6 pool extended statistics

Field	Description
Current	The current pool statistics
Peak	The peak value since the last reset
TimeStamp	The date and time of the last reset
Pool	The pool name
Stable Leases	The number of stable leases
Provisioned Blks	The number of provisioned blocks in this pool
Free Blks	The number of free blocks in this pool
Used Pct	The percentage of extended statistics in use
Free Pct	The percentage of /64 blocks currently unused
Last Reset Time	The date and time of the last reset
Number of entries	The total number of entries

pool-ext-stats

Syntax

pool-ext-stats [*pool-name*]

Context

[Tree] (clear>router>dhcp>server pool-ext-stats)

[Tree] (clear>router>dhcp6>server pool-ext-stats)

Full Context

clear router dhcp local-dhcp-server pool-ext-stats

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

clear router dhcp6 local-dhcp-server pool-ext-stats

Description

This command clears extended pool statistics.

Parameters

pool-name

Clears information about the pool name.

Platforms

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

19.3 pool-stats

pool-stats

Syntax

pool-stats [*pool-name*]

Context

[Tree] (show>router>dhcp6>server pool-stats)

Full Context

show router dhcp6 local-dhcp-server pool-stats

Description

This command displays pool statistics.

Parameters

pool-name

Specifies the name of DHCPv6 local server pool.

Platforms

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

Output

The following output is an example of pool statistics information.

Output Example

```
*A:vsim-2# show router 500 dhcp6 local-dhcp-server "d6" pool-stats
===============================================================================
DHCPv6 server pool statistics
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Pool                        : v6-1
-------------------------------------------------------------------------------
Dropped Int no prefix WAN   : 0
Dropped Int no prefix SLAAC : 0
===============================================================================
*A:vsim-2#
*A:vsim-2# show router 500 dhcp local-dhcp-server "d4" failover-
failover-pool-stats     failover-server-stats
*A:vsim-2# show router 500 dhcp local-dhcp-server "d4" failover-pool-stats
===============================================================
Failover config for pool         v4-1
===============================================================
Failover Admin State             inService
Failover Oper State              normal
Failover Persist Key             0xFFFFFFFF
Administrative MCLT              0h10m0s
Operational MCLT                 0h10m0s
Startup Wait Time                0h2m0s
Partner Down Delay               23h59m59s
  Ignore MCLT                    disabled
Failover statistics for pool     v4-1
---------------------------------------------------------------
Dropped Invalid Packets          0
Failover Shutdown                0
Lease Already Expired            0
Maximum Lease Count Reached      0
Subnet Not Found                 0
Range Not Found                  0
Host Conflict                    0
Address Conflict                 0
Peer Conflict                    0
Persistence Congestion           0
No Lease Hold Time Configured    0
Lease Not Found                  0
---------------------------------------------------------------
Number of pools found            1
===============================================================
*A:vsim-2#
```

Table 426: Output fields: failover pool statistics describes pool statistics output field descriptions.

Table 426: Output fields: failover pool statistics

Field	Description
Failover Admin State	Identifiers the failover state of the DHCP server instance inService — The failover admin state is in service outOfService — The failover admin state is out of service
Failover Oper State	The operational state of a DHCP server instance
Failover Persist Key	The maximum amount of time that one server can extend a lease for a client's binding beyond the time known by the partner server
Administrative MCLT	The administrative Maximum Client Lead Time (MCLT)
Operational MCLT	Indicates the operational MCLT

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Startup Wait Time	The startup wait time. The startup wait time is the time that one IP address pool attempts to contact the partner IP address pool. During this time, the IP address pool is unresponsive to DHCP client requests.
Partner Down Delay	The minimum safe-time after the beginning of COMMUNICATIONS-INTERRUPTED state. After the expiry of this time, the server enters the PARTNER-DOWN state.
Ignore McLT	The ignore McLT status. If, after the transition COMMUNICATIONS-INTERRUPTED-to-PARTNER-DOWN state, the DHCP server instance ignores the safety period with a duration of Maximum Client Lead Time; a 'true' value has the effect that the DHCP server starts offering IP addresses from the partner's scope immediately after this transition, without waiting for existing leases allocated by the partner and not known by this system to time out. A 'true' value increases the risk that duplicate addresses are offered; if the transition to PARTNER-DOWN state is likely to be caused by a failure of the partner system rather than a communications problem, this risk is reduced.
Failover statistics for pool	The failover statistics for each pool
Dropped Invalid Packets	The number of BNDUPD packets that were dropped because the packet was malformed
Failover Shutdown	The number of BNDUPD packets that were dropped because the failover state if the DHCP server instance is shut down
Lease Already Expired	The number of BNDUPD packets that were dropped because the corresponding lease has expired
Maximum Lease Count Reached	The number of BNDUPD packets that were dropped because the maximum number of leases were reached
Subnet Not Found	The number of BNDUPD packets that were dropped because a valid subnet could not be found for the lease
Range Not Found	The number of BNDUPD packets that were dropped because a valid include range could not be found for the lease.
Host Conflict	The number of BNDUPD packets that were dropped because this DHCP server instance has already leased this address to another host

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Address Conflict	The number of BNDUPD packets that were dropped because this DHCP server instance has already leased another address to this host
Peer Conflict	The number of BNDUPD packets that were dropped because the failover peer has leased an address within a subnet range of which the failover control is set to **local** on this local DHCP server instance
Persist Congestion	The number of BNDUPD packets that were dropped because of persistence congestion on this DHCP server instance
No Lease Hold Time Configured	The number of BNDUPD packets that were dropped because the lease hold time is zero on this DHCP server instance
Lease Not Found	The number of Binding Database Update (BNDUPD) remove packets were dropped because the corresponding lease could not be found.
Number of pools found	The total number of pools found

19.4 pool-threshold-stats

pool-threshold-stats

Syntax

pool-threshold-stats [*pool-name*] **detail** [**format** {**exact** | **scientific**}]

pool-threshold-stats [*pool-name*]

Context

[Tree] (show>router>dhcp6>server pool-threshold-stats)

Full Context

show router dhcp6 local-dhcp-server pool-threshold-stats

Description

This commands displays pool level threshold stats of local DHCPv6 server. A minimum-free threshold needs to be configured before system collects threshold stats for the prefix.

The stats for each threshold are calculated based on the configured minimum-free prefix length.

For example, a /59 prefix is provision in the local DHCPv6 server, and the server allocated two PD leases, one /62 and one /63. And there is a /63 minimum threshold configured. The threshold stats are calculated

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

based on /63 as the base unit (block). Then the value of current used block would be 3 because there is one /62 lease and one /63 lease, that equals to a total of three /63.

Parameters

pool-name

Specifies the name of the pool in local DHCPv6 server.

detail

Displays detailed output.

format

Specifies the format in the display to be either **exact** or **scientific**.

Platforms

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

Output

The following output is an example of pool threshold statistics information.

Output Example

```
show router 500 dhcp6 local-dhcp-server "d6" pool-threshold-stats "1"
===============================================================================
Server "d6"
===============================================================================
  Operational state         : inService
-------------------------------------------------------------------------------
Pool                        : 1
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
  -----------------------------------------------------------------------------
  Threshold   Used   Peak   Too low   Depleted   Peak timestamp
  -----------------------------------------------------------------------------
  /62         25%    25%    N         N          01/21/2015 21:52:12
  /63         19%    19%    N         N          01/21/2015 21:52:12
```

The command shown above displays an overview of pool level thresholds in the specified pool:

- The **Peak** field indicates the peak value of used
- The **Too low** field indicate if the configured minimum-free threshold is exceeded
- The **Depleted** field indicate if there is no available prefix with the length in the provisioned prefix
- The **Peak timestamp** field indicates the time of peak used value

```
show router 500 dhcp6 local-dhcp-server "d6" pool-threshold-stats "1" detail
===============================================================================
Server "d6"
===============================================================================
  Operational state         : inService
-------------------------------------------------------------------------------
Pool                        : 1
-------------------------------------------------------------------------------
  Stable leases             : 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Advertised leases         : 0
  -------------------------------------------------------------------------------
  Threshold                 : /62
  -------------------------------------------------------------------------------
  Current Provisioned Blks  : 8.000000x10^0
  Current Used Blks         : 2.000000x10^0
  Current Free Blks         : 6.000000x10^0
  Current Used Percent      : 25%
  Current Used Peak Blks    : 2.000000x10^0
  Current Used Peak Percent : 25%
  Current Used Peak Time    : 01/21/2015 21:52:12
  Current Free Percent      : 75%
  Current Free Too Low      : N
  Current Free Depleted     : N
  Local Provisioned Blks    : 8.000000x10^0
  Local Used Blks           : 2.000000x10^0
  Local Free Blks           : 6.000000x10^0
  Local Used Peak Blks      : 2.000000x10^0
  Local Used Peak Percent   : 25%
  Local Used Peak Time      : 01/21/2015 21:52:12
  Remote Provisioned Blks   : 0.000000x10^0
  Remote Used Blks          : 0.000000x10^0
  Remote Free Blks          : 0.000000x10^0
  Remote Used Peak Blks     : 0.000000x10^0
  Remote Used Peak Percent  : 0%
  Remote Used Peak Time     : 01/21/2015 21:47:39
  Peak Reset Time           : 01/21/2015 21:47:39
  Valid Data                : Y
  -------------------------------------------------------------------------------
  Threshold                 : /63
  -------------------------------------------------------------------------------
  Current Provisioned Blks  : 1.600000x10^1
  Current Used Blks         : 3.000000x10^0
  Current Free Blks         : 1.300000x10^1
  Current Used Percent      : 19%
  Current Used Peak Blks    : 3.000000x10^0
  Current Used Peak Percent : 19%
  Current Used Peak Time    : 01/21/2015 21:52:12
  Current Free Percent      : 81%
  Current Free Too Low      : N
  Current Free Depleted     : N
  Local Provisioned Blks    : 1.600000x10^1
  Local Used Blks           : 3.000000x10^0
  Local Free Blks           : 1.300000x10^1
  Local Used Peak Blks      : 3.000000x10^0
  Local Used Peak Percent   : 19%
  Local Used Peak Time      : 01/21/2015 21:52:12
  Remote Provisioned Blks   : 0.000000x10^0
  Remote Used Blks          : 0.000000x10^0
  Remote Free Blks          : 0.000000x10^0
  Remote Used Peak Blks     : 0.000000x10^0
  Remote Used Peak Percent  : 0%
  Remote Used Peak Time     : 01/21/2015 21:47:39
  Peak Reset Time           : 01/21/2015 21:47:39
  Valid Data                : Y
```

The above command displays detailed statistics of all pool level thresholds in the specified pool:

- **Blks** in the output means the minimum free prefix length.
- **Valid Data** output indicates whether the data you see is valid or not. The data is invalid when a background stats update is scheduled or busy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 427: Output fields: pool threshold statistics describes pool threshold statistics output fields.

Table 427: Output fields: pool threshold statistics

Field	Description
Operational state	The operational state of the local DHCP server instance unknown — The operational state is unknown inService — The operational state is in service outOfService — The operational state is out of service transition — The operational state is in transition waitPersistence — The DHCP server instance is waiting for a persistence action to complete.
Pool	The pool ID
Stable Leases	The number of stable leases
Advertised leases	The number of advertised leases
Threshold	The prefix level threshold
Current Provisioned Blks	The number of provisioned blocks in this pool
Current Used Blks	The number of used blocks in this pool
Current Free Blks	The number of free blocks in this pool
Current Used Percent	The percentage of used prefixes with the minimum free threshold length in the pool compared to the number of provisioned prefixes
Current Used Peak Blks	A 64-bit word of the peak value of the number of used blocks in the pool with a prefix length
Current Used Peak Percent	The peak value of the number of used prefixes with the minimum free threshold length in the pool as a percentage of the provisioned prefixes. This depends on the current failover state of the DHCP server or pool
Current Used Peak Time	The time at which the peak value of the number of used prefixes in the pool was reached
Current Free Percent	The percentage of free prefixes with the minimum free threshold length in the pool compared to the number of provisioned prefixes. This depends on the current failover state of the DHCP server or pool
Current Free Too Low	The number of free prefixes with the minimum free threshold length available in the pool that is below the configured number of prefixes with the minimum free threshold length

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Current Free Depleted	The number of prefixes with the minimum free threshold length available in the pool
Local Provisioned Blks	A 64-bit word of the number of provisioned prefixes with the minimum free threshold length local in the pool
Local Used Blks	A 64-bit word of the number of used prefixes with the minimum free threshold length local in the pool
Local Free Blks	A 64-bit word of the number of free prefixes with the minimum free threshold length local in the pool
Local Used Peak Blks	A 64-bit word of the peak value of the number of used prefixes with the minimum free threshold length local in the pool
Local Used Peak Percent	The peak value of the number of used prefixes with the minimum free threshold length local in the pool as a percentage of the provisioned prefixes
Local Used Peak Time	The time at which the peak value of the number of used prefixes local in the pool was reached
Remote Provisioned Blks	A 64-bit word of the number of provisioned prefixes with the minimum free threshold length remote in the pool
Remote Used Blks	A 64-bit word of the number of used prefixes with the minimum free threshold length remote in the pool
Remote Free Blks	A 64-bit word of the number of free prefixes with the minimum free threshold length remote in the pool

pool-threshold-stats

Syntax

pool-threshold-stats [*pool-name*]

Context

[Tree] (clear>router>dhcp6>server pool-threshold-stats)

Full Context

clear router dhcp6 local-dhcp-server pool-threshold-stats

Description

This commands resets the peak stats in the pool level threshold stats in the specified pool. If the pool name is not specified, then the peak stats in all pools in the server are reset.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

pool-name

Clears information about the specified local DHCPv6 server pool.

Platforms

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

19.5 pools

pools

Syntax

pools *mda-id*[/*port*]

pools *mda-id*[/*port*] *access-app* [*pool-name*]

pools *mda-id*[/*port*] *access-app* [**service** *service-id*]

pools *mda-id*[/*port*] *access-app* **queue-group** *queue-group-name* [**instance** *instance-id*]

pools *mda-id*[/*port*] **network-egress** [*pool-name*]

pools *mda-id*[/*port*] **network-egress queue-group** *queue-group-name* [**instance** *instance-id*]

pools *mda-id*[/*port*] [*direction* [{*pool-name* | **service** *service-id* | **queue-group** *queue-group-name*} [**instance** *instance-id*]]]

pools *slot-number*

pools *slot-number* **fp** *fp-number*

pools *slot-number* **fp** *fp-number app-ingress*

pools *slot-number* **fp** *fp-number* **network-ingress statistics**

pools *port access-app* **statistics**

pools *port* **network-egress statistics**

Context

[Tree] (show pools)

Full Context

show pools

Description

This command displays pool information.

Parameters

***mda-id*[*/port*]**

Displays the pool information of the specified MDA and port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values slot/mda[/port]

access-app

Specifies the pool application as either access ingress or egress.

Values **access-ingress**, **access-egress**

pool-name

Displays the pool information of the specified pool. If specified, the name must be **default**.

service-id

Displays the pool information for the specified service.

Values 1 to 2148278386, *svc-name*: 64 char max

queue-group-name

Displays the information for the specified queue group.

Values 32 chars max

instance-id

Specifies the identification of a specific instance of the queue group.

Values 1 to 65535

network-egress

Displays the network egress information.

direction

Displays the information for the ingress or egress direction.

Values **ingress**, **egress**

slot-number

Displays the information for the specified card slot.

Values 1 to 10

fp-number

Displays the information for the specified FP.

Values 1 to 8

app-ingress

Displays the network ingress or access ingress information.

Values **network-ingress**, **access-ingress**

statistics

Displays the buffer pool statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following outputs are example of pool information, and Table 428: Output fields: pools describes the output fields.

Note:
The pool shared in use stat only increases when a queue is asking for a buffer outside its reserved size. If all the buffers in a pool are assigned to queues within their reserved size, then only the reserved in use size will increase. In case of resv CBS over subscription (CBS sum for all queues is bigger than pool resvCbs), it is possible that pool resv in use stat can increase above the actual pool reserved size.

Output Example: show pools

```
*A:PE# show pools 5/1
===============================================================================
MDA Pools
===============================================================================
Slot/MDA          App.    Pool Name                  Actual ResvCBS  PoolSize
                                                     Admin ResvCBS
-------------------------------------------------------------------------------
5/1               Acc-Ing default                    0               0
                                                     30%
5/1               Acc-Egr default                    0               0
                                                     30%
5/1               Net-Egr default                    0               0
                                                     Sum
===============================================================================
===============================================================================
Port Pools
===============================================================================
Port              App.    Pool Name                  Actual ResvCBS  PoolSize
                                                     Admin ResvCBS
-------------------------------------------------------------------------------
5/1/1             Acc-Ing default                    16128           52224
                                                     30%
5/1/1             Acc-Egr default                    23040           75264
                                                     30%
5/1/1             Net-Egr default                    0               0
                                                     Sum
5/1/2             Acc-Ing default                    0               0
                                                     30%
5/1/2             Acc-Egr default                    0               0
                                                     30%
5/1/2             Net-Egr default                    32256           75264
                                                     Sum
5/1/3             Acc-Ing default                    0               0
                                                     30%
5/1/3             Acc-Egr default                    0               0
                                                     30%
5/1/3             Net-Egr default                    32256           75264
                                                     Sum
5/1/4             Acc-Ing default                    0               0
                                                     30%
5/1/4             Acc-Egr default                    0               0
                                                     30%
5/1/4             Net-Egr default                    32256           75264
                                                     Sum
5/1/5             Acc-Ing default                    0               0
                                                     30%
5/1/5             Acc-Egr default                    0               0
                                                     30%
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
5/1/5             Net-Egr default                    32256          75264
                                                     Sum
===============================================================================
*A:PE#
```

Output Example: show pools network-egress

```
*A:PE# show pools 5/1/5 network-egress
===============================================================================
Pool Information
===============================================================================
Port                : 5/1/5
Application         : Net-Egr          Pool Name            : default
CLI Config. Resv CBS : Sum
Resv CBS Step       : 0%               Resv CBS Max         : 0%
Amber Alarm Threshold: 0%              Red Alarm Threshold  : 0%
-------------------------------------------------------------------------------
Queue-Groups
-------------------------------------------------------------------------------
Queue-Group:Instance : qg1:1
-------------------------------------------------------------------------------
Utilization                   State       Start-Avg    Max-Avg    Max-Prob
-------------------------------------------------------------------------------
HiPlus-Slope                  Down              85%       100%         80%
High-Slope                    Down              70%        90%         80%
Low-Slope                     Down              50%        75%         80%
Exceed-Slope                  Down              30%        55%         80%
Time Avg Factor     : 7
Pool Total          : 75264 KB
Pool Shared         : 43008 KB         Pool Resv            : 32256 KB
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Current Resv CBS    Provisioned    Rising         Falling        Alarm
%age                all Queues     Alarm Thd      Alarm Thd      Color
-------------------------------------------------------------------------------
Sum                 32232 KB       NA             NA             Green
Pool Total In Use   : 0 KB
Pool Shared In Use  : 0 KB             Pool Resv In Use     : 0 KB
WA Shared In Use    : 0 KB
HiPlus-Slope Drop Pr*: 0               Hi-Slope Drop Prob   : 0
Lo-Slope Drop Prob  : 0                Excd-Slope Drop Prob : 0
===============================================================================
Queue Information
===============================================================================
===============================================================================
Queue : 1 Net=be Port=5/1/5
===============================================================================
FC Map          : be
Dest Tap        : not-applicable       Dest FP          : not-applicable
Admin PIR       : 10000000             Oper PIR         : Max
Admin CIR       : 0                    Oper CIR         : 0
Admin MBS       : 37632 KB             Oper MBS         : 37632 KB
High-Plus Drop T*: 37632 KB            High Drop Tail   : 37632 KB
Low Drop Tail   : 33792 KB             Exceed Drop Tail : 33792 KB
CBS             : 744 KB               Depth            : 0
Slope           : not-applicable
===============================================================================
Queue : 2 Net=l2 Port=5/1/5
===============================================================================
FC Map          : l2
Dest Tap        : not-applicable       Dest FP          : not-applicable
Admin PIR       : 10000000             Oper PIR         : Max
Admin CIR       : 2500000              Oper CIR         : 2500000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin MBS         : 37632 KB              Oper MBS          : 37632 KB
High-Plus Drop T*: 37632 KB               High Drop Tail    : 37632 KB
Low Drop Tail     : 33792 KB              Exceed Drop Tail  : 33792 KB
CBS               : 2256 KB               Depth             : 0
Slope             : not-applicable
===============================================================================
Queue : 3 Net=af Port=5/1/5
===============================================================================
FC Map            : af
Dest Tap          : not-applicable        Dest FP           : not-applicable
Admin PIR         : 10000000              Oper PIR          : Max
Admin CIR         : 2500000               Oper CIR          : 2500000
Admin MBS         : 37632 KB              Oper MBS          : 37632 KB
High-Plus Drop T*: 37632 KB               High Drop Tail    : 37632 KB
Low Drop Tail     : 33792 KB              Exceed Drop Tail  : 33792 KB
CBS               : 7488 KB               Depth             : 0
Slope             : not-applicable
===============================================================================
Queue : 4 Net=l1 Port=5/1/5
===============================================================================
FC Map            : l1
Dest Tap          : not-applicable        Dest FP           : not-applicable
Admin PIR         : 10000000              Oper PIR          : Max
Admin CIR         : 2500000               Oper CIR          : 2500000
Admin MBS         : 18816 KB              Oper MBS          : 18816 KB
High-Plus Drop T*: 18816 KB               High Drop Tail    : 18816 KB
Low Drop Tail     : 16896 KB              Exceed Drop Tail  : 16896 KB
CBS               : 2256 KB               Depth             : 0
Slope             : not-applicable
===============================================================================
Queue : 5 Net=h2 Port=5/1/5
===============================================================================
FC Map            : h2
Dest Tap          : not-applicable        Dest FP           : not-applicable
Admin PIR         : 10000000              Oper PIR          : Max
Admin CIR         : 10000000              Oper CIR          : Max
Admin MBS         : 37632 KB              Oper MBS          : 37632 KB
High-Plus Drop T*: 37632 KB               High Drop Tail    : 37632 KB
Low Drop Tail     : 33792 KB              Exceed Drop Tail  : 33792 KB
CBS               : 7488 KB               Depth             : 0
Slope             : not-applicable
===============================================================================
Queue : 6 Net=ef Port=5/1/5
===============================================================================
FC Map            : ef
Dest Tap          : not-applicable        Dest FP           : not-applicable
Admin PIR         : 10000000              Oper PIR          : Max
Admin CIR         : 10000000              Oper CIR          : Max
Admin MBS         : 37632 KB              Oper MBS          : 37632 KB
High-Plus Drop T*: 37632 KB               High Drop Tail    : 37632 KB
Low Drop Tail     : 33792 KB              Exceed Drop Tail  : 33792 KB
CBS               : 7488 KB               Depth             : 0
Slope             : not-applicable
===============================================================================
Queue : 7 Net=h1 Port=5/1/5
===============================================================================
FC Map            : h1
Dest Tap          : not-applicable        Dest FP           : not-applicable
Admin PIR         : 10000000              Oper PIR          : Max
Admin CIR         : 1000000               Oper CIR          : 1000000
Admin MBS         : 18816 KB              Oper MBS          : 18816 KB
High-Plus Drop T*: 18816 KB               High Drop Tail    : 18816 KB
Low Drop Tail     : 16896 KB              Exceed Drop Tail  : 16896 KB
CBS               : 2256 KB               Depth             : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Slope            : not-applicable
===============================================================================
Queue : 8 Net=nc Port=5/1/5
===============================================================================
FC Map           : nc
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 1000000              Oper CIR         : 1000000
Admin MBS        : 18816 KB             Oper MBS         : 18816 KB
High-Plus Drop T*: 18816 KB             High Drop Tail   : 18816 KB
Low Drop Tail    : 16896 KB             Exceed Drop Tail : 16896 KB
CBS              : 2256 KB              Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : netQGrp->qg1:1(5/1/5)->1
===============================================================================
FC Map           : not-applicable
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 0                    Oper CIR         : 0
Admin MBS        : 12288 KB             Oper MBS         : 12288 KB
High-Plus Drop T*: 12288 KB             High Drop Tail   : 12288 KB
Low Drop Tail    : 10944 KB             Exceed Drop Tail : 9792 KB
CBS              : 0 KB                 Depth            : 0
Slope            : not-applicable
===============================================================================
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:PE#
```

Output Example: show pool access-ingress

```
*A:PE# show pools 5/1/1 access-ingress
===============================================================================
Pool Information
===============================================================================
Port                : 5/1/1
Application         : Acc-Ing          Pool Name             : default
CLI Config. Resv CBS : 30%(default)
Resv CBS Step       : 0%               Resv CBS Max          : 0%
Amber Alarm Threshold: 0%              Red Alarm Threshold   : 0%
-------------------------------------------------------------------------------
Utilization                  State       Start-Avg    Max-Avg    Max-Prob
-------------------------------------------------------------------------------
HiPlus-Slope                 Down              85%       100%         80%
High-Slope                   Down              70%        90%         80%
Low-Slope                    Down              50%        75%         80%
Exceed-Slope                 Down              30%        55%         80%
Time Avg Factor     : 7
Pool Total          : 52224 KB
Pool Shared         : 36096 KB         Pool Resv             : 16128 KB
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Current Resv CBS    Provisioned    Rising         Falling        Alarm
%age                all Queues     Alarm Thd      Alarm Thd      Color
-------------------------------------------------------------------------------
30%                 0 KB           NA             NA             Green
Pool Total In Use    : 0 KB
Pool Shared In Use   : 0 KB             Pool Resv In Use      : 0 KB
WA Shared In Use     : 0 KB
HiPlus-Slope Drop Pr*: 0                Hi-Slope Drop Prob    : 0
Lo-Slope Drop Prob   : 0                Excd-Slope Drop Prob  : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Queue Information
===============================================================================
===============================================================================
Queue : 1->5/1/1:1->1
===============================================================================
FC Map               : be l2 af l1 h2 ef h1 nc
Dest Tap             : 5/1              Dest FP          : 1
Admin PIR            : 10000000         Oper PIR         : Max
Admin CIR            : 0                Oper CIR         : 0
Admin FIR            : 0                Oper FIR         : 0
Admin MBS            : 12288 KB         Oper MBS         : 12288 KB
High-Plus Drop Tail  : 12288 KB         High Drop Tail   : 12288 KB
Low Drop Tail        : 10944 KB         Exceed Drop Tail : 9792 KB
CBS                  : 0 KB             Depth            : 0
Slope                : not-applicable
===============================================================================
===============================================================================
Queue : 1->5/1/1:1->11
===============================================================================
FC Map               : be l2 af l1 h2 ef h1 nc
Dest Tap             : MCast            Dest FP          : not-applicable
Admin PIR            : 10000000         Oper PIR         : Max
Admin CIR            : 0                Oper CIR         : 0
Admin FIR            : 0                Oper FIR         : 0
Admin MBS            : 12288 KB         Oper MBS         : 12288 KB
High-Plus Drop Tail  : 12288 KB         High Drop Tail   : 12288 KB
Low Drop Tail        : 10944 KB         Exceed Drop Tail : 9792 KB
CBS                  : 0 KB             Depth            : 0
Slope                : not-applicable
===============================================================================
No Matching Entries
===============================================================================
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:PE#
```

Output Example: show pools access-egress

```
*A:PE# show pools 5/1/1 access-egress
===============================================================================
Pool Information
===============================================================================
Port                 : 5/1/1
Application          : Acc-Egr          Pool Name             : default
CLI Config. Resv CBS : 30%(default)
Resv CBS Step        : 0%               Resv CBS Max          : 0%
Amber Alarm Threshold: 0%               Red Alarm Threshold   : 0%
-------------------------------------------------------------------------------
Queue-Groups
-------------------------------------------------------------------------------
Queue-Group:Instance : policer-output-queues:1
-------------------------------------------------------------------------------
Utilization                  State       Start-Avg    Max-Avg    Max-Prob
-------------------------------------------------------------------------------
HiPlus-Slope                 Down              85%       100%         80%
High-Slope                   Down              70%        90%         80%
Low-Slope                    Down              50%        75%         80%
Exceed-Slope                 Down              30%        55%         80%
Time Avg Factor      : 7
Pool Total           : 75264 KB
Pool Shared          : 52224 KB         Pool Resv             : 23040 KB
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Current Resv CBS    Provisioned    Rising         Falling        Alarm
%age                all Queues     Alarm Thd      Alarm Thd      Color
-------------------------------------------------------------------------------
30%                 0 KB           NA             NA             Green
Pool Total In Use    : 0 KB
Pool Shared In Use   : 0 KB             Pool Resv In Use      : 0 KB
WA Shared In Use     : 0 KB
HiPlus-Slope Drop Pr*: 0                Hi-Slope Drop Prob    : 0
Lo-Slope Drop Prob   : 0                Excd-Slope Drop Prob  : 0
===============================================================================
Queue Information
===============================================================================
===============================================================================
Queue : 1->5/1/1:1->1
===============================================================================
FC Map               : be l2 af l1 h2 ef h1 nc
Dest Tap             : not-applicable   Dest FP          : not-applicable
Admin PIR            : 10000000         Oper PIR         : Max
Admin CIR            : 0                Oper CIR         : 0
Admin MBS            : 12288 KB         Oper MBS         : 12288 KB
High-Plus Drop Tail  : 12288 KB         High Drop Tail   : 12288 KB
Low Drop Tail        : 10944 KB         Exceed Drop Tail : 9792 KB
CBS                  : 0 KB             Depth            : 0
Slope                : not-applicable
===============================================================================
===============================================================================
Queue : accQGrp->policer-output-queues:1(5/1/1)->1
===============================================================================
FC Map               : not-applicable
Dest Tap             : not-applicable   Dest FP          : not-applicable
Admin PIR            : 10000000         Oper PIR         : Max
Admin CIR            : 0                Oper CIR         : 0
Admin MBS            : 12288 KB         Oper MBS         : 12288 KB
High-Plus Drop Tail  : 12288 KB         High Drop Tail   : 12288 KB
Low Drop Tail        : 10944 KB         Exceed Drop Tail : 9792 KB
CBS                  : 0 KB             Depth            : 0
Slope                : not-applicable
===============================================================================
===============================================================================
Queue : accQGrp->policer-output-queues:1(5/1/1)->2
===============================================================================
FC Map               : not-applicable
Dest Tap             : not-applicable   Dest FP          : not-applicable
Admin PIR            : 10000000         Oper PIR         : Max
Admin CIR            : 0                Oper CIR         : 0
Admin MBS            : 12288 KB         Oper MBS         : 12288 KB
High-Plus Drop Tail  : 12288 KB         High Drop Tail   : 12288 KB
Low Drop Tail        : 10944 KB         Exceed Drop Tail : 9792 KB
CBS                  : 0 KB             Depth            : 0
Slope                : not-applicable
===============================================================================
===============================================================================
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:PE#
```

Output Example: show pools access-ingress statistics

```
:admin@Dut-A# show pools 1/1/c1/1 access-ingress statistics

===============================================================================
Pool Stats Information
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
                            Packets/Octets
-------------------------------------------------------------------------------
Fwd:                        15/15000
Drop due to:
  Queue:                    13038037/13038037000
  Exceed-Slope:             0/0
  Low-Slope:                0/0
  High-Slope:               0/0
  HiPlus-Slope:             0/0
  Pool Shared:              0/0
  Pool Total:               0/0
  Other:                    0/0
Total:                      13038052/13038052000
===============================================================================
```

Output Fields: show pools

Table 428: Output fields: pools describes the output fields for the **show pools** command.

Table 428: Output fields: pools

Label	Description
Type	Specifies the pool type.
ID-FP	Specifies the card-FP or MDA-FP or card, MDA, or port designation.
Application/Type	Specifies what the pool would be used for. The pools could be used for access or network traffic at either ingress or egress.
Pool Name	Specifies the name of the pool being used.
Resv CBS	Specifies the percentage of pool size reserved for CBS.
Utilization	Specifies the type of the slope policy.
State	The administrative status of the port.
Start-Avg	Specifies the percentage of the buffer utilized after which the drop probability starts to rise above 0.
Max-Avg	Specifies the percentage of the buffer utilized after which the drop probability is 100 percent. This implies that all packets beyond this point will be dropped.
Time Avg Factor	Specifies the time average factor the weighting between the previous shared buffer average utilization result and the new shared buffer utilization in determining the new shared buffer average utilization.
Actual ResvCBS	Specifies the actual percentage of pool size reserved for CBS.
Admin ResvCBS	Specifies the percentage of pool size reserved for CBS.
PoolSize	Specifies the size in percentage of buffer space. The value '-1' implies that the pool size should be computed as per fair weighting between all other pools.
Pool Total	Displays the total pool size.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Pool Shared	Displays the amount of the pool which is shared.
Pool Resv	Specifies the percentage of reserved pool size.
Pool Total In Use	Displays the total amount of the pool which is in use.
Pool Shared In Use	Displays the amount of the pool which is shared that is in use.
Queue	Specifies the number of packets/octets discarded in the queue.
Exceed-Slope	Specifies the number of packets/octets discarded because of wred-slope (exceed).
Low-Slope	Specifies the number of packets/octets discarded because of wred-slope (low).
High-Slope	Specifies the number of packets/octets discarded because of wred-slope (high).
HiPlus-Slope	Specifies the number of packets/octets discarded because of wred-slope (hiPlus).
Pool Shared	Specifies the number of packets/octets discarded by exceeding shared-buffer-pool size.
Pool Total	Specifies the number of packets/octets discarded after the total size of the bufferpool is reached.

pools

Syntax

pools *port-id* {**access-ingress** | **access-egress** | **network-egress**} **statistics**

pools *slot-number* **fp** *fp-number* {**network-ingress**} **statistics**

Context

[Tree] (clear pools)

Full Context

clear pools

Description

This command clears buffer pool statistics.

Parameters

port-id

Clears information for the specified port.

Values 18 characters maximum

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

slot-number

Clears information for the specified card slot.

Values 1 to 10

fp-number

Clears information for the specified FP.

Values 1 to 8

statistics

Clears buffer pool statistics.

Values **Keyword**

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

19.6 port

port

Syntax

port [*port-id*] [**statistics** [**egress-aggregate**]] [**detail**]

port [*port-id*] **statistics aggregate-queue**

port *port-id* **associations**

port [*port-id*] **description** [**detail**]

port *port-id* **dotx1** [**detail**]

port aps

port *port-id* **ethernet** [**association** | **detail**]

port *port-id* **ethernet** [**association** | **detail**] **efm-oam** [**event-logs** [{**failure** | **degraded**}] [{**active** | **cleared**}]]

port *port-id* **ethernet** [**association** | **detail**] **lldp** [**nearest-bridge** | **nearest-non-tpmr** | **nearest-customer**] [**remote-info**] [**detail**]

port A/gnss

port B/gnss

port *port-id* **hs-secondary-shaper** *secondary-shaper-name* [**statistics** | **associations**]

port *port-id* **hs-secondary-shaper**

port *port-id* **hw-agg-shaper-scheduler [statistics] [monitor-threshold]**

port *port-id* **macsec sub-port** *sub-port-id* [**detail**] [**statistics**]

port *port-id* **monitor-threshold**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port *port-id* **optical**

port *port-id* **otu**

port *port-id* **port-queues queue** *queue-id*

port *port-id* **port-queues queue-depth** [**queue** *queue-id*]

port *port-id* **port-scheduler statistics**

port *port-id* **queue-group** [**ingress** | **egress**] [*queue-group-name*] [**access** | **network**] [**instance** *instance-id*]

port *port-id* **queue-group** [**ingress** | **egress**] [*queue-group-name*] [**access** | **network**] **associations** [**instance** *instance-id*]

port *port-id* **queue-group** [**ingress** | **egress**] *queue-group-name* [**access** | **network**] [**instance** *instance-id*] **queue-depth** [**queue** *queue-id*]

port *port-id* **queue-group** [**ingress** | **egress**] [*queue-group-name*] [**access** | **network**] **statistics** [**instance** *instance-id*]

port *port-id* **queue-group summary**

port *port-id* **vport** *vport-name* **monitor-threshold**

Context

[Tree] (show port)

Full Context

show port

Description

This command displays port or channel information.

If the *port-id* parameter only specifies a portion of a port identifier, a summary of all ports that start with that portion is displayed. For example, specifying a slot number and MDA number displays a summary of all ports on that MDA. If no *port-id* is provided, a summary of all ports in the system is displayed.

If the **detail** keyword is specified without any *port-id*, the detailed output of every port is displayed. This is useful for generating a complete report or as an input into the **| match** post-filtering command to display only specific fields for all ports (customized summaries).

If the *port-id* specifies a unique port, information about that port is displayed. The specific information displayed depends on the port type. Additional information can be displayed if the **detail** keyword is included. Information subsets can also be displayed by using various keywords. For example, the **otu** keyword displays only the OTU interface information for the port.

When the **associations** keyword is specified and the *port-id* is a member of a LAG, the command is interpreted as a request to display the associations of that LAG (see the **show lag** *lag-id* **associations** command).

Parameters

port-id

Specifies the physical port ID in the form *slot/mda/port*. The following table describes the port ID values.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 429: Output fields: port ID values

Product	Slot	MDA	Port	Values
7750 SR-12	1 to 10	1, 2	1 to 60 (depending on the MDA type)	—
7750 SR-7	1 to 5	1, 2		—
7950 XRS	1 to 20	—		—
7450 ESS-7	—	—		1 to 4
7450 ESS-12	—	—		1 to 0
7750 SR single-slot FP5	—	—		A/gnss
7750 SR-2se	—	—		A/gnss B/gnss
Channelized MDAs				
CHOC12-SFP	—			*slot/mda/port* [1 to 4]. [1 to 3]. [1 to 28]. [..24] For example, 7/2/1.1.1.28.24
CHOC3-SFP	—			*slot/mda/port*. [1 to 3]. [1 to 28]. [..24] For example, 7/2/1.1.28.24
DS3	—			*slot/mda/port*. [1 to 28] . [..24] For example, 7/1/1.1.1

Values

port-id	*slot*[/*mda*[/*port*]] or		
	slot/*mda*/*port* [.*channel*]		
	aps-id	aps-*group-id*[.*channel*]	
		aps	keyword
		group-id	1 to 64
	ccag-id	*slot*/*mda*/*path-id*[*cc-type*]	
		path-id	a,b
		cc-type	.sap-net, .net-sap
	eth-sat-id	esat-*id* [/*slot*/[u]*port*]	
		esat	keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

		id	1 to 20
		u	keyword for up-link port
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b

esa-port	esa-esa-id[/*vm-id*[/*esa-keyword*]]		
	esa	keyword	
	esa-id	1 to 16	
	vm-id	1 to 4	
	esa-keyword	**fm-sub**	Information/statistics on the internal interface toward an AA ESA-VM for from-subscriber traffic
		to-sub	Information/statistics on the internal interface toward an AA ESA-VM for to-subscriber traffic
		aa-svc	Information/statistics on the internal interface toward an AA ESA-VM for aa-service traffic
		private	Information/statistics on the internal interface toward a tunnel ESA-VM for private traffic
		public	Information/statistics on the internal interface toward a tunnel ESA-VM for public traffic
		ike	Information/statistics on the internal interface toward a tunnel ESA-VM for IKE traffic
		icmp	Information/statistics on the internal interface toward a tunnel ESA-VM for ICMP traffic
		frag	Information/statistics on the internal interface toward a tunnel ESA-VM for fragmented traffic
		nat-in-ip	Information/statistics on the internal interface toward a BB ESA-VM for NAT44 and NAT64 upstream/ downstream traffic on the inside, for

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	WLAN-GW tunnel traffic from/toward access points, or for a reassembly traffic over a SAP-based interface
nat-out-ip	Information/statistics on the internal interface toward a BB ESA-VM for NAT44, DS-Lite, NAT64 and L2-aware NAT upstream/downstream traffic on the outside, or for WLAN-GW UE traffic from/toward the network
nat-in-l2	Information/statistics on the internal interface toward a BB ESA-VM for L2-aware NAT
lns-net	Information/statistics on the internal interface toward a LNS ESA-VM, L2TP encapsulated packets from the LAC undergoes L2TP header removal
lns-esm	Information/statistics on the internal interface toward a LNS ESA-VM, IP packets from the network which undergoes L2TP encapsulation
nat-in-ds	Information/statistics on the internal interface toward a BB ESA-VM for DS-lite upstream/downstream traffic on the inside
lo-gre	Information/statistics on the internal interface between a WLAN-GW anchor ESA VM and tunnel ESA VM, for both up and downstream traffic

access

Keyword that displays the queue group name is on an access port.

active

Keyword that displays only active events.

aggregate-queue

Keyword that displays the aggregated number of forwarded and dropped packets and bytes per direction across all queues on a PXC port (pxc-<id>.a or pxc-<id>.b).

The system aggregates statistics from all queues under the specified PXC port for presentation. The duration required to gather these statistics is typically brief, though it may vary based on the system load at the time of querying and the number of queues and member ports in a LAG.

Statistics are cached for a 30-second interval. Consequently, executing this command more frequently than every 30 seconds yields identical results and the tmnxPortLastFetchedTime MIB entry and YANG state variable does not change.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

aps

Keyword that displays the ports on APS groups.

associations

Keyword that displays a list of port association.

cleared

Keyword that displays remote information about the bridge MAC.

degraded

Keyword that displays degrade severity events.

description

Keyword that displays port description strings.

detail

Keyword that displays detailed information.

dot1x

Keyword that displays information about 802.1x status and statistics.

egress

Keyword that displays whether the queue group name is an egress policy.

egress-aggregate

Keyword that displays aggregate egress statistics.

ethernet

Keyword that displays Ethernet port information.

failure

Keyword that displays failure severity events.

A/gnss

Keyword that displays interface information for the GNSS port on CPM A.

B/gnss

Keyword that displays interface information for the GNSS port on CPM B.

hs-secondary-shaper

Keyword that displays information about a specific HS secondary shaper on a port.

ingress

Keyword that displays whether the queue group name is an ingress policy.

instance-id

Specifies the identification of a specific instance of the queue group.

Values 1 to 65535

macsec

Keyword that displays the MACsec information for the port.

monitor-threshold

Keyword that displays the exceed-count for the port-scheduler under Vport (if specified) or for a physical port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

optical

Keyword that displays optical information.

otu

Keyword that displays optical transport unit (OTU) information.

nearest-bridge

Keyword that displays nearest bridge information.

nearest-customer

Keyword that displays nearest customer information.

nearest-non-tpmr

Keyword that displays nearest Two-Port MAC Relay (TPMR) information.

network

Keyword that displays the queue group name is on a network port.

port-scheduler

Keyword that displays the packet and octet counters for traffic exiting the specified port with an applied port scheduler policy, showing the total forwarded and dropped packets and octets, and the forwarded and dropped packets and octets per level.

queue

Keyword that displays the queue information.

queue-depth

Keyword that displays queue depth information for the specified queue group queue.

queue-group

Keyword that displays the queue group information.

queue-group-name

Specifies the name of an existing queue group template, up to 32 characters.

queue-id

Specifies the queue identification.

Values 1 to 16

remote-info

Keyword that displays remote information about the bridge MAC.

secondary-shaper-name

Displays information about the HS secondary name, up to 32 characters.

statistics

Keyword that displays port statistics.

vport-name

Specifies the name of the Vport up, to 32 characters in length.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following outputs are examples of port and channel information, and Table 430: Output fields: port ID describes the output fields.

- Output Example: show port <port-id>
- Output Example: show port <port-id> (Summary Table of Ports)
- Output Example: show port <port-id> associations
- Output Example: show port <port-id> detail (Ethernet Interface Port)
- Output Example: show port <port-id> (Excerpt Showing CFP Port with a QSFP28 Adapter)
- Output Example: show port <port-id> dot1x
- Output Example: show port <port-id> ethernet
- Output Example: show port <port-id> ethernet efm-oam
- Output Example: show port <port-id> ethernet efm-oam event-logs
- Output Example: show port <port-id> ethernet efm-oam event-logs
- Output Example: show port <port-id> ethernet lldp remote-info detail
- Output Example: show port <port-id> ethernet lldp detail
- Output Example: show port A/gnss (GNSS RF port)
- Output Example: show port <port-id> macsec sub-port <sub-port-id> detail
- Output Example: show port <port-id> macsec sub-port <sub-port-id> statistics
- Output Example: show port <port-id> optical detail
- Output Example: show port <port-id> for a QSFP-LS optical line system
- Output Example: show port <port-id> otu detail
- Output Example: show port <port-id> port-scheduler statistics
- Output Example: show port <port-id> port-queues queue <queue-id>
- Output Example: show port <port-id> queue-group ingress
- Output Example: show port <port-id> (Showing Channelized Ports)
- Output Example: show port <port-id> [statistics [egress-aggregate]] [detail]
- Output Example: show port <port-id> vport <vport-name>
- Output Example: show port
- Output Example: show port detail for a satellite uplink port
- Output Example: show port detail for a satellite client port
- Output Example: show port statistics aggregate-queue

Output Example: show port <port-id>

```
*A:cses-V22# show port
===============================================================================
Ports on Slot 1
===============================================================================
Port          Admin Link Port    Cfg  Oper LAG/ Port Port Port   C/QS/S/XFP/
Id            State      State   MTU  MTU  Bndl Mode Encp Type   MDIMDX
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1/1/1         Down  Yes  Up      8704 8704    - netw null xcme   GIGE-LX  10KM
1/1/2         Up    Yes  Up      1514 1514    - accs null xcme   GIGE-LX  10KM
1/1/3         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/4         Up    Yes  Up      1514 1514    - accs null xcme   GIGE-LX  10KM
1/1/5         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/6         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/7         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/8         Up    Yes  Up      8704 8704    - hybr dotq xcme   GIGE-LX  10KM
1/1/9         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/10        Down  Yes  Down    8704 8704    - netw null xcme   GIGE-LX  10KM
```

```
A:admin@mci(right-b4)# show port
===============================================================================
Ports on Slot 1
===============================================================================
Port          Admin Link Port    Cfg  Oper LAG/ Port Port Port   C/QS/S/XFP/
Id            State      State   MTU  MTU  Bndl Mode Encp Type   MDIMDX
-------------------------------------------------------------------------------
1/1/m1/1   Link Up                         anchor    100G
1/1/c1        Up         Link Up                          conn   100GBASE-LR4*
1/1/c1/1      Up    No   Down    9212 9212    - netw null xgige
1/1/c1/2      Down  No   Down    9212 9212    - netw null xgige
1/1/c1/3      Down  No   Down    9212 9212    - netw null xgige
...
===============================================================================
Ports on Port Cross Connect 1
===============================================================================
Port          Admin Link Port    Cfg  Oper LAG/ Port Port Port   C/QS/S/XFP/
Id            State      State   MTU  MTU  Bndl Mode Encp Type   MDIMDX
-------------------------------------------------------------------------------
pxc-1.a       Up    Yes  Link Up 1574 1574    - hybr dotq xgige
pxc-1.b       Up    Yes  Link Up 1574 1574    - hybr dotq xgige
pxc-2.a       Up    Yes  Link Up 1574 1574    - hybr dotq xgige
pxc-2.b       Up    Yes  Link Up 1574 1574    - hybr dotq xgige
```

Output Example: show port <port-id> (Summary Table of Ports)

```
*A:ALU-1# show port 1/1
===============================================================================
Ports on Slot 1
===============================================================================
Port        Admin Link Port    Cfg  Oper LAG/ Port Port Port   SFP/XFP/
Id          State      State   MTU  MTU  Bndl Mode Encp Type   MDIMDX
-------------------------------------------------------------------------------
1/1/1       Down  No   Down    1518 1518    1 accs dotq gige
1/1/2       Down  No   Down    1578 1578    - netw null gige
1/1/3       Down  No   Down    1578 1578    - netw null gige
1/1/4       Up    No   Down    1514 1514    - accs null gige
1/1/5       Up    No   Down    1578 1578    - netw null gige
===============================================================================
*A:ALU-1#
```

Output Example: show port <port-id> associations

```
A:ALA-1# show port 1/1/6 associations
===============================================================================
Interface Table
===============================================================================
Router/ServiceId               Name                            Encap Val
-------------------------------------------------------------------------------
Router: Base                   if1000                          1000
Router: Base                   if2000                          2000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Interfaces
===============================================================================
A;ALA-1#
```

Output Example: show port <port-id> detail (Ethernet Interface Port)

```
A:ALU-1# show port 5/1/4 detail
===============================================================================
Ethernet Interface
===============================================================================
Description        : 10-Gig Ethernet
Interface          : 5/1/4                       Oper Speed       : 10 Gbps
Link-level         : Ethernet                    Config Speed     : N/A
Admin State        : up                          Oper Duplex      : full
Oper State         : down                        Config Duplex    : N/A
Physical Link      : No                          MTU              : 9212
Single Fiber Mode  : No                          Min Frame Length : 64 Bytes
IfIndex            : 170000384                   Hold time up     : 0 seconds
Last State Change  : 04/28/2017 13:09:15         Hold time down   : 0 seconds
Hold Time Down Rmng: 0 cs                        Hold Time Up Rmng: 0 cs
Last Cleared Time  : N/A                         DDM Events       : Enabled
Phys State Chng Cnt: 10                          RS-FEC Mode      : None

Configured Mode    : network                     Encap Type       : null
Dot1Q Ethertype    : 0x8100                      QinQ Ethertype   : 0x8100
PBB Ethertype      : 0x88e7
Ing. Pool % Rate   : 100                         Egr. Pool % Rate : 100
Ing. Pool Policy   : n/a
Egr. Pool Policy   : n/a
Net. Egr. Queue Pol: default
Egr. Sched. Pol    : n/a
HS Scheduler Plcy  : default
HS Port Pool Plcy  : default
Monitor Port Sched : Disabled
Monitor Agg Q Stats: Disabled
Auto-negotiate     : N/A                         MDI/MDX          : N/A
Oper Phy-tx-clock  : not-applicable
Accounting Policy  : None                        Collect-stats    : Disabled
Acct Plcy Eth Phys : None                        Collect Eth Phys : Disabled
Egress Rate        : Default                     Ingress Rate     : Default
Oper Egress Rate   : unrestricted
Load-balance-algo  : Default                     LACP Tunnel      : Disabled
Access Bandwidth   : Not-Applicable              Booking Factor   : 100
Access Available BW: 0
Access Booked BW   : 0
Sflow              : Disabled

Dampening State    : Active                      Current Penalties: 2297
Suppress Threshold : 1500                        Reuse Threshold  : 1000
Max Penalties      : 4000                        Max Suppress Time: 40 seconds
Half Life          : 20 seconds

Down-when-looped   : Disabled                    Keep-alive       : 10
Loop Detected      : False                       Retry            : 120
Use Broadcast Addr : False

Sync. Status Msg.  : Disabled                    Rx Quality Level : eprtc
Rx SSM code        : 0010                        Rx enh SSM code  : 0x21
Tx DUS/DNU         : Disabled                    Tx Quality Level : N/A
SSM Code Type      : sdh                         ESMC Tunnel      : Disabled

Rx extended QL TLV
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Clock Identity     : 01234567890ABCDEF
Mixed EEC/eEEC     : true                        Partial chain    : true
eEEC count         : 2                           EEC count        : 3

PTP Timestamping   : Enabled
PTP IPv4 address   : 10.0.0.1
PTP IPv6 address   : 2001:db8::1

Down On Int. Error : Disabled                    DOIE Tx Disable  : Disabled

CRC Mon SD Thresh  : Disabled                    CRC Mon Window   : 10 seconds
CRC Mon SF Thresh  : Disabled

Sym Mon SD Thresh  : Disabled                    Sym Mon Window   : 10 seconds
Sym Mon SF Thresh  : Disabled                    Tot Sym Mon Errs : 0

EFM OAM            : Disabled                    EFM OAM Link Mon : Disabled
Ignr EFM OAM State : False

Configured Address : 10:e8:78:4d:24:f0
Hardware Address   : 10:e8:78:4d:24:f0
Cfg Alarm          : remote local

Transceiver Data

Transceiver Status : operational
Transceiver Type   : SFP
Model Number       : 3HE04823AAAA01  ALA  IPU3ANKEAA
TX Laser Wavelength: 1310 nm                     Diag Capable     : yes
Connector Code     : LC                          Vendor OUI       : 00:90:65
Manufacture date   : 2016/07/23                  Media            : Ethernet
Serial Number      : AW40PC8
Part Number        : FTLX1471D3BCL-A5
Optical Compliance : 10GBASE-LR
Link Length support: 10km for SMF

===============================================================================
Transceiver Digital Diagnostic Monitoring (DDM), Internally Calibrated
===============================================================================
                            Value High Alarm  High Warn   Low Warn  Low Alarm
-------------------------------------------------------------------------------
Temperature (C)              +38.1     +78.0      +73.0       -8.0      -13.0
Supply Voltage (V)            3.31      3.70       3.60       3.00       2.90
Tx Bias Current (mA)          40.3      85.0       80.0       20.0       15.0
Tx Output Power (dBm)        -1.29      2.00       1.00      -7.00      -8.00
Rx Optical Power (avg dBm)   -1.38      2.50       2.00     -18.01     -20.00
===============================================================================
===============================================================================

===============================================================================
OTU Interface
===============================================================================
OTU Status         : Disabled
===============================================================================

===============================================================================
Traffic Statistics
===============================================================================
                                                  Input                 Output
-------------------------------------------------------------------------------
Octets                                               0                      0
Packets                                              0                      0
Errors                                               0                      0
Utilization (300 seconds)                        0.00%                  0.00%
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Ethernet Statistics
===============================================================================
Broadcast Pckts  :                  0  Drop Events      :                   0
Multicast Pckts  :                  0  CRC/Align Errors :                   0
Undersize Pckts  :                  0  Fragments        :                   0
Oversize Pckts   :                  0  Jabbers          :                   0
Collisions       :                  0
Octets                         :                  0
Packets                        :                  0
Packets of 64 Octets           :                  0
Packets of 65 to 127 Octets    :                  0
Packets of 128 to 255 Octets   :                  0
Packets of 256 to 511 Octets   :                  0
Packets of 512 to 1023 Octets  :                  0
Packets of 1024 to 1518 Octets :                  0
Packets of 1519 or more Octets :                  0
===============================================================================

===============================================================================
Port Statistics
===============================================================================
                                                  Input                 Output
-------------------------------------------------------------------------------
Unicast Packets                                       0                      0
Multicast Packets                                     0                      0
Broadcast Packets                                     0                      0
Discards                                              0                      0
Unknown Proto Discards                                0
===============================================================================

===============================================================================
Ethernet-like Medium Statistics
===============================================================================
Alignment Errors :                  0  Sngl Collisions  :                   0
FCS Errors       :                  0  Mult Collisions  :                   0
SQE Test Errors  :                  0  Late Collisions  :                   0
CSE              :                  0  Excess Collisns  :                   0
Too long Frames  :                  0  Int MAC Tx Errs  :                   0
Symbol Errors    :                  0  Int MAC Rx Errs  :                   0
In Pause Frames  :                  0  Out Pause Frames :                   0
===============================================================================

===============================================================================
Per Threshold MDA Discard Statistics
===============================================================================
                               Packets                 Octets
-------------------------------------------------------------------------------
Threshold 0 Dropped :          0                       0
Threshold 1 Dropped :          0                       0
Threshold 2 Dropped :          0                       0
Threshold 3 Dropped :          0                       0
Threshold 4 Dropped :          0                       0
Threshold 5 Dropped :          0                       0
Threshold 6 Dropped :          0                       0
Threshold 7 Dropped :          0                       0
Threshold 8 Dropped :          0                       0
Threshold 9 Dropped :          0                       0
Threshold 10 Dropped :         0                       0
Threshold 11 Dropped :         0                       0
Threshold 12 Dropped :         0                       0
Threshold 13 Dropped :         0                       0
Threshold 14 Dropped :         0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Threshold 15 Dropped :          0                       0
===============================================================================

===============================================================================
Ingress Port Forwarding Engine Drop Reason Statistics
===============================================================================
IPv4 Header Error                                       0
IPv4 Invalid Address                                    0
IPv6 Header Error                                       0
IPv6 Invalid Address                                    0
IP Route Blackholed                                     0
ACL Filter Discards                                     0
Unicast RPF Check Failed                                0
BFD Spoof Check Failed                                  0
Unicast MAC Destination Address Mismatch                0
Multicast MAC With Unicast Dest IP                      0
Unknown MAC Destination Address Discarded in VPLS       0
L2 Service MTU Exceeded                                 0
Needs ICMP                                              0
Unknown Labeled Packet                                  0
===============================================================================

===============================================================================
Queue Statistics
===============================================================================

-------------------------------------------------------------------------------
Ingress Queue  1             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  2             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  3             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  4             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  5             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  6             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  7             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  8             Packets                 Octets
     In Profile forwarded  :    0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue  9             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 10             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 11             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 12             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 13             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 14             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 15             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0
Ingress Queue 16             Packets                Octets
     In Profile forwarded  :    0                      0
     In Profile dropped    :    0                      0
     Out Profile forwarded :    0                      0
     Out Profile dropped   :    0                      0

Egress Queue  1              Packets                Octets
     In/Inplus Prof fwded  :    0                      0
     In/Inplus Prof dropped:    0                      0
     Out/Exc Prof fwded    :    0                      0
     Out/Exc Prof dropped  :    0                      0
Egress Queue  2              Packets                Octets
     In/Inplus Prof fwded  :    0                      0
     In/Inplus Prof dropped:    0                      0
     Out/Exc Prof fwded    :    0                      0
     Out/Exc Prof dropped  :    0                      0
Egress Queue  3              Packets                Octets
     In/Inplus Prof fwded  :    0                      0
     In/Inplus Prof dropped:    0                      0
     Out/Exc Prof fwded    :    0                      0
     Out/Exc Prof dropped  :    0                      0
Egress Queue  4              Packets                Octets
     In/Inplus Prof fwded  :    0                      0
     In/Inplus Prof dropped:    0                      0
     Out/Exc Prof fwded    :    0                      0
     Out/Exc Prof dropped  :    0                      0
```


© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

```
Egress Queue  5              Packets                 Octets
     In/Inplus Prof fwded  :    0                       0
     In/Inplus Prof dropped:    0                       0
     Out/Exc Prof fwded    :    0                       0
     Out/Exc Prof dropped  :    0                       0
Egress Queue  6              Packets                 Octets
     In/Inplus Prof fwded  :    0                       0
     In/Inplus Prof dropped:    0                       0
     Out/Exc Prof fwded    :    0                       0
     Out/Exc Prof dropped  :    0                       0
Egress Queue  7              Packets                 Octets
     In/Inplus Prof fwded  :    0                       0
     In/Inplus Prof dropped:    0                       0
     Out/Exc Prof fwded    :    0                       0
     Out/Exc Prof dropped  :    0                       0
Egress Queue  8              Packets                 Octets
     In/Inplus Prof fwded  :    0                       0
     In/Inplus Prof dropped:    0                       0
     Out/Exc Prof fwded    :    0                       0
     Out/Exc Prof dropped  :    0                       0
===============================================================================
```

Output Example: show port <port-id> (Excerpt Showing CFP Port with a QSFP28 Adapter)

```
B:Dut-A# show port 3/2/1
===============================================================================
...
===============================================================================
Adapter Data
Adapter Type : cfp-to-qsfp28
Model Number : 3HE13894AARA01
Vendor OUI : 00:00:00
Manufacture date : 2018/07/07
Serial Number : RS183000030002
Part Number : 3HE13894AARA01
```

Output Example: show port <port-id> dot1x

```
A:Dut-C# show port 2/1/11 dot1x
===============================================================================
802.1x Port Status
===============================================================================
Port control            : force-auth
Port status             : authorized
Authenticator PAE state : force-auth
Backend state           : idle
Reauth enabled          : no           Reauth period         : N/A
Max auth requests       : 2            Transmit period       : 30
Supplicant timeout      : 30           Server timeout        : 30
Quiet period            : 60
Radius-plcy             : N/A
Tunneling               : false
Per-host authentication : enabled
Mac-based-authentication: enabled
Admin-state             : enabled
===============================================================================
802.1x Session Statistics
===============================================================================
authentication method   : remote-radius
last session id         : PAC-04258000-6E64D82E
last session time       : 49213d04h
last session username   : N/A
last session term cause : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
user tx octets          : 1525626453326
user tx frames          : 329677551
user rx octets          : 1399995911442
user rx frames          : 302536308
===============================================================================
Macsec
===============================================================================
Admin State                  : Up
eapol-destination-address    :
Security Zone                : 3
ca-name                      : dut_B_C_256_01
===============================================================================
```

Output Example: show port <port-id> ethernet

```
*A:ALA-12>config# show port 1/1/1 ethernet
===============================================================================
Ethernet Interface
===============================================================================
Description        : 1-Gig/10-Gig Ethernet
Interface          : 1/1/1                       Oper Speed       : 10 Gbps
Link-level         : Ethernet                    Config Speed     : 10 Gbps
Admin State        : down                        Oper Duplex      : full
Oper State         : down
Config Duplex      : N/A
Physical Link      : No                          MTU              : 8704
Single Fiber Mode  : No                          Min Frame Length : 64 Bytes
IfIndex            : 35684352                    Hold time up     : 0 seconds
Last State Change  : 06/09/2022 17:09:47         Hold time down   : 0 seconds
Hold Time Down Rmng: 0 cs                        Hold Time Up Rmng: 0 cs
Last Cleared Time  : N/A                         DDM Events       : Enabled
Phys State Chng Cnt: 0
RS-FEC Config Mode : None
RS-FEC Oper Mode   : None
Configured Mode    : network                     Encap Type       : null
Dot1Q Ethertype    : 0x8100                      QinQ Ethertype   : 0x8100
PBB Ethertype      : 0x88e7
Ing. Pool % Rate   : 100                         Egr. Pool % Rate : 100
Net. Egr. Queue Pol: default
Egr. Sched. Pol    : n/a
DCPU Prot Policy   : _default-port-policy
Oper DCPU Prot Plcy: _default-port-policy
Monitor Port Sched : Disabled
Monitor Agg Q Stats: Disabled
Oper Group: none                                 Monitor Oper Group : test
Auto-negotiate     : N/A                         MDI/MDX          : N/A
Oper Phy-tx-clock  : not-applicable
Accounting Policy  : None                        Collect-stats    : Disabled
Acct Plcy Eth Phys : None                        Collect Eth Phys : Disabled
Egress Rate        : Default                     Ingress Rate     : Default
Oper Egress Rate   : Unrestricted
Load-balance-algo  : Default                     LACP Tunnel      : Disabled
Access Bandwidth   : Not-Applicable              Booking Factor   : 100
Access Available BW: 0
Access Booked BW   : 0
Sflow              : Disabled
Discard Rx Pause   : Disabled
Tx Pause Frames    : Enabled
Suppress Threshold : 2000                        Reuse Threshold  : 1000
Max Penalties      : 16000                       Max Suppress Time: 20 seconds
Half Life          : 5 seconds
Down-when-looped   : Disabled                    Keep-alive       : 10
Loop Detected      : False                       Retry            : 120
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Use Broadcast Addr : False

Sync. Status Msg.  : Disabled                  Rx Quality Level : eprtc
Rx SSM code        : 0010                      Rx enh SSM code  : 0x21
Tx DUS/DNU         : Disabled                  Tx Quality Level : N/A
SSM Code Type      : sdh                       ESMC Tunnel      : Disabled

Rx extended QL TLV
Clock Identity     : 01234567890ABCDEF
Mixed EEC/eEEC     : true                      Partial chain    : true
eEEC count         : 2                         EEC count        : 3

PTP Timestamping   : Enabled
PTP IPv4 address   : 10.0.0.1
PTP IPv6 address   : 2001:db8::1

Down On Int. Error : Disabled                  DOIE Tx Disable  : Disabled
CRC Mon SD Thresh  : Disabled                  CRC Mon Window   : 10 seconds
CRC Mon SF Thresh  : Disabled
Sym Mon SD Thresh  : Disabled                  Sym Mon Window   : 10 seconds
Sym Mon SF Thresh  : Disabled                  Tot Sym Mon Errs : 0
EFM OAM            : Disabled                  EFM OAM Link Mon : Disabled
Ignr EFM OAM State : False
Configured Address : b6:1b:01:01:00:01
Hardware Address   : b6:1b:01:01:00:01
Cfg Alarm          : remote local
Transceiver Data
Transceiver Status : operational               Power Save       : Disabled
Transceiver Type   : SFP                       DCO              : Disabled
Model Number       : 3HE04823AAAA01  ALA  IPU3ANKEAA
TX Laser Wavelength: 1310 nm                   Diag Capable     : yes
Connector Code     : LC                        Vendor OUI       : 00:90:65
Manufacture date   : 2009/12/17                Media            : Ethernet
Serial Number      : UGR04DK
Part Number        : FTLX1471D3BCL-A5
Optical Compliance : 10GBASE-LR
Link Length support: 10km for SMF
===============================================================================
Transceiver Digital Diagnostic Monitoring (DDM), Internally Calibrated
===============================================================================
                            Value High Alarm  High Warn   Low Warn  Low Alarm
-------------------------------------------------------------------------------
Temperature (C)              +25.4     +78.0      +73.0       -8.0      -13.0
Supply Voltage (V)            3.31      3.70       3.60       3.00       2.90
Tx Bias Current (mA)          35.6      85.0       80.0       20.0       15.0
Tx Output Power (dBm)        -1.46      2.00       1.00      -7.00      -8.00
Rx Optical Power (avg dBm)   -2.18      2.50       2.00     -18.01     -20.00
===============================================================================
===============================================================================
===============================================================================
Traffic Statistics
===============================================================================
                                                    Input                Output
-------------------------------------------------------------------------------
Octets                                                 0                     0
Packets                                                0                     0
Errors                                                 0                     0
Utilization (300 seconds)                          0.00%                 0.00%
===============================================================================
Port Statistics
===============================================================================
                                                    Input                Output
-------------------------------------------------------------------------------
Unicast Packets                                        0                     0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Multicast Packets                                  0                    0
Broadcast Packets                                  0                    0
Discards                                           0                    0
Unknown Proto Discards                             0
===============================================================================
===============================================================================
Ethernet-like Medium Statistics
===============================================================================
Alignment Errors :                 0  Sngl Collisions  :                  0
FCS Errors       :                 0  Mult Collisions  :                  0
SQE Test Errors  :                 0  Late Collisions  :                  0
CSE              :                 0  Excess Collisns  :                  0
Too long Frames  :                 0  Int MAC Tx Errs  :                  0
Symbol Errors    :                 0  Int MAC Rx Errs  :                  0
In Pause Frames  :                 0  Out Pause Frames :                  0
===============================================================================
```

Output Example: show port <port-id> ethernet efm-oam

```
show port 1/1/1 ethernet efm-oam
===============================================================================
Ethernet Oam (802.3ah)
===============================================================================
Admin State        : down
Oper State         : disabled
Mode               : active
Pdu Size           : 1518
Config Revision    : 0
Function Support   : LB
Transmit Interval  : 1000 ms
Multiplier         : 5
Hold Time          : 0
Tunneling          : false
Loop Detected      : false
Grace Tx Enable    : true (inactive)
Grace Vendor OUI   : 00:16:4d
Dying Gasp on Reset: true (inactive)
Soft Reset Tx Act  : none
Trigger Fault      : none
Vendor OUI         : 00:16:4d (alu)
Vendor Info        : 00:01:00:02
No Peer Information Available
Loopback State     : None
Loopback Ignore Rx : Ignore
Ignore Efm State   : false
Link Monitoring    : disabled
Peer RDI Rx
  Critical Event   : out-of-service
  Dying Gasp       : out-of-service
  Link Fault       : out-of-service
  Event Notify     : log-only
Local SF Action                        Discovery
  Event Burst      : 1                   Ad Link Mon Cap  : yes
  Port Action      : out-of-service
  Dying Gasp       : disabled
  Critical Event   : disabled
Errored Frame                          Errored Frame Period
  Enabled          : no                  Enabled          : no
  Event Notify     : enabled             Event Notify     : enabled
  SF Threshold     : 1                   SF Threshold     : 1
  SD Threshold     : disabled (0)        SD Threshold     : disabled (0)
  Window           : 10 ds               Window           : 1488095 frames
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Errored Symbol Period                    Errored Frame Seconds Summary
  Enabled          : no                    Enabled          : no
  Event Notify     : enabled               Event Notify     : enabled
  SF Threshold     : 1                     SF Threshold     : 1
  SD Threshold     : disabled (0)          SD Threshold     : disabled (0)
  Window (time)    : 10 ds                 Window           : 600 ds
  Window (symbols) : 125000000
===============================================================================
Active Failure Ethernet OAM Event Logs
===============================================================================
Number of Logs : 0
===============================================================================

===============================================================================
Ethernet Oam Statistics
===============================================================================
                                                    Input                Output
-------------------------------------------------------------------------------
Information                                             0                     0
Loopback Control                                        0                     0
Unique Event Notify                                     0                     0
Duplicate Event Notify                                  0                     0
Unsupported Codes                                       0                     0
Frames Lost                                                                   0
===============================================================================
```

Output Example: show port <port-id> ethernet efm-oam event-logs

```
show port 1/2/1 ethernet efm-oam event-logs
===============================================================================
Active Failure Ethernet OAM Event Logs
===============================================================================
Log Index               : 2
Event Time Reference    : 10d 03:58:24
Location                : remote
Type                    : Dying Gasp
Event Total             : 1
Port Affecting          : yes
-------------------------------------------------------------------------------
Number of Logs : 1
===============================================================================
===============================================================================
Active Degraded Ethernet OAM Event Logs
===============================================================================
Number of Logs : 0
===============================================================================
===============================================================================
Cleared Failure Ethernet OAM Event Logs
===============================================================================
Number of Logs : 0
===============================================================================
===============================================================================
Cleared Degraded Ethernet OAM Event Logs
===============================================================================
Number of Logs : 0
===============================================================================
```

Output Example: show port <port-id> ethernet lldp remote-info detail

```
show port 1/1/1 ethernet lldp remote-info detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Link Layer Discovery Protocol (LLDP) Port Information
===============================================================================
Port 1/1/1 Bridge nearest-bridge Remote Peer Information
-------------------------------------------------------------------------------
Remote Peer Index 9 at timestamp 12/08/2014 21:34:30:
Supported Caps        : bridge router
Enabled Caps          : bridge router
Chassis Id Subtype    : 4 (macAddress)
Chassis Id            : D8:1C:FF:00:00:00
PortId Subtype        : 5 (interfaceName)
Port Id               : 31:2F:32:2F:32
                        "1/2/2"
Port Description      : n/a
System Name           : cses-V28
System Description    : TiMOS-B-0.0.I4269 both/i386 Nokia 7750 SR Copyright
                        (c) 2000-2016 Nokia.
                        All rights reserved. All use subject to applicable
                        license agreements.
                        Built on Wed Dec 3 19:14:27 PST 2014 by builder in /
                        rel0.0/I4269/panos/main

Remote Peer Index 9 management addresses at time 12/08/2014 21:34:30:
Address SubType       : 1 (IPv4)
Address               : 10.1.1.28
Address If SubType    : 2              Address If Id         : 1
Address OID           : .1.3.6.1.4.1.6527.1.3.3


Port 1/1/1 Bridge nearest-non-tpmr Remote Peer Information
-------------------------------------------------------------------------------
No remote peers found

Port 1/1/1 Bridge nearest-customer Remote Peer Information
-------------------------------------------------------------------------------
No remote peers found

===============================================================================
```

Output Example: show port <port-id> ethernet lldp detail

```
show port 1/1/1 ethernet lldp detail
===============================================================================
Link Layer Discovery Protocol (LLDP) Port Information
===============================================================================

Port 1/1/1 Bridge nearest-bridge
-------------------------------------------------------------------------------
Admin State           : txAndRx        Notifications         : Disabled
Tunnel Nearest Bridge : Disabled
Transmit TLVs         : portDesc sysName sysDesc sysCap
PortID TLV Subtype    : tx-if-name

Management Address Transmit Configuration:
Index 1 (system)      : Enabled        Address               : 10.1.1.31
Index 2 (IPv6 system) : Disabled       Address               : ::

Port LLDP Stats:
Tx Frames             : 11749          Tx Length Err Frames  : 0
Rx Frames             : 70399          Rx Frame Discard      : 0
Rx Frame Errors       : 0              Rx TLV Discard        : 0
Rx TLV Unknown        : 0              Rx Ageouts            : 3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Port 1/1/1 Bridge nearest-non-tpmr
-------------------------------------------------------------------------------
Admin State           : disabled       Notifications         : Disabled
Transmit TLVs         : None
PortID TLV Subtype    : tx-local

Management Address Transmit Configuration:
Index 1 (system)      : Disabled       Address               : 10.1.1.31
Index 2 (IPv6 system) : Disabled       Address               : ::

Port LLDP Stats:
Tx Frames             : 0              Tx Length Err Frames  : 0
Rx Frames             : 0              Rx Frame Discard      : 0
Rx Frame Errors       : 0              Rx TLV Discard        : 0
Rx TLV Unknown        : 0              Rx Ageouts            : 0


Port 1/1/1 Bridge nearest-customer
-------------------------------------------------------------------------------
Admin State           : disabled       Notifications         : Disabled
Transmit TLVs         : None
PortID TLV Subtype    : tx-local

Management Address Transmit Configuration:
Index 1 (system)      : Disabled       Address               : 10.1.1.31
Index 2 (IPv6 system) : Disabled       Address               : ::

Port LLDP Stats:
Tx Frames             : 0              Tx Length Err Frames  : 0
Rx Frames             : 0              Rx Frame Discard      : 0
Rx Frame Errors       : 0              Rx TLV Discard        : 0
Rx TLV Unknown        : 0              Rx Ageouts            : 0

===============================================================================
```

Output Example: show port A/gnss (GNSS RF port)

```
# show port A/gnss
===============================================================================
GNSS Physical Interface
===============================================================================
Description       : GNSS receiver
Interface         : A/gnss                Port IfIndex         : 1611137290
Admin Status      : up                    Oper Status          : up
Physical Link     : Yes
Constellation     : gps
Ant. Cable Delay  : 0                     Elev. Mask Angle     : 10
Signal CNR Mask   : 30 (db-Hz)
Antenna Status    : ok                    Visible Satellites   : 9
Sync Status       : locked                Used Satellites      : 7
Receiver Status   : Position Hold         Survey Complete %    : 100
Time              : 2020/04/23 18:47:38   Latitude             : +45.34811
UTC Offset        : 17                    Longitude            : -75.92142
Firmware Version  : 2.04.0                Altitude (m MSL)     : 90
===============================================================================
```

Output Example: show port <port-id> macsec sub-port <sub-port-id> detail

```
*A:Dut-C# show port 2/1/11 macsec sub-port 1 statistics
===============================================================================
MACsec Statistics
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
txSecyStats
-------------------------------------------------------------------------------
    Untagged Packets                  : 0
    Too Long Packets                  : 0
-------------------------------------------------------------------------------
txSCSecyStats
-------------------------------------------------------------------------------
TxSc SCI PortNum : 1
    Protected Packets                 : 0
    Encrypted Packets                 : 0
    Protected Octets                  : 0
    Encrypted Octets                  : 0
-------------------------------------------------------------------------------
txSASecyStats
-------------------------------------------------------------------------------
    AN : 0
        Protected SA Packets          : 0
        Encrypted SA Packets          : 0
    AN : 1
        Protected SA Packets          : 0
        Encrypted SA Packets          : 0
    AN : 2
        Protected SA Packets          : 0
        Encrypted SA Packets          : 0
    AN : 3
        Protected SA Packets          : 0
        Encrypted SA Packets          : 0
-------------------------------------------------------------------------------
rxSecyStats
-------------------------------------------------------------------------------
    No Tag Packets                    : 4681
    Bad Tag Packets                   : 0
    No SCI Packets                    : 0
    Overrun Packets                   : 0
-------------------------------------------------------------------------------
rxSCSecyStats
-------------------------------------------------------------------------------
SCI : a47b2ce1110d0001
    No Using SA Packets               : 0
    Late Packets                      : 0
    Not Valid Packets                 : 0
    Delayed Packets                   : 0
    Unchecked Packets                 : 0
    OK Packets                        : 0
    Validated Octets                  : 0
    Decrypted Octets                  : 0
-------------------------------------------------------------------------------
rxSASecyStats
-------------------------------------------------------------------------------
SCI : a47b2ce1110d0001
    AN : 2
        No Using SA Packets           : 0
        Not Valid Packets             : 0
        OK Packets                    : 0
    AN : 3
        No Using SA Packets           : 0
        Not Valid Packets             : 0
        OK Packets                    : 0
-------------------------------------------------------------------------------
rxSCSecyStats
-------------------------------------------------------------------------------
SCI : a47b2ce1128e0001
    No Using SA Packets               : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Late Packets                        : 0
    Not Valid Packets                   : 0
    Delayed Packets                     : 0
    Unchecked Packets                   : 0
    OK Packets                          : 0
    Validated Octets                    : 0
    Decrypted Octets                    : 0
-------------------------------------------------------------------------------
rxSASecyStats
-------------------------------------------------------------------------------
SCI : a47b2ce1128e0001
    AN : 0
        No Using SA Packets             : 0
        Not Valid Packets               : 0
        OK Packets                      : 0
    AN : 1
        No Using SA Packets             : 0
        Not Valid Packets               : 0
        OK Packets                      : 0
    AN : 2
        No Using SA Packets             : 0
        Not Valid Packets               : 0
        OK Packets                      : 0
    AN : 3
        No Using SA Packets             : 0
        Not Valid Packets               : 0
        OK Packets                      : 0
===============================================================================
```

Output Example: show port <port-id> macsec sub-port <sub-port-id> statistics

```
A:Dut-C#  show port 2/1/11 macsec statistics
===============================================================================
MACsec Statistics
===============================================================================
-------------------------------------------------------------------------------
txSecyStats
-------------------------------------------------------------------------------
    Untagged Packets                    : 0
    Too Long Packets                    : 0
-------------------------------------------------------------------------------
rxSecyStats
-------------------------------------------------------------------------------
    No Tag Packets                      : 758
    Bad Tag Packets                     : 0
    No SCI Packets                      : 0
    Overrun Packets                     : 0
-------------------------------------------------------------------------------
txSCSecyStats
-------------------------------------------------------------------------------
    Protected Packets                   : 0
    Encrypted Packets                   : 355170025
    Protected Octets                    : 0
    Encrypted Octets                    : 1637917300250
-------------------------------------------------------------------------------
rxSCSecyStats
-------------------------------------------------------------------------------
SCI : 00:00:a4:7b:2c:e1
    No Using SA Packets                 : 0
    Late Packets                        : 0
    Not Valid Packets                   : 0
    Delayed Packets                     : 0
    Unchecked Packets                   : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    OK Packets                          : 325904694
    Validated Octets                    : 0
    Decrypted Octets                    : 1502922287478
-------------------------------------------------------------------------------
txSASecyStats
-------------------------------------------------------------------------------
    AN : 0
        Protected SA Packets            : 0
        Encrypted SA Packets            : 355170201
-------------------------------------------------------------------------------
rxSASecyStats
-------------------------------------------------------------------------------
SCI : 00:00:a4:7b:2c:e1
    AN : 0
        No Using SA Packets             : 0
        Not Valid Packets               : 0
        OK Packets                      : 325904947
===============================================================================
```

Output Example: show port <port-id> optical detail

Note:
In the "**Coherent Optical Module**" section of the output example, the configurable **Tx Pwr** values are only shown if the module supports this option.

```
*A:ALU-1# show port 4/1/1 optical detail
===============================================================================
Optical Interface
===============================================================================
Transceiver Data

Transceiver Status : operational
Transceiver Type   : MSA-100GLH
Model Number       : 28-0089-XX
TX Laser Wavelength: 1558.172 nm
TX Laser Frequency : 192.400 THz
Laser Tunability   : fully-tunable
Config Freq (MHz)  : 195300000                 Min Freq (MHz)       : 191300000
Oper Freq (MHz)    : 195300000                 Max Freq (MHz)       : 196100000
Fine Tune Range    : 6000 MHz                  Fine Tune Resolution : 1 MHz
Supported Grids    : 100GHz 75GHz 50GHz 25GHz 12.5GHz 6.25GHz
Diag Capable       : yes
Number of Lanes    : 1
Connector Code     : LC                        Vendor OUI           : 00:03:fa
Manufacture date   : 2012/07/16                Media                : Ethernet
Serial Number      : 122900645
Part Number        : AC100-201-00E
Optical Compliance : DWDM-TUN
Link Length support: 80km for SMF

===============================================================================
Transceiver Digital Diagnostic Monitoring (DDM)
===============================================================================
                            Value High Alarm  High Warn   Low Warn  Low Alarm
-------------------------------------------------------------------------------
Temperature (C)             +60.9     +80.0      +70.0       +0.0       -5.0
Supply Voltage (V)          12.07     13.00      12.60      11.40      11.00
===============================================================================

===============================================================================
Transceiver Lane Digital Diagnostic Monitoring (DDM)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                High Alarm   High Warn    Low Warn   Low Alarm
-------------------------------------------------------------------------------
Lane Temperature (C)                +75.0       +70.0       +20.0       +15.0
Lane Tx Bias Current (mA)            10.0         9.0         3.0         2.0
Lane Tx Output Power (dBm)           3.00        2.00        0.00       -1.00
Lane Rx Optical Pwr (avg dBm)        8.16        5.00      -20.00      -23.01

-------------------------------------------------------------------------------
Lane ID Temp(C)/Alm       Tx Bias(mA)/Alm   Tx Pwr(dBm)/Alm   Rx Pwr(dBm)/Alm
-------------------------------------------------------------------------------
    1          +48.4               5.1              0.99            -10.45
===============================================================================

===============================================================================
Coherent Optical Module
===============================================================================
Cfg Tx Target Power:   1.00 dBm
Cfg Rx LOS Thresh  : -23.00 dBm

Disp Control Mode  : automatic               Sweep Start Disp   : -25500 ps/nm
Cfg Dispersion     :      0 ps/nm            Sweep End Disp     :   2000 ps/nm
CPR Window Size    : 4 symbols
Compatibility      : longHaul
Operational Mode   : 1035
Mode Select Method : operationalMode
Cfg Tx Pwr Minimum : -22.90 dBm
Cfg Tx Pwr Maximum : 4.00 dBm

Cfg Alarms         : modflt mod netrx nettx hosttx
Alarm Status       :
Defect Points      :

Rx Q Margin        :    10.1 dB              Chromatic Disp     :  1 ps/nm
SNR X Polar        :   19.7 dB              Diff Group Delay   :      0 ps
SNR Y Polar        :   19.8 dB              Pre-FEC BER        : 0.000E+00

Module State       : ready
Tx Turn-Up States  : init laserTurnUp laserReadyOff laserReady
                     modulatorConverge outputPowerAdjust
Rx Turn-Up States  : init laserReady waitForInput adcSignal opticalLock
                     demodLock
===============================================================================

-------------------------------------------------------------------------------
Coherent Optical Port Statistics (Elapsed Seconds: 1281709)
-------------------------------------------------------------------------------
Statistic                        Current      Average      Minimum      Maximum
-------------------------------------------------------------------------------
Rx BER                       9.060E-04    2.500E-01    0.000E+00    5.000E-01
Rx SNR (dB)                       17.9          9.0          0.0         18.0
Rx OSNR (dB)                      29.5         15.0          0.0         30.1
Rx Chromatic Disp (ps/nm)         2050         1027            0         2054
Rx Diff Group Delay (ps)             1            1            0            2
Rx Freq Offset (MHz)               108           90          -42          223
Rx Q (dB)                          9.8          4.9          0.0          9.9
Rx Signal Power (dBm)            -0.04        -2.57       -99.00         0.44
Tx Total Power (dBm)             -11.88        -3.01       -99.00         0.00
Rx Total Power (dbm)             -11.88        -3.01       -99.00         0.00
Polar Depend Loss (dB)              0.6          0.6          0.5          0.7
State of polar ROC (krad/s)           0        65535        65535            0
Rx Media Frame Error Count          122        65535        65535            0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example: show port <port-id> for a QSFP-LS optical line system

```
show port 1/1/c2
===============================================================================
QSFP-DD Connector
===============================================================================
Description        : QSFP-DD Connector
Interface          : 1/1/c2
Admin State        : up
Oper State         : up
IfIndex            : 1610899584
Last State Change  : 09/28/2023 16:43:14
Last Cleared Time  : N/A                          DDM Events       : Enabled
Breakout           : no breakout
RS-FEC Config Mode : None

Transceiver Data

Transceiver Status : unsupported                  Power Save       : Disabled
Transceiver Type   : QSFP28                       DCO              : Disabled
OLS                : Enabled                      OLS Egr Amp Gain : 22.00 dB
Model Number       : none
TX Laser Wavelength: 1550 nm                      Diag Capable     : yes
Number of Lanes    : 2
Connector Code     : CS                           Vendor OUI       : 00:1c:73
Manufacture date   : 2022/10/21                   Media            : Ethernet
Serial Number      : P20600032
Part Number        : QSFP-AMP-ZR
Optical Compliance : QSFP-AMP-ZR
Link Length support: 100km for SMF

===============================================================================
Transceiver Digital Diagnostic Monitoring (DDM)
===============================================================================
                             Value High Alarm  High Warn   Low Warn  Low Alarm
-------------------------------------------------------------------------------
Temperature (C)              +33.1     +70.0      +65.0       +0.0       -5.0
Supply Voltage (V)            3.29      3.46       3.40       3.20       3.13
===============================================================================

===============================================================================
Transceiver Lane Digital Diagnostic Monitoring (DDM)
===============================================================================
                               High Alarm   High Warn    Low Warn   Low Alarm
-------------------------------------------------------------------------------
Pump Temperature (C)                +75.0       +70.0        +5.0        +0.0
Amplifier Gain (dB)                 25.50       25.10        0.00        0.00
Amplifier Output Power (dBm)        17.10       17.00        0.00       -6.04
Amplifier Input Power (dBm)         14.80       13.80      -22.52      -26.20

-------------------------------------------------------------------------------
Amp ID  Pump Temp(C)/Alm     Gain (dB)/Alm  Out Pwr(dBm)/Alm   In Pwr(dBm)/Alm
-------------------------------------------------------------------------------
EgrAmp         +33.6             22.00              1.35            -21.94
IngAmp         +33.5             20.30              2.80            -18.18
===============================================================================
===============================================================================
```

Output Example: show port <port-id> otu detail

```
A:ALA-49>config>port# show port 3/2/1 otu detail
===============================================================================
OTU Interface
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
OTU Status         : Enabled                    FEC Mode         : enhanced
                                                Data Rate        : 11.049 Gb/s
Cfg Alarms         : loc los lof lom otu-ber-sf otu-bdi fec-sf
Alarm Status       :
SF/SD Method       : FEC                        SF Threshold     : 1E-5
                                                SD Threshold     : 1E-7

SM-TTI Tx (auto)   : ALA-49:3/2/1/C17
SM-TTI Rx          : (Not Specified)
===============================================================================
OTU Statistics
===============================================================================
Statistics                                                  Count
-------------------------------------------------------------------------------
FEC Corrected 0s                                                0
FEC Corrected 1s                                                0
FEC Unrrectable Sub-rows                                        0
FEC SES                                                         0
SM BIP8                                                         0
SM BEI                                                          0
SM SES                                                          0
PM BIP8                                                         0
PM BEI                                                          0
PM SES                                                          0
===============================================================================
```

Output Example: show port <port-id> port-scheduler statistics

```
*A:PE1# show port 5/1/5 port-scheduler statistics
===============================================================================
Port 5/1/5 Port Scheduler
===============================================================================
Policy-Name       : esp1
Description       : (Not Specified)
Last Cleared Time  : 11/16/2018 15:30:10
                     Packets                 Octets
Forwarded:           211912                  27124736
Dropped* :           853335                  109226880
-------------------------------------------------------------------------------
Port Scheduler per Level Queueing Statistics
                     Packets                 Octets
Level : 8
Forwarded:           0                       0
Dropped* :           0                       0
Level : 7
Forwarded:           0                       0
Dropped* :           0                       0
Level : 6
Forwarded:           0                       0
Dropped* :           0                       0
Level : 5
Forwarded:           0                       0
Dropped* :           0                       0
Level : 4
Forwarded:           0                       0
Dropped* :           0                       0
Level : 3
Forwarded:           0                       0
Dropped* :           0                       0
Level : 2
Forwarded:           84784                   10852352
Dropped* :           270297                  34598016
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Level : 1
Forwarded:              127128                  16272384
Dropped* :              583038                  74628864
-------------------------------------------------------------------------------
* indicates that the policer drop statistics are not included if HQoS policers
are managed by the scheduler.
===============================================================================
```

Output Example: show port <port-id> port-queues queue <queue-id>

```
# show port port-queues queue-depth queue 5
===============================================================================
Queue Depth Information (Port-based Network Egress)
===============================================================================
-------------------------------------------------------------------------------
Name                      : Queue: 5 Port=1/1/1
MBS                       : Def
Violation Threshold Percnt: xx.xx
Violation Total Count     : xxx
Violation Last Seen       : Thu Mar 26 12:39:33 PDT 2020
-------------------------------------------------------------------------------
Queue Depths (percentage)
-------------------------------------------------------------------------------
0%-10% 11%-20% 21%-30% 31%-40% 41%-50% 51%-60% 61%-70% 71%-80% 81%-90% 91%-100%
-------------------------------------------------------------------------------
100.00 0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00
-------------------------------------------------------------------------------
Average Elapsed Time             : 0d 00:11:11
Wghtd Avg Queue Poll Interval    : 100 ms
Wghtd Avg HiWtrMark Poll Interval: 1000 ms
-------------------------------------------------------------------------------
===============================================================================
```

Output Example: show port <port-id> queue-group ingress

```
*A:PE# show port 5/1/1 queue-group ingress
===============================================================================
Ethernet Port 5/1/1 Access Ingress Queue-Group
===============================================================================
Group Name     : qg1
Description    : (Not Specified)
Sched Policy   : None               Acct Pol     : None
Collect Stats  : disabled

Queues
-------------------------------------------------------------------------------
Ing. QGroup    : qg1                Queue-Id     : 1 (Unicast) (Priority)
Description    : (Not Specified)
Admin PIR      : max*               Admin CIR    : 0*
PIR Rule       : closest*           CIR Rule     : closest*
Admin FIR      : 0*                 FIR Rule     : closest*
CBS            : def*               MBS          : def*
Monitor Depth  : not-applicable
Low Drop Tail  : def*

* means the value is inherited
===============================================================================
===============================================================================
*A:PE#

*A:PE# show port 5/1/1 queue-group egress
===============================================================================
Ethernet port 5/1/1 Access Egress queue-group
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Group Name       : qg1                Instance-Id  : 1
Description      : (Not Specified)
Sched Policy     : None               Acct Pol     : None
Collect Stats    : disabled           Agg. Limit   : max
Limit Unused BW  : Disabled
Frame Based Acc  : Disabled
HS Turbo Queues  : Disabled

Queues
-------------------------------------------------------------------------------
Queue-Group      : qg1                Instance-Id  : 1      Queue-Id   : 1
Description      : (Not Specified)
Admin PIR        : 50000*             Admin CIR    : 0*
PIR Rule         : closest*           CIR Rule     : closest*
CBS              : def*               MBS          : 1000 KB*
Weight           : not-applicable     CIR Weight   : not-applicable
Monitor Depth    : not-applicable
HiPlus Drop Tail : def*               Hi Drop Tail : def*
Low Drop Tail    : def*               Exceed Drop *: def*

* means the value is inherited
===============================================================================

Host-Matches
-------------------------------------------------------------------------------
No Host-Matches found
-------------------------------------------------------------------------------
Group Name       : policer-output-qu* Instance-Id  : 1
Description      : (Not Specified)
Sched Policy     : None               Acct Pol     : None
Collect Stats    : disabled           Agg. Limit   : max
Limit Unused BW  : Disabled
Frame Based Acc  : Disabled
HS Turbo Queues  : Disabled

Queues
-------------------------------------------------------------------------------
Queue-Group      : policer-output-qu* Instance-Id  : 1      Queue-Id   : 1
Description      : Default egress policer output queues.
Admin PIR        : max*               Admin CIR    : 0*
PIR Rule         : closest*           CIR Rule     : closest*
CBS              : def*               MBS          : def*
Weight           : not-applicable     CIR Weight   : not-applicable
Monitor Depth    : not-applicable
HiPlus Drop Tail : def*               Hi Drop Tail : def*
Low Drop Tail    : def*               Exceed Drop *: def*

Queue-Group      : policer-output-qu* Instance-Id  : 1      Queue-Id   : 2
Description      : Default egress policer output queues.
Admin PIR        : max*               Admin CIR    : 0*
PIR Rule         : closest*           CIR Rule     : closest*
CBS              : def*               MBS          : def*
Weight           : not-applicable     CIR Weight   : not-applicable
Monitor Depth    : not-applicable
HiPlus Drop Tail : def*               Hi Drop Tail : def*
Low Drop Tail    : def*               Exceed Drop *: def*

* means the value is inherited
===============================================================================

Host-Matches
-------------------------------------------------------------------------------
No Host-Matches found
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:PE#


*A:PE# show port 5/1/1 queue-group summary
===============================================================================
Port queue-group summary
===============================================================================
Access-egress queue groups:
---------------------------
qg1
policer-output-queues
Total number of access-egress queue groups  : 2

Network-egress queue groups:
---------------------------
Total number of network-egress queue groups : 0

Access-ingress queue groups:
---------------------------
qg1
Total number of access-ingress queue groups : 1
===============================================================================
*A:PE#
```

Output Example: show port <port-id> (Showing Channelized Ports)

```
A:ALA-7# show port 7/1/1.ds0grp-1.1
===============================================================================
TDM DS0 Chan Group
===============================================================================
Description        : DS3
Interface          : 7/1/1.ds0grp-1.1
TimeSlots          : 1
Speed              : 64                     CRC                 : 16
Admin Status       : up                     Oper status         : down
Last State Change  : 2007/04/11 01:14:37    Chan-Grp IfIndex    : 656441433

Configured mode    : access                 Encap Type          : bcp-null
Admin MTU          : 1522                   Oper MTU            : 1522
Physical Link      : No
===============================================================================
Port Statistics
===============================================================
                                     Input                Output
---------------------------------------------------------------
Unicast Packets                      0                      0
Multicast Packets                    0                      0
Broadcast Packets                    0                      0
Discards                             0                      0
Unknown Proto Discards               0
===============================================================
A:ALA-7#


A:ALA-48# show port 3/1/3.e3
===============================================================================
TDM Interface
===============================================================================
Description        : E3
Interface          : 3/1/3.e3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Type               : e3                      Framing             : g751
Admin Status       : up                      Oper status         : down
Physical Link      : No                      Clock Source        : loop-timed
Last State Change  : 04/11/2007 06:54:28     Port IfIndex        : 589398019

Configured mode    : access                  Encap Type          : bcp-null
Admin MTU          : 1518                    Oper MTU            : 1518
CRC                : 16                      Channelized         : none
Idle Cycle Flags   : flags                   Loopback            : none
FEAC Loop Respond  : Disabled                In FEAC Loop        : No
BERT Pattern       : none                    BERT Duration       : N/A
===============================================================================
A:ALA-48#
```

Output Example: show port <port-id> [statistics [egress-aggregate]] [detail]

The output displays the aggregate egress queue statistics for ports configured with monitor-agg-egress-queue-stats which have non-zero counters. This can be shown for a single port, or all ports on an MDA or card. When the detail parameter is added, the output includes those ports with counters that are all zero.

```
*A:PE# show port 2 statistics egress-aggregate detail
===============================================================================
Port 2/1/1 Egress Aggregate Statistics on Slot 2
===============================================================================
                        Forwarded               Dropped                   Total
-------------------------------------------------------------------------------
PacketsIn                     303                     0                     303
PacketsOut                      0                     0                       0
OctetsIn                    25996                     0                   25996
OctetsOut                       0                     0                       0
===============================================================================
===============================================================================
Port 2/1/2 Egress Aggregate Statistics on Slot 2
===============================================================================
                        Forwarded               Dropped                   Total
-------------------------------------------------------------------------------
PacketsIn                     140                     0                     140
PacketsOut                      0                     0                       0
OctetsIn                     9598                     0                    9598
OctetsOut                       0                     0                       0
===============================================================================
```

Output Example: show port <port-id> vport <vport-name>

```
*A:Dut-A# show port 1/1/2 vport "vp1"
===============================================================================
Ethernet port 1/1/2 Access Egress vport
===============================================================================
VPort Name    : vp1
Description   : (Not Specified)
Sched Policy  : psp

Host-Matches
-------------------------------------------------------------------------------
Dest: dslam1
-------------------------------------------------------------------------------
===============================================================================
*A:Dut-A#


*A:Dut-A# show port 1/1/2 vport "vp1" associations
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ethernet port 1/1/2 Access Egress vport
===============================================================================
-------------------------------------------------------------------------------
VPort "vp1"
-------------------------------------------------------------------------------
svc-id : 1
 sap   : 1/1/2:1
 subscr: s1
 ip    : 10.1.1.2
 mac   : 00:00:00:00:00:01  pppoe-sid: N/A
===============================================================================
*A:Dut-A


*A:Dut-A# show port 1/1/1 vport "abc" monitor-threshold
===============================================================================
Port 1/1/1 Vport "abc" Monitor Threshold Info
===============================================================================
Attribute                          Exceed Count Config Rate   Threshold Prcnt
-------------------------------------------------------------------------------
Agg-Eps                            0            212           32
Lvl-1                              0            12323         89
Lvl-2                              0            32132         32
Lvl-5                              0            2323          4
Grp-01234567890123458746513513355656 0          2121          12
-------------------------------------------------------------------------------
Start Time    : 01/07/2015 16:53:16     End Time      : 01/07/2015 16:53:36
Total Samples :
===============================================================================
*A:Dut-A
```

If the Vport name is omitted, statistics for all Vports are displayed (bulk read). The statistics are displayed only for the levels, groups, and agg-eps for which the monitor-threshold is enabled. The output information filtering per level, group, or agg-eps is not embedded in the show commands natively. Instead, the output can be filtered with the match extensions for the show command. For example, **show port 1/1/1 vport test monitor-threshold | match Lvl-1**.

```


*A:sne# show port 1/1/4 vport statistics
===============================================================================
Port 1/1/4 Access Egress vport
===============================================================================
VPort Name    : vp1
Description   : (Not Specified)
Sched Policy  : portschedpol1
Rate Limit    : Max
Rate Modify   : disabled
Modify delta  : 0
Vport Queueing Statistics

Last Cleared Time  : N/A
                       Packets                Octets
Forwarded:             0                      0
Dropped  :             0                      0
-------------------------------------------------------------------------------
Vport per Level Queueing Statistics
                       Packets                Octets
Level : 8
Forwarded:             0                      0
Dropped  :             0                      0
Level : 7
Forwarded:             0                      0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dropped  :              0                       0
Level : 6
Forwarded:              0                       0
Dropped  :              0                       0
Level : 5
Forwarded:              0                       0
Dropped  :              0                       0
Level : 4
Forwarded:              0                       0
Dropped  :              0                       0
Level : 3
Forwarded:              0                       0
Dropped  :              0                       0
Level : 2
Forwarded:              0                       0
Dropped  :              0                       0
Level : 1
Forwarded:              0                       0
Dropped  :              0                       0

Host-Matches
-------------------------------------------------------------------------------
Dest: dslam1
-------------------------------------------------------------------------------
===============================================================================
*A:sne#
```

Output Example: show port

```
*A:cses-V22# show port
===============================================================================
Ports on Slot 1
===============================================================================
Port          Admin Link Port    Cfg  Oper LAG/ Port Port Port   C/QS/S/XFP/
Id            State      State   MTU  MTU  Bndl Mode Encp Type   MDIMDX
-------------------------------------------------------------------------------
1/1/1         Down  Yes  Up      8704 8704    - netw null xcme   GIGE-LX  10KM
1/1/2         Up    Yes  Up      1514 1514    - accs null xcme   GIGE-LX  10KM
1/1/3         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/4         Up    Yes  Up      1514 1514    - accs null xcme   GIGE-LX  10KM
1/1/5         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/6         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/7         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/8         Up    Yes  Up      8704 8704    - hybr dotq xcme   GIGE-LX  10KM
1/1/9         Up    Yes  Up      1518 1518    - accs dotq xcme   GIGE-LX  10KM
1/1/10        Down  Yes  Down    8704 8704    - netw null xcme   GIGE-LX  10KM
```

```
A:admin@mci(right-b4)# show port
===============================================================================
Ports on Slot 1
===============================================================================
Port          Admin Link Port    Cfg  Oper LAG/ Port Port Port   C/QS/S/XFP/
Id            State      State   MTU  MTU  Bndl Mode Encp Type   MDIMDX
-------------------------------------------------------------------------------
1/1/m1/1   Link Up                         anchor    100G
1/1/c1        Up         Link Up                        conn   100GBASE-LR4*
1/1/c1/1      Up    No   Down    9212 9212    - netw null xgige
1/1/c1/2      Down  No   Down    9212 9212    - netw null xgige
1/1/c1/3      Down  No   Down    9212 9212    - netw null xgige
...
===============================================================================
Ports on Port Cross Connect 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Port          Admin Link Port    Cfg  Oper LAG/ Port Port Port   C/QS/S/XFP/
Id            State      State   MTU  MTU  Bndl Mode Encp Type   MDIMDX
------------------------------------------------------------------------------
pxc-1.a       Up    Yes  Link Up 1574 1574    - hybr dotq xgige
pxc-1.b       Up    Yes  Link Up 1574 1574    - hybr dotq xgige
pxc-2.a       Up    Yes  Link Up 1574 1574    - hybr dotq xgige
pxc-2.b       Up    Yes  Link Up 1574 1574    - hybr dotq xgige
```

Output Example: show port detail for a satellite uplink port

```
show port esat-1/1/c5/u1 detail
  ===============================================================================
  Ethernet Interface
  ===============================================================================
  Description        : 400-Gig Ethernet
  Interface          : esat-1/1/c5/u1             Oper Speed       : 400 Gbps
  Link-level         : Ethernet                   Config Speed     : N/A
  Admin State        : up                         Oper Duplex      : full
  Oper State         : up
  Config Duplex      : N/A
  Physical Link      : Yes                        MTU              : 9212
  Single Fiber Mode  : No                         Min Frame Length : 64 Bytes
  IfIndex            : 1140966017                 Hold time up     : 0 seconds
  Last State Change  : 09/30/2023 07:42:28        Hold time down   : 0 seconds
  Hold Time Down Rmng: 0 cs                       Hold Time Up Rmng: 0 cs
  Last Cleared Time  : N/A
  Phys State Chng Cnt: 55
  RS-FEC Config Mode : None
  RS-FEC Oper Mode   : cl119
  Far-end port ID    : 1/x1/1/c2/1

  Configured Mode    : access                     Encap Type       : 802.1q
  Dot1Q Ethertype    : 0x8100                     QinQ Ethertype   : 0x8100
  PBB Ethertype      : 0x88e7
  Ing. Pool % Rate   : 100                        Egr. Pool % Rate : 100
  Net. Egr. Queue Pol: n/a
  Egr. Sched. Pol    : n/a
  HwAggShaper Sch Pol: n/a
  Monitor Port Sched : Disabled
  Monitor Agg Q Stats: Disabled
  Oper Group: none                                Monitor Oper Group : none
  Monitor HwAggShap *: Disabled
  Auto-negotiate     : N/A                        MDI/MDX          : N/A
  Oper Phy-tx-clock  : not-applicable
  Accounting Policy  : None                       Collect-stats    : Disabled
  Acct Plcy Eth Phys : None                       Collect Eth Phys : Disabled
  Egress Rate        : Default                    Ingress Rate     : Default
  Oper Egress Rate   : Unrestricted
  Load-balance-algo  : Default                    LACP Tunnel      : Disabled
  Access Bandwidth   : Not-Applicable             Booking Factor   : 100
  Access Available BW: 0
  Access Booked BW   : 0
  Sflow              : Disabled
  Discard Rx Pause   : Disabled
  Tx Pause Frames    : Enabled
  Down-when-looped   : Disabled                   Keep-alive       : 10
  Loop Detected      : False                      Retry            : 120
  Use Broadcast Addr : False

  Sync. Status Msg.  : Disabled                   Rx Quality Level : eprtc
  Rx SSM code        : 0010                       Rx enh SSM code  : 0x21
  Tx DUS/DNU         : Disabled                   Tx Quality Level : N/A
  SSM Code Type      : sdh                        ESMC Tunnel      : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rx extended QL TLV
Clock Identity     : 01234567890ABCDEF
Mixed EEC/eEEC     : true                       Partial chain    : true
eEEC count         : 2                          EEC count        : 3

CRC Mon SD Thresh  : 6*10E-7                    CRC Mon Window   : 10 seconds
CRC Mon SF Thresh  : 4*10E-5

EFM OAM            : Disabled                   EFM OAM Link Mon : Disabled
Ignr EFM OAM State : False

Configured Address : e4:41:64:7b:42:27
Hardware Address   : e4:41:64:7b:42:27
Cfg Alarm          : remote local

-------------------------------------------------------------------------------
Ethernet Bandwidth Notification Message Information
-------------------------------------------------------------------------------
ETH-BN Egr Rate Changes: Disabled
ETH-BN Rate (kbps)     : None
-------------------------------------------------------------------------------
===============================================================================
* indicates that the corresponding row element may have been truncated.

===============================================================================
Traffic Statistics
===============================================================================
                                                    Input                Output
-------------------------------------------------------------------------------
Octets                                   12287868837323         12276482441319
Packets                                     29574258275            29537765516
Errors                                                0                       0

===============================================================================
Ethernet Statistics
===============================================================================

Broadcast Pckts  :          1235438977  Drop Events      :                   0
Multicast Pckts  :          3667667411  CRC/Align Errors :                   0
Undersize Pckts  :                   0  Fragments        :                   0
Oversize Pckts   :                   0  Jabbers          :                   0
Collisions       :                   0

Octets                         :      24564351278642
Packets                        :         59112023791
Packets of 64 Octets           :              19931
Packets of 65 to 127 Octets    :         49484559475
Packets of 128 to 255 Octets   :          3035408192
Packets of 256 to 511 Octets   :          1661149068
Packets of 512 to 1023 Octets  :          1094762996
Packets of 1024 to 1518 Octets :           668024442
Packets of 1519 or more Octets :          3168099687
===============================================================================

===============================================================================
Port Statistics
===============================================================================
                                                    Input                Output
-------------------------------------------------------------------------------
Unicast Packets                          27115598668            27093318735
Multicast Packets                         1838494691             1829172720
Broadcast Packets                          620164916              615274061
Discards                                           0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Unknown Proto Discards                                0
  ===============================================================================

  ===============================================================================
  Ethernet-like Medium Statistics
  ===============================================================================

  Alignment Errors :                   0  Sngl Collisions  :                   0
  FCS Errors       :                   0  Mult Collisions  :                   0
  SQE Test Errors  :                   0  Late Collisions  :                   0
  CSE              :                   0  Excess Collisns  :                   0
  Too long Frames  :                   0  Int MAC Tx Errs  :                   0
  Symbol Errors    :                   0  Int MAC Rx Errs  :                   0
  In Pause Frames  :                   0  Out Pause Frames :                   0
  ===============================================================================

  ===============================================================================
  Sat Port Queue Statistics
  ===============================================================================

  -------------------------------------------------------------------------------
  Sat Egress Queue  1          Packets                 Octets
  Fwd Stats          :            8257120707              4112066787804
  Drop Stats         :            0                       0
  Sat Egress Queue  2          Packets                 Octets
  Fwd Stats          :            317138867               21905134529
  Drop Stats         :            0                       0
  Sat Egress Queue  3          Packets                 Octets
  Fwd Stats          :            312021096               22007488810
  Drop Stats         :            0                       0
  Sat Egress Queue  4          Packets                 Octets
  Fwd Stats          :            14673309206             998842948449
  Drop Stats         :            0                       0
  Sat Egress Queue  5          Packets                 Octets
  Fwd Stats          :            0                       0
  Drop Stats         :            0                       0
  Sat Egress Queue  6          Packets                 Octets
  Fwd Stats          :            0                       0
  Drop Stats         :            0                       0
  Sat Egress Queue  7          Packets                 Octets
  Fwd Stats          :            0                       0
  Drop Stats         :            0                       0
  Sat Egress Queue  8          Packets                 Octets
  Fwd Stats          :            0                       0
  Drop Stats         :            0                       0
  ===============================================================================
```

Output Example: show port detail for a satellite client port

```
show port esat-1/1/c2/4 detail

  ===============================================================================
  Ethernet Interface
  ===============================================================================
  Description        : 25-Gig Ethernet
  Interface          : esat-1/1/c2/4             Oper Speed       : 25 Gbps
  Link-level         : Ethernet                  Config Speed     : N/A
  Admin State        : down                      Oper Duplex      : full
  Oper State         : down
  Config Duplex      : N/A
  Physical Link      : No                        MTU              : 9208
  Single Fiber Mode  : No                        Min Frame Length : 64 Bytes
  IfIndex            : 1140932868                Hold time up     : 0 seconds
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Last State Change  : 09/30/2023 07:41:51        Hold time down   : 0 seconds
Hold Time Down Rmng: 0 cs                       Hold Time Up Rmng: 0 cs
Last Cleared Time  : N/A
Phys State Chng Cnt: 0
RS-FEC Config Mode : None
RS-FEC Oper Mode   : None

Configured Mode    : network                    Encap Type       : null
Dot1Q Ethertype    : 0x8100                     QinQ Ethertype   : 0x8100
PBB Ethertype      : 0x88e7
Ing. Pool % Rate   : 100                        Egr. Pool % Rate : 100
Net. Egr. Queue Pol: default
Egr. Sched. Pol    : n/a
DCPU Prot Policy   : _default-port-policy
Oper DCPU Prot Plcy: _default-port-policy
HwAggShaper Sch Pol: n/a
Monitor Port Sched : Disabled
Monitor Agg Q Stats: Disabled
Oper Group: none                                Monitor Oper Group : none
Monitor HwAggShap *: Disabled
Auto-negotiate     : N/A                        MDI/MDX          : N/A
Oper Phy-tx-clock  : not-applicable
Accounting Policy  : None                       Collect-stats    : Disabled
Acct Plcy Eth Phys : None                       Collect Eth Phys : Disabled
Egress Rate        : Default                    Ingress Rate     : Default
Oper Egress Rate   : Unrestricted
Load-balance-algo  : Default                    LACP Tunnel      : Disabled
Access Bandwidth   : Not-Applicable             Booking Factor   : 100
Access Available BW: 0
Access Booked BW   : 0
Sflow              : Disabled
Discard Rx Pause   : Disabled
Tx Pause Frames    : Enabled
Down-when-looped   : Disabled                   Keep-alive       : 10
Loop Detected      : False                      Retry            : 120
Use Broadcast Addr : False

Sync. Status Msg.  : Disabled                   Rx Quality Level : eprtc
Rx SSM code        : 0010                       Rx enh SSM code  : 0x21
Tx DUS/DNU         : Disabled                   Tx Quality Level : N/A
SSM Code Type      : sdh                        ESMC Tunnel      : Disabled

Rx extended QL TLV
Clock Identity     : 01234567890ABCDEF
Mixed EEC/eEEC     : true                       Partial chain    : true
eEEC count         : 2                          EEC count        : 3

PTP TS Capability  :

CRC Mon SD Thresh  : Disabled                   CRC Mon Window   : 10 seconds
CRC Mon SF Thresh  : Disabled

EFM OAM            : Disabled                   EFM OAM Link Mon : Disabled
Ignr EFM OAM State : False

Configured Address : e4:41:64:7b:42:12
Hardware Address   : e4:41:64:7b:42:12
Cfg Alarm          : remote local
Alarm Status       : local
Reported Alarms    : local

-------------------------------------------------------------------------------
Ethernet Bandwidth Notification Message Information
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ETH-BN Egr Rate Changes: Disabled
ETH-BN Rate (kbps)     : None
-------------------------------------------------------------------------------
===============================================================================
* indicates that the corresponding row element may have been truncated.

===============================================================================
Traffic Statistics
===============================================================================
                                                  Input                 Output
-------------------------------------------------------------------------------
Octets                                    735804410152           735804410344
Packets                                     5454727392             5454727395
Errors                                               0                      0

===============================================================================
Ethernet Statistics
===============================================================================

Broadcast Pckts  :                   3  Drop Events      :                   0
Multicast Pckts  :                   0  CRC/Align Errors :                   0
Undersize Pckts  :                   0  Fragments        :                   0
Oversize Pckts   :                   0  Jabbers          :                   0
Collisions       :                   0

Octets                          :       1471608820496
Packets                         :         10909454787
Packets of 64 Octets            :          2333235065
Packets of 65 to 127 Octets     :          8495213712
Packets of 128 to 255 Octets    :                   0
Packets of 256 to 511 Octets    :                   0
Packets of 512 to 1023 Octets   :                   0
Packets of 1024 to 1518 Octets  :                   0
Packets of 1519 or more Octets  :            81006010
===============================================================================

===============================================================================
Port Statistics
===============================================================================
                                                  Input                 Output
-------------------------------------------------------------------------------
Unicast Packets                           5454727392             5454727392
Multicast Packets                                    0                      0
Broadcast Packets                                    0                      3
Discards                                             0                      0
Unknown Proto Discards                               0
===============================================================================

===============================================================================
Ethernet-like Medium Statistics
===============================================================================

Alignment Errors :                   0  Sngl Collisions  :                   0
FCS Errors       :                   0  Mult Collisions  :                   0
SQE Test Errors  :                   0  Late Collisions  :                   0
CSE              :                   0  Excess Collisns  :                   0
Too long Frames  :                   0  Int MAC Tx Errs  :                   0
Symbol Errors    :                   0  Int MAC Rx Errs  :                   0
In Pause Frames  :                   0  Out Pause Frames :                   0
===============================================================================

===============================================================================
Ingress Port Forwarding Engine Drop Reason Statistics
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPv4 Header Error                                    0
IPv4 Invalid Address                                 0
IPv6 Header Error                                    0
IPv6 Invalid Address                                 0
IP Route Blackholed                                  0
ACL Filter Discards                                  0
Unicast RPF Check Failed                             0
BFD Spoof Check Failed                               0
Unicast MAC Destination Address Mismatch             0
Multicast MAC With Unicast Dest IP                   0
Unknown MAC Destination Address Discarded in VPLS    0
L2 Service MTU Exceeded                              0
Needs ICMP                                           0
===============================================================================

===============================================================================
Sat Port Queue Statistics
===============================================================================

-------------------------------------------------------------------------------
Sat Egress Queue  1          Packets                 Octets
Fwd Stats          :            5454727392              757623319720
Drop Stats         :            0                       0
Sat Egress Queue  2          Packets                 Octets
Fwd Stats          :            0                       0
Drop Stats         :            0                       0
Sat Egress Queue  3          Packets                 Octets
Fwd Stats          :            0                       0
Drop Stats         :            0                       0
Sat Egress Queue  4          Packets                 Octets
Fwd Stats          :            0                       0
Drop Stats         :            0                       0
Sat Egress Queue  5          Packets                 Octets
Fwd Stats          :            0                       0
Drop Stats         :            0                       0
Sat Egress Queue  6          Packets                 Octets
Fwd Stats          :            0                       0
Drop Stats         :            0                       0
Sat Egress Queue  7          Packets                 Octets
Fwd Stats          :            0                       0
Drop Stats         :            0                       0
Sat Egress Queue  8          Packets                 Octets
Fwd Stats          :            3                       204
Drop Stats         :            0                       0
===============================================================================

===============================================================================
Queue Statistics
===============================================================================

-------------------------------------------------------------------------------
Ingress Queue  1             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  2             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
     Out Profile forwarded :    0                       0
     Out Profile dropped   :    0                       0
Ingress Queue  3             Packets                 Octets
     In Profile forwarded  :    0                       0
     In Profile dropped    :    0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue  4            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue  5            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue  6            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue  7            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue  8            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue  9            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue 10            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue 11            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue 12            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue 13            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue 14            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue 15            Packets                Octets
      In Profile forwarded  :    0                      0
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0
  Ingress Queue 16            Packets                Octets
      In Profile forwarded  :    0                      0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      In Profile dropped    :    0                      0
      Out Profile forwarded :    0                      0
      Out Profile dropped   :    0                      0

  Egress Queue  1             Packets                Octets
      In/Inplus Prof fwded  :    0                      0
      In/Inplus Prof dropped:    0                      0
      Out/Exc Prof fwded    :    0                      0
      Out/Exc Prof dropped  :    0                      0
  Egress Queue  2             Packets                Octets
      In/Inplus Prof fwded  :    0                      0
      In/Inplus Prof dropped:    0                      0
      Out/Exc Prof fwded    :    0                      0
      Out/Exc Prof dropped  :    0                      0
  Egress Queue  3             Packets                Octets
      In/Inplus Prof fwded  :    0                      0
      In/Inplus Prof dropped:    0                      0
      Out/Exc Prof fwded    :    0                      0
      Out/Exc Prof dropped  :    0                      0
  Egress Queue  4             Packets                Octets
      In/Inplus Prof fwded  :    0                      0
      In/Inplus Prof dropped:    0                      0
      Out/Exc Prof fwded    :    0                      0
      Out/Exc Prof dropped  :    0                      0
  Egress Queue  5             Packets                Octets
      In/Inplus Prof fwded  :    0                      0
      In/Inplus Prof dropped:    0                      0
      Out/Exc Prof fwded    :    0                      0
      Out/Exc Prof dropped  :    0                      0
  Egress Queue  6             Packets                Octets
      In/Inplus Prof fwded  :    0                      0
      In/Inplus Prof dropped:    0                      0
      Out/Exc Prof fwded    :    0                      0
      Out/Exc Prof dropped  :    0                      0
  Egress Queue  7             Packets                Octets
      In/Inplus Prof fwded  :    0                      0
      In/Inplus Prof dropped:    0                      0
      Out/Exc Prof fwded    :    0                      0
      Out/Exc Prof dropped  :    0                      0
  Egress Queue  8             Packets                Octets
      In/Inplus Prof fwded  :    0                      0
      In/Inplus Prof dropped:    0                      0
      Out/Exc Prof fwded    :    0                      0
      Out/Exc Prof dropped  :    0                      0
  ===============================================================================
```

Output Example: show port statistics aggregate-queue

```
===============================================================================
Port Statistics on Slot 1
===============================================================================
Port-id                  Ingress Packets Fwd   Ingress Octets Fwd
                        Ingress Packets Drop   Ingress Octets Drop
                          Egress Packets Fwd     Egress Octets Fwd
                         Egress Packets Drop     Egress Octets Drop
-------------------------------------------------------------------------------
pxc1.a                                4654649       94523288
                                        22544          99852
                                     98652214       65889554
                                        55451          22144
===============================================================================
```

Table 430: Output fields: port ID describes the output fields for the **show port <port-id>** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 430: Output fields: port ID

Label	Description
50GHz Ch Min/Max	The 50 GHz channel minimum and maximum
100GHz Ch Min/ Max	The 100 GHz channel minimum and maximum
Acct Pol	The accounting policy for the egress queue-group
ACL Filter Discards	The packet was dropped by a filter (ACL) on the line card (such as IP or MAC filter). Packets dropped by CPM filters or ESM anti-spoof filters do not increment this counter.
Active Pre-Shared Key CKN	The active PSK CAK name
Active Pre-Shared Key Index	The active pre-shared key index: 1 to 2 (default 1)
Adapter Type	The type of adapter module
Addr Ctrl Invalid	The number of invalid address control received
Address	The IP address associated with the index
Admin CIR	The administrative Committed Information Rate (CIR) parameters for the queue. The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth.
Admin FIR	The admin queue FIR rate
Admin PIR	The administrative Peak Information Rate (PIR) parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets through the switch fabricor out an egress interface.
Admin State	Up — The entity is administratively up Down — The entity is administratively down
Agg. Limit	The agg-rate adaptation rule setting
AIS	The number of AIS cells transmitted and received on this connection for both end to end and segment
AIS-P	The number of AIS-P packets received
Alarm Status	The bits used to indicate alarms: loc — A loss of clock which causes the operational state of the port to be downed lais — Line alarm indication signal errors lrdi — Line remote defect indication errors. LRDIs are caused by remote LOF, LOC, and LOS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	ss1f — Section synchronization failure as reported by the S1 byte sb1err — Section B1 errors lb2erSd — Line signal degradation BER errors lb2erSf — Line signal failure BER errors slof — Section loss of frame errors slos — Section loss of signal errors stxptr — Section synchronization error on the transmit side. Indicates if there is a positive or negative justification count per channel srxptr — Section synchronization error on the receive side. Indicates if there is a positive or negative justification count per SONET path lrei — Line error condition raised by the remote as a result of B1 errors received from this node
Alignment Errors	The total number of packets received that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets, inclusive, but had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets
Altitude (m MSL)	The altitude of the GNSS antenna above mean sea level, in meters
Amplifier Gain (dB)	The amplifier gain high and low warning alarms
Amplifier Input Power (dBm)	The amplifier input power high and low warning alarms
Amplifier Output Power (dBm)	The amplifier output power high and low warning alarms
AN	The AN for identifying the receiving SA
Ant. Cable Delay	The amount of time, in nanoseconds, compensated for signal delay because of cable length Refer to the cable manufacturer data to determine accurate signal delay statistics for the type and length of cable used
Antenna status	ok: valid antenna connection under-current: open condition. The port remains operationally up in the event that any GNSS splitters used do not provide a load. over-current: short circuit, or maximum power limits for the receiver have been exceeded no-bias voltage: antenna power disabled
Assigned ports	Specifies all ports that contain this CA
authentication method	The 802.1x session authentication method

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Authenticator PAE state	The 802.1x port authenticator PAE state
Auto-negotiate	True — The link attempts to automatically negotiate the link speed and duplex parameters False — The duplex and speed values are used for the link
Average Elapsed Time	The average elapsed time
Backend state	The 802.1x port backend state
Bad Tag Packets	The number of received packets discarded with an invalid SecTAG or a zero value Packet Number (PN) or an invalid Integrity Check Value (ICV)
BFD Spoof Check Failed	The received BFD packet either failed the TTL check (single hop BFD TTL should be 255) or failed the source IP address lookup of known sessions. This counter may increment when BFD sessions are first configured since one side may start sending before the other is completely programmed and ready.
Breakout	The connector breakout configured for the port
Broadcast Packets Input/Output	The number of packets, delivered by this sub-layer to a higher (sub-) layer, which were addressed to a broadcast address at this sub-layer. The total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses.
Broadcast Packets	Input — The number of input broadcast packets Output — The number of output broadcast packets
Broadcast Pckts	The number of packets, delivered by this sub-layer to a higher (sub-) layer, which were addressed to a broadcast address at this sub-layer. The total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses.
CA name/ca-name	The CA name assigned to the port
Cast Type	The connection topology type
CBS	The CBS value defining the reserved size for the queue
Cells	The number of input and output cells HEC discarded cells are not included in the input cell numbers

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Cfg Alarm	The alarms that are reported when raised or cleared. Alarms that are not in this list are not reported when they are raised or cleared but appear in the Alarm Status. pais — Path alarm indication signal errors plop — Path loss of pointer (per tributary) errors prdi — Path remote defect indication errors pb3err — Path B3 errors pplm — Path payload mismatch. As a result, the path can be operationally downed prei — Path error condition raised by the remote as a result of B3 errors received from this node puneq — Unequipped path errors. plcd — Path loss of codegroup delineation error. It is applicable only when the value of tmnxPortEtherXGigMode is set to 'wan'.
Cfg MTU	The configured MTU
Cfg Rx Channel	The configured DWDM ITU channel at which the coherent optical module is expected to operate
Cfg Rx LOS Thresh	The configured LOS threshold of the average input power
Cfg Tx Pwr Maximum	The maximum power setting supported by the transceiver (only displayed if the equipped optical module supports configurable transmit power)
Cfg Tx Pwr Minimum	The minimum power setting supported by the transceiver (only displayed if the equipped optical module supports configurable transmit power)
Cfg Tx Target power	The manually-configured average target output power
Chan-Grp IfIndex	The channel group’s interface index number which reflects its initialization sequence
Cipher Suite	The cipher suite used for encrypting the SAK: gcm-aes-128, gcm-aes-256, gcm-aes-xpn-128, gcm-aes-xpn-256
CIR Rule	min — The operational CIR for the queue is equal to or greater than the administrative rate specified using the rate command except where the derived operational CIR is greater than the operational PIR. If the derived operational CIR is greater than the derived operational PIR, the operational CIR will be made equal to the operational PIR. max — The operational CIR for the queue is equal to or less than the administrative rate specified using the rate command. closest — The operational CIR for the queue is the rate closest to the rate specified using the rate command without exceeding the operational CIR.
CIR Weight	The weight the queue or scheduler uses at the within-CIR port priority level

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Clear Tag Mode	In the case of VLAN-tagged traffic, if the traffic is crossing a network, one or two VLAN tags can be transmitted in clear text so that this traffic can receive preferential treatment over the network based on 802.1 q-tag or p-bits. Values: single-tag, dual-tag
Clock Identity	SyncE clock identity of the originator of the extended QL TLV
Coherent Optical Module	Information for the coherent optical module
Coherent Optical Port Statistics	Statistics for the coherent optical port For Coherent CFP, the Rx Power field displays per-channel power.
Collect-stats Collect Stats	Enabled — The collection of accounting and statistical data for the network Ethernet port is enabled. When applying accounting policies the data by default will be collected in the appropriate records and written to the designated billing file. Disabled — Collection is disabled. Statistics are still accumulated by the IOM cards, however, the CPU will not obtain the results and write them to the billing file.
Collisions	The best estimate of the total number of collisions on this Ethernet segment
Compatibility	The coherent compatibility mode
Config Duplex	Full — The link is set to full duplex mode Half — The link is set to half duplex mode
Config Revision	The configuration revision
Config Speed	The configured speed of the interface
Configured Address	The configured Ethernet MAC address
Configured Freq	The configured frequency for the transceiver
Configured Mode	network — The port is configured for transport network use access — The port is configured for service access
Configured Mode	network — The port is configured for transport network use access — The port is configured for service access. Channelized ports are always access ports
Configured VCs	The number of configured VCs
Connector Code	The vendor organizationally unique identifier field (OUI) contains the IEEE company identifier for the vendor
Constellation	The type of GNSS satellite navigation system used
CRC	The precision of the cyclic redundancy check.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	16 — A 16-bit CRC calculation. 32 — A 32-bit CRC calculation. 32-bit CRC increases the error detection ability, but it also adds some performance overhead.
CRC Mon SD Thresh	The error rate (for CRC errors) at which to declare the Signal Degrade (SD) condition on an Ethernet interface. If the field displays Disabled, no error rate has been specified.
CRC Mon SF Thresh	The CRC error rate at which to declare the Signal Fail (SF) condition on an Ethernet interface. If the field displays Disabled, no error rate has been specified.
CRC Mon Window	The size of the sliding window, in seconds, over which the Ethernet frames are sampled to detect signal fail or signal degrade conditions.
CRC/Align Errors	The total number of packets received that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets, inclusive, but had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
CRC-10 Errors	The number of cells discarded on this VPL with CRC 10 errors
CRC-32 Errors	The number of valid AAL-5 SDUs and AAL-5 SDUs with CRC-32 errors received by the AAL-5 VCC
CSE	The number of times that the carrier sense condition was lost or never asserted when attempting to transmit a frame on a particular interface
CV-P	The number of Coding Violations
Current Freq	The current frequency
Current Penalties	The current accumulated penalties for port dampening
DAC Percent	The DAC percentage of the transceiver
Dampening State	The port dampening state: Disabled, Idle, or Active
Data Rate	The data rate at which the port is operating. When OTU is encapsulating 10-Gigabit Ethernet WAN, the data rate is 10.709 Gb/s, the G.709 standard OTU2 data rate. When OTU is encapsulating 10-Gigabit Ethernet LAN, the data rate is either 11.049 Gb/s or 11.096 Gb/s, depending on the otu2-lan-data-rate configuration parameter of the port's OTU parameters. These data rates (11.049 Gb/s and 11.096 Gb/s) are considered OTU2e data rates that are non-standard or over-clocked with respect to G.709, but have become widely used in optical networking to transport un-altered 10-Gigabit Ethernet LAN payloads.
DDM Events	Enabled — DDM events are enabled Disabled — DDM events are disabled
Decrypted Octets	The number of octets of plain text recovered from received packets that were integrity protected and encrypted

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Delayed Packets	The number of received packets with the condition a PN lower than the lower bound of the replay protection on this SC
Description	A text description for the entity
Diag Capable	Indicates whether the transceiver is capable of performing diagnostics
Discards	Input — The number of discarded input packets Output — The number of discarded output packets
Discards Input/ Output	The number of inbound packets chosen to be discarded to possibly free up buffer space
Disp Control Mode	The current operational mode of the tunable dispersion compensation module
DOIE Tx Disable	Enabled — Laser is enabled if an internal MAC transmit error is encountered Disabled — Laser is disabled if an internal MAC transmit error is encountered
Dot1Q Ethertype	The Ethertype expected when the port's encapsulation type is Dot1Q
Down On Int. Error	Enabled — Down on internal error feature is enabled Disabled — Down on internal error feature is disabled
Down-when-looped	The feature is enabled or disabled
Drop Count	The number of keepalive or LQR messages that were missed before the line was brought down
Dropped	The number of dropped packets and octets
Drop Events	The total number of events in which packets were dropped by the probe due to lack of resources. Note that this number is not necessarily the number of packets dropped; it is just the number of times this condition has been detected.
Dropped CLP	The number of times the CLP1 cells have been dropped. CLP1 cells have lower priority than CLP0 cells and are expected to be discarded first in times of congestion.
Dying Gasp	Indicates whether dying gasp is enabled or disabled
Dying Gasp on Reset	EFM OAM dying gasp messages on reset: true or false
eapol-destination-address	The destination MAC address used in the EAPoL packet for MACsec Key Agreement (MKA) PDUs
EEC count	The number of cascaded EECs from the nearest SSU/PRC/ePRC
eEEC count	The number cascaded eEECs from the nearest SSU/PRC/ePRC
EgrAmp	The egress amplifier alarm information, including:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• temperature • gain • power out • power in
Encryption Offset	The encryption offset configured on this node: 0, 30, 50. In the case of IP traffic, the IP header can be transmitted in clear text so that the traffic is routed accordingly when crossing the network. A value of 30 is used for IPv4 and 50 for IPv6.
EFM OAM	Enabled — EFM OAM is enabled Disabled — EFM OAM is disabled
EFM OAM Link Mon	Enabled — Link monitoring functionality is enabled Disabled — Link monitoring functionality is disabled
Egr. Sched. Pol	The port scheduler policy or that the default policy default is in use
Egress CBR	The total CBR bandwidth consumed on this interface in the egress direction
Egress NRT-VBR	The total non-real-time variable bit rate (nrt-VBR) bandwidth consumed on this interface in the egress direction
Egress Octets	The egress octets on a per-port basis
Egress Octets Drop	The number of egress octets dropped
Egress Octets Fwd	The number of egress octets forwarded
Egress Packets	The egress packets on a per-port basis
Egress Packets Drop	The number of egress packets dropped
Egress Packets Fwd	The number of egress packets forwarded
Egress Rate	The maximum amount of egress bandwidth (in kilobits per second) that this Ethernet interface can generate
Egress RT-VBR	The total real-time variable bit rate (rt-VBR) bandwidth consumed on this interface in the egress direction
Egress UBR	The total unspecified bit rate (UBR) bandwidth consumed on this interface in the egress direction
Elev. Mask Angle	The configured elevation angle below which satellites are ignored. The default elevation mask angle is 10°.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Five or more satellites must be in view of the GNSS receiver antenna at all times when the receiver is in the process of obtaining a position fix, and these satellites must be above the configured elevation mask angle.
Encap-match	Specifies which types of traffic MACsec is enabled for
Encap Type	Null — Ingress frames will not use any tags or labels to delineate a service dot1q — Ingress frames carry 802.1Q tags where each tag signifies a different service
Encap Value	The dot1q or qinq encapsulation value on the port for this IP interface
Encrypted Octets	The number of plain text octets that are integrity protected and encrypted on the transmitting SC
Encrypted Packets	The number of packets that are integrity protected and encrypted for this transmitting SA
Encrypted SA Packets	The number of packets that are integrity protected and encrypted for this SA
Encryption Offset	Specifies the encryption offset configured on this node: 0, 30, 50. In the case of IP traffic, the IP header can be transmitted in clear text so that the traffic is routed accordingly when crossing the network. A value of 30 will be used for IPv4 and 50 for IPv6.
Endpoint Type	The endpoint type
Errored Frame Enabled	Specifies whether errored frames are enabled
Errored Frame Event Notify	Specifies whether errored frame events notification is enabled
Errored Frame Period Enabled	Specifies whether an errored frame period is enabled
Errored Frame Period Event Notify	Specifies whether an errored frame period event notification is enabled
Errors Input/Output	For packet-oriented interfaces, the number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol. For character-oriented or fixed-length interfaces, the number of inbound transmission units that contained errors preventing them from being deliverable to a higher-layer protocol. For packet-oriented interfaces, the number of outbound packets that could not be transmitted because of errors. For character-oriented or fixed-length interfaces, the number of outbound transmission units that could not be transmitted because of errors.
ESMC Tunnel	Indicates whether ESMC frames are tunneled in Epipe or VPLS service

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
ES-P	The number of Errored Seconds
Exceed Drop	The queue depth beyond which exceed-profile packets are not accepted into the queue and are discarded
Excess Collisns	The number of frames for which transmission on a particular interface fails due to excessive collisions
Far End	The SONET path far end
FCS Errors	The number of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check
FEC Corrected 0s	The number of bits that were received as 0s but corrected to 1s
FEC Corrected 1s	The number of bits that were received as 1s but corrected to 0s
FEC Mode	Type of FEC (Forward Error Correction) in effect: g709, enhanced or disabled. When g709 is selected, the standard FEC method is used. When enhanced is selected, a proprietary FEC algorithm is used that extends optical reach in long haul applications. When disabled the bytes that are reserved for FEC in the OTU frame are transmitted as zeros and the FEC decoder is bypassed, but OTU framing is still in effect.
FEC SES	The number of severely Errored seconds were the number of uncorrectable sub-rows was greater than 15% of the maximum
FEC Uncorrectable Sub-Rows	The number of sub-rows that were not corrected because too many errors were detected
Fifo Error	The number of FIFO errors
Fine Tuning	Indicates whether the transceiver supports fine tuning for the frequency
FIR Rule	The queue FIR rule
Firmware Version	Firmware version of the GNSS receiver
FR Interface Status	The status of the Frame Relay interface as determined by the performance of the DLCMI. If no DLCMI is running, the Frame Relay interface stays in the running state indefinitely.
Forwarded	The number of forwarded packets and octets
FP Number	The number of the FP that manages this port
Fragments	The total number of packets received that were less than 64 octets in length (excluding framing bits but including FCS octets) and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Frame Based Acc	Frame-based accounting for queues parented to the scheduling policy and for the schedulers within the scheduler policy
Grace Tx Enable	Specifies whether grace Tx is enabled
Grace Vendor OUI	The EFM OAM grace vendor Organizationally Unique Identifier (OUI)
Grp-<name> Group Name	The group name
Half Life	The time, in seconds, that must pass before penalties decay to one-half the initial amount
Hardware Address	The interface's hardware or system assigned MAC address at its protocol sub-layer
HEC Errors (Dropped)	The number of cells with uncorrectable HEC errors on this interface
HEC Errors (Fixed)	The number of fixed HEC errors on this interface
HiPlus Drop Tail	The queue depth beyond which inplus-profile packets are not accepted into the queue and are discarded
Hi Drop Tail	The queue depth beyond which in-profile packets are not accepted into the queue and are discarded
Hold Time	The EFM OAM hold-time
Hold time down	The link down dampening time in seconds. The **down** timer controls the dampening timer for link down transitions
Hold Time Down Rmng	The time remaining for a hold down timer. If the **hold** timer is not active, this displays zero.
Hold time up	The link up dampening time in seconds. The port link dampening timer value which reduces the number of link transitions reported to upper layer protocols.
Hold Time Up Rmng	The time remaining for a hold up timer. If the **hold** timer is not active, this displays zero.
HS Turbo Queues	HS turbo queues that allow the corresponding HSQ queue group queues for higher throughput
IfIndex	The interface's index number which reflects its initialization sequence
Ignore Efm State	The suppress port operational state changes due to EFM OAM: true or false
Ignr EFM OAM State	Enabled — Any failure in the protocol state machine does not impact the state of the port Disabled — The port state is affected by any existing EFM-OAM protocol fault condition

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Index 1	Management IP information, one per type maximum (system IPv4, IPv6 system, oob, oob IPv6)
IngAmp	The ingress amplifier alarm information, including: • temperature • gain • power out • power in
In Packets	The number of echo-reply packets received
In Pause Frames	The number of In Pause frames
Ingress CBR	The total CBR bandwidth consumed on this interface in the ingress direction
Ingress NRT-VBR	The total non-real-time variable bit rate (nrt-VBR) bandwidth consumed on this interface in the ingress direction
Ingress Octets	The ingress octets on a per-port basis
Ingress Octets Drop	The number of ingress octets dropped
Ingress Octets Fwd	The number of ingress octets forwarded
Ingress Packets	The ingress packets on a per-port basis
Ingress Packets Drop	The number of ingress packets dropped
Ingress Packets Fwd	The number of ingress packets forwarded
Ingress Port Forwarding Engine Drop Reason Statistics	When any of the packet counters increments, it indicates that a packet was dropped in the ingress data path or extracted to the control plane for further processing. The detailed per-reason drop statistics are available per-port for Ethernet ports (local on the 7450 ESS, 7750 SR, 7950 XRS, or satellite client ports) and for PXC sub-ports. An aggregate forwarding engine drop counter (packet and byte) is available per-SAP.
Ing. QGroup	The ingress queue group name
Ingress Rate	The maximum amount of ingress bandwidth (in mb/s) that this Ethernet port can receive with the configured sub-rate using packet-based accounting
Ingress RT-VBR	The total real-time variable bit rate (rt-VBR) bandwidth consumed on this interface in the ingress direction
Ingress UBR	The total unspecified bit rate (UBR) bandwidth consumed on this interface in the ingress direction

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Host-Matches	A string optionally used by subscriber management to map subscriber's and subscriber host's queued traffic to a specific egress port virtual port
Input/Output	When the collection of accounting and statistical data is enabled, then octet, packet, error, and utilization statistics are displayed
Instance-Id	The queue-group instance ID
Int MAC Rx Errs	The number of frames for which reception on a particular interface fails due to an internal MAC sublayer receive error
Int MAC Tx Errs	The number of frames for which transmission on a particular interface fails due to an internal MAC sublayer transmit error
Interface	The port ID displayed in the *slot/mda/port* format
Interface-name port-id	The interface name of the port
ip ip-address	The IP address
IP Route Blackholed	The destination IP address of the packet matches a black hole route
IPv4 Header Error	The IPv4 packet header contains an error such as an IPv4 header checksum error, an invalid IP version number (not 4 or 6), or an incorrect Total Length field
IPv4 Invalid Address	An error in the source (SA) or destination (DA) IPv4 address was detected. For example class D or class E IPv4 DAs, loopback SA (127.0.0.0/8), 0.0.0.0/8 DA, SA is a subnet broadcast or network address and cases where the IPv4 address is a multicast address but the Ethernet destination address is not RFC1112 compliant. RFC1112 checks are also carried out on Ipipe traffic.
IPv6 Header Error	The IPv6 packet header contains an error such as an incorrect Payload Length field or an IP version not equal to '6' when the Ethernet etype indicates it is IPv6
IPv6 Invalid Address	An error in the source (SA) or destination (DA) IPv6 address was detected. For example, an unspecified IPv6 DA, an IPv6 multicast SA and cases where the IPv6 address is a multicast address but the Ethernet destination address is not RFC2464 compliant. RFC 2464 checks are also carried out on IPIPE traffic.
Jabbers	The total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets), and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error)
Keep Alive	The time interval, in seconds, between keep-alive PDUs
L2 Service MTU Exceeded	The length of the packet received on a SAP bound to a layer 2 service (such as VPLS or EPIPE) exceeded the configured MTU for the service
LACP Tunnel	Indicates whether LACP packet tunneling is enabled or disabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
LAG ID	The LAG or multi-link trunk (MLT) that the port is assigned to
Laser Tunability	The laser tune-ability of the transceiver
Last Changed	The date and time when the interface connection entered its current operational state
Last Cleared Last Cleared Time	The date and time the restart count reset to zero
Last cleared time Last Cleared Time	The time of the last clear
last session id	The 802.1x last session ID
last session term cause	The 802.1x last session term cause
last session time	The 802.1x last session time
last session username	The 802.1x last session username
Last State Change	The system time moment that the entity is up
Last Unknown VPI/VCI	The last unknown VPI/VCI that was received on this interface
Late Collisions	The number of times that a collision is detected on a particular interface later than one slot time into the transmission of a packet
Late Packets	The number of received packets that have been discarded due to replay window protection on this SC
Latitude	The latitude of the GNSS antenna
LCD-P	The number of LCD-P packets received
Level	The level number
Licensed	The licensed state
Limit Unused BW	The aggregate rate overrun protection on the aggregate context
Link Length support	The link length support for the transceiver
Link Monitoring	The EFM OAM link monitoring parameters: enabled or disabled
Link-level	Ethernet — The port is configured as Ethernet
LMI Type	The LMI type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Load-balance-algo	The load balancing algorithm used on the port
Local Magic Number	The local magic number to be sent to the peer. The magic number provides a method to detect loopbacks. If the value of the local magic number is the same as the value of remote magic number, then it is possible that the link might be looped back. If the two magic numbers do not match, then the link is not looped back.
Longitude	The longitude of the GNSS antenna
Loopback	The number of loopback requests and responses transmitted and received on this connection for both end to end and segment
Loop Detected	True — Loop detected False — No loop detected
LOP-P	The number of Loss Of Pointer path (LOP) occurrences
Low Drop Tail	The low drop tail percent reduction from MBS
mac mac-address	The MAC address
Mac-based-authentication	Enable or disable MAC-based authentication
MAC Chip Number	The number of the MAC chip that manages this port
Macsec Encrypt	Enabled — MACsec encryption is enabled on the traffic. All fields behind source or destination MAC addresses are encrypted on each packet. Disabled — MACsec encryption is disabled for the traffic. The packet fields are sent in clear text but data integrity is checked on each packet, and the MACsec overhead (header and ICV) is still added to each packet.
macsec-enabled	The MACsec is enabled or disabled
Manufacture date	The manufacturing date of the hardware component in the mmddyyyy ASCII format
Max auth requests	The 802.1x port maximum authorization requests
Max Packet Error	The number of maximum packet errors
Min Packet Error	The number of minimum packet errors
Max Penalties	The maximum penalty value for port dampening
Maximum Frequency	The supported maximum frequency for the transceiver
Max Suppress Time	Elapsed time, in seconds, after the link comes up before the worst case accumulated penalties have decayed to the reuse threshold

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
MBS	The MBS value defining the maximum size for the queue
Media	The media supported for the SFP
Min Frame Length	The configured minimum transmitted frame length
Minimum Frequency	The supported minimum frequency for the transceiver
Mixed EEC/eEEC	true — at least one of the clocks is not an eEEC false — all clocks are eEEC
MKA Key Server Priority	The MKA key server priority: 0 to 255 (default 16). A priority of 0 means more it is more likely to become the MKA server. If multiple participants have the same priority, the MAC address becomes the differentiator for electing the MKA server.
Mode	The mode of the interface. It can be set as Data Terminal Equipment (DTE) or Data Circuit-terminating Equipment (DCE)
Mode	The mode of OAM operation for an Ethernet port: active or passive
Mode Select Method	The coherent mode of the transceiver
Module oper modes	The operational modes associated with the installed coherent module.
Model Number	The model number of the transceiver or adapter
Monitor Depth	Queue depth monitoring for the specified queue enabled or disabled
Monitor Oper Group	Operational group being monitored
Monitor Port Sched	Enabled — Congestion monitoring on an Egress Port Schedule (EPS) is enabled Disabled — Congestion monitoring on an EPS is disabled
MTU	The size of the largest packet which can be sent/received on the Ethernet physical interface, specified in octets
Mult Collisions	The number of frames that are involved in more than one collision and are subsequently transmitted successfully
Multicast MAC With Unicast Dest IP	The Ethernet destination (MAC) address is multicast but the IP address is unicast
Multicast Packets Input/Output	The number of packets, delivered by this sub-layer to a higher (sub-) layer, which were addressed to a multicast address at this sub-layer. For a MAC layer protocol, this includes both group and functional addresses. The total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Multicast Packets	Input — The number of input multicast packets Output — The number of output multicast packets
Multicast Pckts	The number of packets, delivered by this sub-layer to a higher (sub-) layer, which were addressed to a multicast address at this sub-layer. For a MAC layer protocol, this includes both Group and Functional addresses. The total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses.
Name	The entity name
Needs ICMP	The received packet requires the router to generate an ICMP message. For example, the IP packet TTL is expired or the destination host, network, or ESM subscriber is unreachable. Host unreachable can occur, among other reasons, if the destination address (for example, 10.0.1.2) of a packet resolves to a loopback interface subnet (for example, 10.0.1.1/24) but does not match the specific loopback address (for example, 10.0.1.1). Destination unreachable can also occur, for example, in response to an IPv6 packet received by a router from a point-to-point link (a non-Ethernet link) destined to an address within a subnet assigned to that same link (other than one of the receiving router's own addresses) as described in RFC 4443.
Net. Egr. Queue Pol	The network egress queue policy or that the default policy is used
No SCI Packets	The number of received packets discarded with unknown SCI information when the C bit in the SecTAG is set
No Tag Packets	The number of received packets discarded without the MAC security tag (SecTAG)
No Using SA Packets	The number of received packets that have been discarded on this SA which is not currently in use
Notifications	LLDP notifications (enabled, disabled)
Not Valid Packets	The number of not valid packets that have been discarded on this active SA
Number OCD Events	The number of times the Out of Cell Delineation (OCD) events occurred
Number of Lanes	The number of lanes of the transceiver
Number of Logs	The number of logs
Octets	The number of input and output octets. HEC discarded cells are not included in the input octet numbers.
Octets	The total number of octets received
OctetsIn Dropped	The number dropped egress octets that were in-profile

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
OctetsIn Forwarded	The number of forwarded egress octets that were in-profile
OctetsIn Total	The total number of egress octets that were forwarded and dropped
OctetsOut Dropped	The number of dropped egress octets that were out-of-profile
OctetsOut Forwarded	The number of forwarded egress octets that were in-profile
OctetsOut Total	The total number of egress octets that were forwarded and dropped
OK Packets	The number of validated packets on this SA
Oper Duplex	full — The link is set to full duplex mode half — The link is set to half duplex mode
Oper Egress Rate	The operational egress bandwidth (in kilobits per second) that the Ethernet interface can generate
Oper Group	Displays the configured operational group name for this port
Oper MTU	For channels that are used for transmitting network datagrams, this is the size of the largest network datagram that can be sent on the channel.
Oper Speed	The operating speed of the interface
Oper State	up — The entity is operationally up down — The entity is operationally down Additionally, the *lag-id* of the LAG it belongs to in addition to the status of the LAG member (active or standby) is specified
Oper Status	The operational status of the port
Oper Status	up: the port is operationally up (communication between the main board and the GNSS receiver is established, and the port is ready to receive GNSS signals) down: the port is operationally down (none of the up conditions have been met)
Operational Channel	The operational channel for the transceiver
Operational Frequency	The operational frequency for the transceiver
Operational Mode	The coherent operational mode of the transceiver
Optical Compliance	The optical compliance code of the transceiver
Optical Compliance	The optical compliance code of the transceiver
Other	The number of OAM cells that are received but not identified

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
OTU Status	The status of the OTU (Optical Transport Unit): enabled or disabled. When OTU is enabled, and additional layer of framing encapsulates an MDA's natively programmed mode of operation, 10-Gigabit Ethernet LAN or WAN, adding SONET-Like Framing with FEC (Forward Error Correction). When OTU is disabled, the MDA operates in a 10-Gigabit Ethernet LAN or WAN as per Ethernet provisioning.
Out packets	The number of echo-request packets sent
Out Pause Frames	The number of Out Pause frames
Over Sized SDUs	The total number of oversized SDU discards
Overrun Packets	The number of packets discarded because the number of received packets exceeded the cryptographic performance capabilities
Oversize Pckts	The total number of packets received that were longer than can be accepted by the physical layer of that port (9900 octets excluding framing bits, but including FCS octets for GE ports) and were otherwise well formed
Packet Abort Error	The number of packets aborted due to errors received
Packets	The total number of packets received
Packets	The number of input and output packets. Packets discarded due to HEC or oversize discards are not counted. CRC errors are also in the packet counts show up on the VC level statistics but not on the port level.
PacketsIn Dropped	The number dropped egress packets that were out-of-profile
PacketsIn Forwarded	The number of forwarded egress packets that were in-profile
PacketsIn Total	The total number of egress packets that were forwarded and dropped
PacketsOut Dropped	The number of dropped egress packets that were out-of-profile
PacketsOut Forwarded	The number of forwarded egress packets that were in-profile
PacketsOut Total	The total number of egress packets that were forwarded and dropped
Parity Error	The number of parity errors received
Part Number	The vendor part number contains ASCII characters, defining the vendor part number or product name
Partial chain	true — indicates TLV has been generated in the middle of the chain and the count of the EEC/eEEC is incomplete

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	false — indicates TLV has not been generated in the middle of the chain and the count of the EEC/eEEC is complete
PBB Ethertype	The Ethertype used for PBB encapsulation
Per-host authentication	Enable or disable per-host authentication
Per Threshold MDA Discard Statistics	See the 7450 ESS, 7750 SR, 7950 XRS, and VSR Interface Configuration Guide, "Packet Classification and Scheduling" section
Phy Link Physical Link	Yes — A physical link is present No — A physical link is not present
Phys State Chng Cnt	Increments when a fully qualified (de-bounced, including hold-time and dampening) transition occurs at the physical layer of an Ethernet port which includes the following transitions of the Port State as shown in the **show port** summary: - from "Down" to either "Link Up" or "Up" - from either "Link Up" or "Up" to "Down" This counter does not increment for changes purely in the link protocol states (for example, "Link Up" to "Up"). The counter is reset if the container objects for the port are deleted (for example, MDA deconfigured, or IOM type changes).
PIR Rule	min — The operational PIR for the queue is equal to or greater than the administrative rate specified using the rate command max — The operational PIR for the queue is equal to or less than the administrative rate specified using the rate command closest — The operational PIR for the queue is the rate closest to the rate specified using the rate command
Physical Link	Yes — A physical link is present No — A physical link is not present For GNSS ports: Yes — The port is operationally up (communication between the main board and the GNSS receiver is established and the port is ready to receive GNSS signals. For example, if the GNSS port is configured, the operational status is up, the receiver status is 3D FIX, and you disconnect the GNSS RF cable from the port, the physical link on the port still shows as up. No — The port is operationally down (none of the up conditions apply)
PLM-P	The number of PLM-P packets received
PM BEI	The number of backward error indications received from the far end in the path monitor overhead
PM BIP8	The number of detected BIP-8 errors in the path monitor overhead

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
PM SES	The section monitor severely errored seconds where the number of PM-BIP8 was greater than 15% of the maximum
Polar Depend Loss (dB)	The polarization dependent loss in decibels
Policy-Name	The policy name
Port control	The 802.1x port control: auto, force-auth, force-unauth
Port Encap	Null — Ingress frames will not use tags or labels to delineate a service dot1q — Ingress frames carry 802.1Q tags where each tag signifies a different service
Port ID	The port ID that is configured or displayed.
Port <id> Bridge nearest-bridge	
Port <id> Bridge nearest-non-tpmr	
Port <id> Bridge nearest-customer	
Port IfIndex	The GNSS interface index number, which reflects its initialization sequence
Port Mode	Network — The port is configured for transport network use Access — The port is configured for service access Hybrid — The port is configured for both access and network use
Port State	Up — The port is physically present and has physical link present Down — The port is physically present but does not have a link. This state may also be considered as Link Down Ghost — A port that is not physically present None — The port is in its initial creation state or about to be deleted Link Up — A port that is physically present and has physical link present
Port status	The 802.1x port status
PorID TLV Subtype	The encoding of the port identifier TLVs transmitted to the peer (tx-if-alias, tx-if-name, tx-local)
Port Type	The type of port or optics installed
Power Save	Enabled — Low-power optic mode is administratively enabled Disabled — Low-power optic mode is administratively disabled
Present Channel	The channel that the transceiver is currently on
Protected Octets	The number of plain text octets that are integrity protected but not encrypted on the transmitting SC

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Protected Packets	The number of packets that are integrity protected but not encrypted for this transmitting SA
Protected SA Packets	The number of packets that are integrity protected but not encrypted for this SA
Protocol	The applicable protocols for the specified port
PTP IPv4 address	IPv4 destination address of incoming PTP messages that should be timestamped. Only unicast addresses are supported.
PTP IPv6 address	IPv6 destination address of incoming PTP messages that should be timestamped. Only unicast addresses are supported.
PTP Timestamping	Filter status for ingress timestamping of PTP messages to match multiple PTP flows
Pump Temperature (C)	The pump temperature high and low warning alarms
QinQ Ethertype	The Ethertype expected when the port's encapsulation type is QinQ
Queue	The queue information
Queue Depths (percentage)	The queue depth percentages
Queue-Id	The *queue-id* that uniquely identifies the queue
Quiet period	The 802.1x port quiet period: 1 to 3600 seconds
Radius-plcy	The 802.1x port RADIUS policy name
Range	The usable range to fine tune the frequency
RDI	The number of RDI cells transmitted and received on this connection for both end to end and segment
RDI-P	The number of RDI-P packets received
Reassembly Timeouts	The number of reassembly timeout occurrences
Reauth enabled	no — The 802.1x port reauth enabled is not up yes — The 802.1x port reauth enabled is up
Reauth period	The 802.1x port reauthorization period
Receiver status	Acquiring Satellites: GNSS receiver is attempting to track satellite Position Hold: GNSS receiver position is determined and GNSS receiver is no longer solving for position; TRAIM algorithm is correcting for time bias

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	2D Fix: GNSS receiver is attempting to obtain a two-dimensional position (latitude, longitude) solution 3D Fix: GNSS receiver is attempting to obtain a three-dimensional position (latitude, longitude, altitude) solution Unknown: default state on power-up Communication Lost: occurs after 30 s of missing Channel/Data/Status messages or TRAIM status messages from the GNSS receiver Communication Established: occurs after a successful reestablishment of communication following a Communication Lost status
Remote Error	The number of remote error received
Remote Magic Number	The magic number sent by the peer. If the value of remote magic number is the same as the value of the local magic number, then it is possible that the link might be looped back. If the two magic numbers do not match, then the link is not looped back.
Replay Protection	Enabled — Replay Protection is enabled Disabled — Replay Protection is disabled If replay protection is enabled for this CA, the out of replay-window packets will be discarded. Otherwise, the Replay Window Size value is ignored. The default value is disabled, so that when adding MACsec to an interface, it will not affect traffic immediately.
Replay Window Size	The size, in packets, of the replay window. Each packet is assigned a unique packet number. Replay protection enforces strict ordering of the packets and protects against replay attacks. In networks where out-of-order packets are expected, the window size can be set up to 4294967295.
Request Interval	The time interval in seconds at which keepalive requests are issued
Resolution	The resolution used to fine tuning the frequency
Restart Count	The number of times that this Control Protocol has reached the 'open' state
Retry	The minimum wait time, in seconds, before re-enabling the port after loop detection
Reuse Threshold	The threshold at which the port up state is no longer suppressed, after the port has been in a suppressed state and the accumulated penalties decay drops below this threshold
RS-FEC Mode	The RS-FEC mode
RxDTV Adjust	The Rx DTV adjust status
Rx Ageouts	The number of LLDP frames received on the port with a properly formatted TLV that was not supported on the receiving port

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Rx Ageouts	The number of LLDP frames received on the port with a properly formatted TLV that was not supported on the receiving port
Rx enh SSM code	The numeric value of the received enhanced SSM code
Rx enh SSM code	The numeric value of the received enhanced SSM code
Rx Frames	The number of LLDP frames received on the port
Rx Frame Discard	The number of LLDP frames received but discarded on the port
Rx Frame Errors	The number of LLDP frames received with errors on the port
Rx Media Frame Error Count	The receive media frame error count
Rx SSM code	The numeric value of the received SSM code
Rx TLV Discard	The number of LLDP frames received on the port discarded because of the TLV
Rx TLV Unknown	The number of LLDP frames received on the port with a properly formatted TLV that was not supported on the receiving port
Rx Total Power (dbm)	The receive total power
Rx Quality Level	Indicates which QL value has been received from the interface
Rx Signal Label	The received signal label
Rx Trace Str (Hex)	The received SONET path trace string in hexadecimal
sap	The physical port identifier portion of the SAP definition
Sat Port Queue Statistics	The satellite queue statistics with per-queue forward and drop information (packet and octet counters) for satellite uplink and client ports
Sched Policy	The name of the scheduler policy assigned to the virtual port
SCI	The Secure Channel Identifier (SCI)
SD Threshold	The configured error rate threshold at which the SD (Signal Degrade) alarm is raised
Security Zone	The security zone this port belongs
Serial Number	The vendor serial number of the hardware component
Server timeout	The 802.1x port server timeout
Service-id port-id	The service IDs affected by the encap-match configured under this sub-port. One or more services can be affected by the match (by using * or by targeting ports with traffic aggregations, for example).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
SES-P	The number of Severely Errored Seconds
SF Threshold	The configured error rate threshold at which the SF (Signal Fail) alarm is raised
SF/SD Method	The selected method for declaring the SF (Signal Fail) or SD (Signal Degrade) alarm. When BIP8 is selected, the error rate of SM-BIP8 errors in the OTU frames declares SF or SD (This is very similar to SONET SF/SD which uses a rate of B2 errors). When FEC is selected, the rate of corrected bits declares SF or SD. This effectively indicates that the link would be degraded (SD) or failed (SF) if FEC was disabled and gives the user an early warning that the link is degrading or is about to fail.
Sflow	Enabled — sFlow data collection for the port is enabled Disabled — sFlow data collection is disabled
C/QS/S/XFP/MDI MDX	Additional information related to the port. This can include optical compliance and the link length if available from the installed optics. If there is no optical compliance information programmed in the part, “Unspecified” is displayed. GIGE — The GigE SFP type FASTE — The FastE SFP type GIGX — The GigX SFP type MDI — Indicates that the Ethernet interface is of type MDI (Media Dependent Interface) MDX — Indicates that the Ethernet interface is of type MDX (Media Dependent Interface with crossovers)
Shaped Bandwidth	The total shaped bandwidth consumed on this interface in the egress direction
Signal CNR Mask	The CNR mask in dB-Hz to filter satellites based on signal strength
Signal Label	The C2 byte value
Single Fiber Mode	Yes - Single fiber option is configured No - Single fiber option is not configured
Slot ID	The slot number of the card in the chassis
SM BEI	The number of backward error indications received from the far end in the section monitor overhead
SM BIP8	The number of detected BIP-8 errors in the section monitor overhead
SM SES	Section monitor severely errored seconds where the number of SM-BIP8 was greater than 15% of the maximum
SM-TTI Rx	This is the SM-TTI (Section Monitor Trail Trace Identifier received by this port. When the received TTI is a printable string of characters, it will be displayed as a text string. When the received TTI contains one or more non-printable characters,

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	it will be displayed at a sequence of 64 hex bytes. When the received TTI is all zeros, the string "Not Specified" will be displayed.
SM-TTI Tx (<mode>)	This is the configured SM-TTI (Section Monitor Trail Trace Identifier) to be transmitted by this port in the OTU overhead bytes. The modes are auto, string, or bytes. In the auto and string modes, a printable character string will be displayed. In bytes mode, up to 64 hex bytes are displayed.
Sngl Collisions	The number of frames that are involved in a single collision, and are subsequently transmitted successfully
Speed	The speed of the DS0 channels used in the associated channel-group
SQE Errors	The number of times that the SQE TEST ERROR is received on a particular interface
SSM Code Type	The SSM code type in use on the port
State of polar ROC (krad/s)	The state of polarization rate of change
Subport	The MACsec sub-port used. Multiple MACsec instances can be configured under one port, matching traffic based on the **encap-match** parameter.
subscr Subscriber	The subscriber ID
Supplicant timeout	The 802.1x port supplicant timeout
Supply Voltage (V)	The supply voltage of the DDM
Supported Grids	A list of supported grids for the transceiver
Supp. Oper Modes	The operational modes that can be configured on this DWDM coherent port for current breakout and installed module
Suppress Threshold	The threshold at which the port up state is suppressed until the accumulated penalties drop below the reuse threshold again
Svc ID svc-id	The service identifier
Symbol Errors	For an interface operating at 100 Mb/s, the number of times there was an invalid data symbol when a valid carrier was present
Sym Mon SD Thresh	The error rate (for symbol errors) at which to declare the Signal Degrade (SD) condition on an Ethernet interface. If the field displays Disabled, no error rate has been specified

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Sym Mon SF Thresh	The symbol error rate at which to declare the Signal Fail (SF) condition on an Ethernet interface. If the field displays Disabled, no error rate has been specified
Sym Mon Window	The size of the sliding window, in seconds, over which the errors are measured
Sync Status	locked: GNSS time is within alarm limits not locked: GNSS time is outside of the alarm limits and/or there is an insufficient number of tracked satellites
Sync. Status Msg	Whether synchronization status messages are enabled or disabled
Tagged Cells	The number of cells that have been demoted from CLP0 to CLP1
Temperature (C)	The temperature of the DDM
Threshold exceeded	The number of times that the drop count was reached
Time	GPS date and time
Time to link drop	The time remaining before the link will be declared dropped if a keepalive echo reply packet is not received
Too long Frames	The number of frames received on a particular interface that exceed the maximum permitted frame size
Too Long Packets	The number of transmitted packets discarded because the packet length is greater than the Maximum Transmission Unit (MTU) of the Ethernet physical interface
Total number of access-egress queue groups	The total number of access-egress queue groups associated with the queue-group summary
Total number of network-egress queue groups	The total number of network-egress queue groups associated with the queue-group summary
Total number of access-ingress queue groups	The total number of access-ingress queue groups associated with the queue-group summary
Tot Sym Mon Errs	The total number of symbol errors
Trace String	The SONET path trace string
Traffic Statistics	See the *7450 ESS, 7750 SR, 7950 XRS, and VSR Interface Configuration Guide*, "Statistics on Physical PXC Ports” section
Transceiver Code	The code for the transmission media
Transceiver Digital Diagnostic Monitoring (DDM)	Transceiver Digital Diagnostic Monitoring (DDM) information, such as temperature and supply voltage

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Transceiver Lane Digital Diagnostic Monitoring (DDM)	Transceiver lane DDM information, such as lane temperature and Tx bias current
Transceiver Status	The status of the transceiver
Transceiver Type	The type of transceiver
Transmit Interval	The transmit interval of OAMPDUs
Transmit period	The 802.1x port transmit period
Transmit TLVs	The LLDP TLV to transmit (port-desc, sys-name, sys-desc, sys-cap)
Trigger Fault	The triggered EFM OAM fault
Tunneling	true — The 802.1x port tunneling is on false — The 802.1x port tunneling is not on.
Tunnel Nearest Bridge	The nearest bridge tunneling frames (enabled, disabled)
Tx DUS/DNU	Whether the QL value is forcibly set to QL-DUS/QL-DNU
Tx Frames	The number of LLDP frames transmitted from the port
TX Laser Frequency	The transceiver laser frequency
TX Laser Wavelength	The transceiver laser wavelength
Tx Length Err Frames	The number of LLDP frames transmitted with length error from the port
Tx Pause Frames	Setting to control transmission of PAUSE frames
Tx Quality Level	The QL value being transmitted out of the interface
Type	The connection type
UAS-P	The number of Unavailable Seconds
Unchecked Packets	The number of packets that have failed the integrity check on this SC
Unequipped	The number of unequipped packets received
Undersize Pckts	The total number of packets received that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well formed
Unicast MAC Destination Address Mismatch	The unicast destination MAC address is a null address or does not match any of the expected MAC addresses associated with the receiving interface. Packets with multicast or broadcast MAC addresses do not increment this counter

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Unicast Packets	Input — The number of input unicast packets Output — The number of output unicast packets
Unicast Packets Input/Output	The number of packets, delivered by this sub-layer to a higher (sub-) layer, which were not addressed to a multicast or broadcast address at this sub-layer. The total number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at this sub-layer, including those that were discarded or not sent.
Unicast Packets Input/Output	The number of packets, delivered by this sub-layer to a higher (sub-) layer, which were not addressed to a multicast or broadcast address at this sub-layer
Unicast RPF Check Failed	The IP packet failed the unicast reverse path forwarding (uRPF) check
Unknown Labeled Packet	The MPLS packets dropped by the ingress port forwarding engine because of an unknown label (ILM lookup failure) or an unexpected service label
Unknown MAC Destination Address Discarded in VPLS	The MAC destination address lookup in the MAC FDB failed and the VPLS service is configured to discard packets with unknown destination MAC addresses
Unknown Proto Discards Input/ Output	For packet-oriented interfaces, the number of packets received through the interface which were discarded because of an unknown or unsupported protocol. For character-oriented or fixed-length interfaces that support protocol multiplexing the number of transmission units received via the interface which were discarded because of an unknown or unsupported protocol. For any interface that does not support protocol multiplexing, this counter will always be 0.
Unknown Proto Discards	Input — The number of discarded unknown protocol packets
Untagged Packets	The number of transmitted packets without the MAC security tag (SecTAG) when the value oftmnxMacsecConnAssocReplayProtect for the configured CA is set to 'false'
Use Broadcast Addr	True — Indicates that the broadcast address is to be used for the destination MAC address False — Indicates that the local port MAC address is to be used for the destination MAC address
Used Satellites	Displays the number of tracked satellites
user rx frames	The 802.1x session user Rx frames
user rx octets	The 802.1x session user Rx octets
user tx frames	The 802.1x session user Tx frames
user tx octets	The 802.1x session user Tx octets

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
UTC offset	Displays the difference between GPS time and UTC time *UTC time = GPS time – UTC offset*
Utilization Input/ Output	The value computed as the average of the traffic observed over the configured interval, presented as a percentage of the maximum possible traffic
Validated Octets	The number of octets of plain text recovered from received packets that were integrity protected but not encrypted
Vendor OUI	The vendor-specific Organizationally Unique Identifier (OUI) field containing the IEEE company identifier for the vendor
Violation Last Seen	The date and time of the last violation
Violation Threshold Percnt	The violation threshold percentage
Violation Total Count	The violation total count
Visable Satellites	The number of satellites that the GNSS receiver should see at the current time. This number can be 0 if the GNSS receiver has not yet downloaded an almanac, even if Used Satellites is more than 0.
VPI/VCI	The VPI/VCI values
Vport Name	The virtual port name
Weight	The relative weight of this scheduler in comparison to other child schedulers and queues at the same strict level
Wghtd Avg Queue Poll Interval	The weighted average queue poll interval
Wghtd Avg HiWtr Mark Poll Interval	The weighted average high water mark queue poll interval

port

Syntax

port {*port-id* | *connector-id* | *connector-port-id* | *aps-id* | *esa-vm-id*} **statistics**

port *port-id* **ethernet dampening**

port *port-id* **ethernet efm-oam events** [**local** | **remote**]

port *port-id* **exp-secondary-shaper** *shaper-name* **statistics**

port *port-id* **fwd-engine drop-reason statistics**

port *port-id* **hs-secondary-shaper** *shaper-name* **statistics**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port *port-id* **monitor-threshold**

port *port-id* **hs-pool high-water-mark** {[**standard** *value*] | [**alternate** *value*]}

port *port-id* **phys-state-change-count**

port *port-id* **port-scheduler statistics**

port *port-id* **queue-group** *queue-group-name* [**instance** *instance-id*] **queue-depth** [**queue** *queue-id*] {**ingress** | **egress**} [**access** | **network**]

port *port-id* **queue-group** *queue-group-name* [**instance** *instance-id*] [**access** | **network**] { **ingress** | **egress**} **statistics**

port *port-id* **vport** [*name*] **monitor-threshold**

port *port-id* **vport** *name* **statistics**

port *port-id* **statistics aggregate-queue**

Context

[Tree] (clear port)

Full Context

clear port

Description

This command clears port statistics for the specified ports.

Parameters

port-id

Specifies the physical port identifier.

Values *slot* [/*mda*[/*port*]] or *slot*/*mda*/*port* [.*channel*]]

aps-id

Specifies the APS group identifier.

aps-*group-id*[.*channel*]

aps	keyword
group-id	1 to 64

esa-vm-id

Specifies the ESA VM identifier.

Values esa-*esa-id*/*vm-id*/*vm-port*

esa	keyword
esa-id	1 to 16
vm-id	1 to 4

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	vm-port	vm-type specific [fm-sub|to-sub|..]

statistics

Keyword that clears the statistics for the specified port.

cp

Clears Connection Profile statistics.

Values 1 to 8000

interface-connection

Keyword that clears the interface-connection statistics.

ilmi

Keyword that clears the ILMI information. This parameter is only applicable for ports/bundles that support ILMI.

pvc

Keyword that clears the PVC statistics.

pvp

Keyword that clears the PVP statistics.

pvt

Keyword that clears the PVT statistics.

slot

Specifies the slot number.

Values 1 to10

mda

The MDA number.

Values 1, 2

Default All MDAs

port-connection

Keyword that clears the port-connection statistics.

phys-state-change-count

Keyword that clears the counter that tracks physical port state transitions for ethernet ports ("Phys State Chng Cnt" in "show port" output, or tmnxPortPhysStateChangeCount in the TIMETRA-PORT-MIB).

port-scheduler

Keyword that clears the packet and octet counters for the port scheduler that is applied to the specified port.

queue-group-name

Clears the specified port queue group name. It uniquely identifies a port ingress queue group in the managed system, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

instance-id

Specifies the specific instance of a queue group.

Values 1 to 65535

ingress

Keyword that clears the ingress queue group information.

egress

Keyword that clears the egress queue group information.

access

Keyword that clears the access mode statistics for the queue group.

network

Keyword that clears the network mode statistics for the queue group.

ethernet

Keyword that clears the Ethernet port statistics.

dampening

Keyword that clears the current accumulated penalties of the exponential port dampening feature for the port. The accumulated penalties can be cleared only with this command keyword.

efm-oam

Keyword that clears the efm-oam statistics on the port.

events

Keyword that clears the efm-oam events.

local

Keyword that clears only local EFM OAM events.

remote

Keyword that clears only remote (received from peer) events. Local and remote is not specified.

Default Without specifying an option, both local and remote are cleared.

shaper-name

Clears information about the specified shaper name, up to 32 characters.

name

Clears information about the specified Vport name up to 32 characters.

standard *value*

Keyword that clears the high water marks within specific standard port class pools using the standard parameters.

Values 1 to 6

alternate *value*

Keyword that clears the high water marks within specific alternative port class pools using the alternative parameters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 6

aggregate-queue

Keyword that clears the aggregated forwarded and dropped packets in all queued statistics for the specified port.

Platforms

All

port

Syntax

port *port-id*

Context

[Tree] (tools>dump port)

Full Context

tools dump port

Description

Commands in this context dump port information.

Parameters

port-id

Specifies the physical port ID.

port-id	*slot*/*mda*/*port*		
	aps-id	aps-*group-id*	
		aps	keyword
		group-id	1 to 128

Platforms

All

port

Syntax

port [**sap** *sap-id* | **sdp** *sdp-id:vc-id*] [**group** [*grp-ip-address*]] [**detail**] [*family*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id>pim-snooping port)

Full Context

show service id pim-snooping port

Description

This command displays PIM port information.

Parameters

sap-id

Displays the port information associated with the specified SAP

sdp-id:vc-id

Displays the port information associated with the specified SDP

grp-ip-address

Specifies the IP multicast group address for which this entry contains information

detail

Displays detailed port information

family

Displays either IPv4 or IPv6 information for the specified port

Values ipv4 or ipv6

Platforms

All

Output

The following output is an example of service PIM snooping information.

Output Example

```
*A:PE# show service id 1 pim-snooping port
===============================================================================
PIM Snooping Ports ipv4
===============================================================================
Sap/Sdp Id                          Opr
-------------------------------------------------------------------------------
SAP:1/1/1                           Up
SAP:1/1/2                           Up
===============================================================================
*A:PE#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port

Syntax

port *port-id* [{**ingress** | **egress**}] [{**access** | **network**}] **queue-group** *queue-group-name* [**instance** *instance-id*] [{ **detail** | **root-detail** | **thresholds** | **priority-info** | **depth**}] [**arbiter** {*name* | *root*}]

Context

[Tree] (show>qos>policer-hierarchy port)

Full Context

show qos policer-hierarchy port

Description

This command displays information about the policer hierarchy per port.

Parameters

port-id

Displays information about the specified port.

Values *slot/mda/port*[.*channel*]

ingress

Displays ingress port information.

egress

Displays egress port information.

access

Displays policer-hierarchy statistics applied on the specified access port.

network

Displays policer hierarchy statistics applied on the specified network port.

queue-group-name

Displays information about the specified queue group name, up to 32 characters.

instance-id

Displays information about the instance of the named queue group.

Values 1 to 65535

detail

Displays detailed information.

root-detail

Displays detailed information about the arbiter root.

thresholds

Displays the threshold, parenting, rate, and traffic information related to a policer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

priority-info

Displays the threshold information related to the root arbiter.

depth

Displays the bucket depth, parenting, rate, and traffic information related to a policer.

name

Displays information about the name of the QoS arbiter of this forwarding plane.

root

Displays information about the arbiter root.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

port

Syntax

port *port-id* **queue-group** *queue-group-name* [**scheduler** *scheduler-name*] [{ **ingress** | **egress**}] [{**access** | **network**}] [**instance** *instance-id*] [**detail**]

port *port-id* **vport** *name* **summary**

port *port-id* [**detail**]

port *port-id* **vport** *name* [**scheduler** *scheduler-name*] [**detail**]

Context

[Tree] (show>qos>scheduler-hierarchy port)

Full Context

show qos scheduler-hierarchy port

Description

This command displays scheduler hierarchy information per port.

Parameters

port-id

Specifies the port ID.

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

id	1 to 64
sub-port	a, b

detail

Displays detailed information.

queue-group-name

Displays information about the specified queue group on the port.

scheduler-name

Displays information about the specified scheduler policy on the port.

ingress

Specifies to display ingress queue group information.

egress

Specifies to display egress queue group information.

access

Displays scheduler-hierarchy statistics applied on an access port.

network

Displays scheduler-hierarchy statistics applied on a network port.

instance-id

Specifies the identification of a specific instance of the queue group.

vport *name*

Displays statistics for the named VPORT.

Platforms

All

Output

The following output is an example of port scheduler hierarchy information, and Table 431: Output fields: QoS schedule hierarchy port describes port scheduler hierarchy fields.

Output Example

```
*A:Dut-R# show qos scheduler-hierarchy port 1/2/1 detail
===============================================================================
Scheduler Hierarchy - Port 1/2/1
===============================================================================
Port-scheduler-policy p1
    Port Bandwidth : 10000000   Max Rate : max
    Consumed : 0          Offered : 0
[Within CIR Level 8]
    Rate : max
    Consumed : 0          Offered : 0

[Within CIR Level 7]
    Rate : max
    Consumed : 0          Offered : 0

[Within CIR Level 6]
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Rate : max
    Consumed : 0          Offered : 0

    (Q) : 2->1/2/1:1->3
    Assigned : 768        Offered : 0
    Consumed : 0
    Weight   : 0

[Within CIR Level 5]
    Rate : max
    Consumed : 0          Offered : 0

[Within CIR Level 4]
    Rate : max
    Consumed : 0          Offered : 0

[Within CIR Level 3]
    Rate : max
    Consumed : 0          Offered : 0

[Within CIR Level 2]
    Rate : max
    Consumed : 0          Offered : 0

    (S) voip(SAP 1/2/1:1)
    Assigned : 0          Offered : 0
    Consumed : 0
    Weight   : 40

    (S) all(SAP 1/2/1:1)
    Assigned : 19000      Offered : 0
    Consumed : 0
    Weight   : 50

[Within CIR Level 1]
    Rate : max
    Consumed : 0          Offered : 0

[Within CIR Level 0]
    Rate : 0
    Consumed : 0          Offered : 0

[Above CIR Level 8]
    Rate : max
    Consumed : 0          Offered : 0

[Above CIR Level 7]
    Rate : max
    Consumed : 0          Offered : 0

[Above CIR Level 6]
    Rate : max
    Consumed : 0          Offered : 0

[Above CIR Level 5]
    Rate : max
    Consumed : 0          Offered : 0

[Above CIR Level 4]
    Rate : max
    Consumed : 0          Offered : 0

[Above CIR Level 3]
    Rate : max
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Consumed : 0          Offered : 0

[Above CIR Level 2]
    Rate : max
    Consumed : 0          Offered : 0

    (S) voip(SAP 1/2/1:1)
    Assigned : 10000000   Offered : 0
    Consumed : 0
    Weight   : 30

    (S) all(SAP 1/2/1:1)
    Assigned : 960000     Offered : 0
    Consumed : 0
    Weight   : 50

[Above CIR Level 1]
    Rate : max
    Consumed : 0          Offered : 0

    (Q) : 2->1/2/1:1->3
    Assigned : 786        Offered : 0
    Consumed : 0
    Weight   : 1

===============================================================================
*A:Dut-R#
```

Table 431: Output fields: QoS schedule hierarchy port

Label	Description
S	Displays the scheduler name.
Q	Displays the queue ID and information.
Admin CIR/PIR:	Specifies the configured value of CIR/PIR.
Assigned CIR/PIR:	Specifies the on-the-wire PIR/CIR rate given to a member by that parent level.
Offered CIR/PIR:	Specifies the on-the-wire offered load on that member.
Consumed CIR/PIR:	Specifies the amount of scheduler bandwidth used by this member.

port

Syntax

port *port-id* **queue-group** *queue-group-name* [**egress**] [{**access** | **network**}] [**instance** *instance-id*] [**detail**]

port *port-id* **vport** *name* [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>qos>agg-rate port)

Full Context

show qos agg-rate port

Description

This command displays the H-QoS aggregate rate limit per port or Vport.

Parameters

port-id

Specifies the port ID.

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b

queue-group *queue-group-name*

Displays information about the specified queue group on the port.

egress

Displays egress queue group information.

access

Displays H-QoS aggregate rate limit information on an access port.

network

Displays H-QoS aggregate rate limit information on a network port.

instance *instance-id*

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

vport *name*

Displays H-QoS aggregate rate limit information for the specified Vport.

detail

Displays detailed information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of QoS port aggregation rate output, and Table 432: Output fields: QoS aggregation rate describes the QoS port aggregation rate fields.

Output Example

```
*A:PE# show qos agg-rate port 1/1/1 queue-group "qg1" instance 1 access egress
===============================================================================
Aggregate Rate Information - Queue Group Port 1/1/1
===============================================================================
-------------------------------------------------------------------------------
Egress Scheduler Policy :
Egress Queue-Group : qg1                                Instance-Id : 1
-------------------------------------------------------------------------------
Root (Egr)
| slot(1)
|    AdminRate              : 10000
|    OperRate               : 0
|    Limit Unused Bandwidth : disabled
|    OnTheWireRates         : false
|    LastMileOnTheWireRates : false
|
-------------------------------------------------------------------------------
===============================================================================
*A:PE#
```

Table 432: Output fields: QoS aggregation rate

Label	Description
Egress Scheduler Policy	Indicates the name of the egress scheduler policy.
Egress Queue-Group	Indicates the queue group name.
Instance-Id	Indicates the identifier of a specific instance of the queue group.
AdminRate	Displays the configured aggregate rate in the subscriber profile.
OperRate	Displays the actual downstream rate.
Limit Unused Bandwidth	Indicates whether the **limit-unused-bandwidth** command is enabled to protect against exceeding the aggregated bandwidth
OnTheWireRates	Indicates whether the displayed rates are on-the-wire rates.
LastMileOnTheWireRates	Indicates whether the displayed rates are on-the-wire rates for the last mile only.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port

Syntax

port *port-id* [**detail**]

Context

[Tree] (show>system>ptp port)

Full Context

show system ptp port

Description

This command displays PTP port information.

Parameters

port-id

Specifies the port ID.

Values slot/mda/port

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of PTP port information, and Table 433: Output fields: PTP port describes the output fields.

Output Example

```
show system ptp port
```

```
===============================================================================
IEEE 1588/PTP Ethernet Port Summary Information
===============================================================================
Port       PTP Adm/Opr   PTP State    Neighbors   Tx Rate     Rx Rate
-------------------------------------------------------------------------------
10/2/16       up/up         passive         5          12312       4400
1/1/1         up/up         slave           1          12312       4400
1/1/2         up/up         master         61          12312       4400
1/1/3         up/down       disabled        0              0          0
1/1/4         up/up         listening       0              0          0
-------------------------------------------------------------------------------
No. of PTP Ports : 5                           Total  99999     999999

-------------------------------------------------------------------------------
Path Trace
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Position        ClockIdentity
--------------------------------------------------------------------------------
       1       242124fffef37201
       2       242124fffef37202
       3       242124fffef37203
       4       242124fffef37204
       5       242124fffef37205
       6       242124fffef37206
================================================================================
```

Table 433: Output fields: PTP port

Label	Description
IEEE 1588/PTP Ethernet Port Summary Information	
Port	The port ID
PTP Adm/Opr	The PTP administrative and operational states
PTP State	The PTP state
Neighbors	The neighbors
Tx Rate	The transmit rate
Rx Rate	The receive rate
No. of PTP Ports	The total number of PTP ports
Path Trace Position	The path trace position number
ClockIdentity	The clock identity in 16 hexadecimal characters

The following output is an example of PTP port details information, and Table 434: Output fields: PTP port detail describes the output fields.

Output Example

```
show system ptp port 1/1/4 detail
```

```
================================================================================
IEEE 1588/PTP Ethernet Port Information
================================================================================
Port              : 1/1/4
PTP Admin State   : up                  PTP Oper State     : up
Local MAC Add     : ca:47:01:04:00:02   Mulicast MAC Addr  : 01:1b:19:00:00:00
Cfg Sync Rate     : 64 pkt/s            Cfg Delay Req Rate : 64 pkt/s
Master-Only       : false               G.8275 Priority    : 128
monitorReceiver   : false               monitorSender      : false
PTP Port Number   : 1                   PTP Port State     : master
Neighbors         : 1                   Timestamp Point    : port
Port Asymmetry    : 0 ns                Tx path trace      : false
Profile Name      : Primary
Profile           : ITU-T G.8275.2      Domain             : 44
================================================================================

================================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IEEE 1588/PTP Ethernet Port Neighbor Clocks
===============================================================================
Port              : 1/4/2               MAC Address        : ca:45:01:01:00:01
Clock Id          : ca45fffffe000000    PTP Port #         : 1
Rx Packet Rate    : 129                 PTSF-unusable      : N/A
PTSF-LOTM         : no
Best Master       : no                  Parent Clock       : no
Backup Source     : yes
Monitor Time State: acquiring                      Changed : 2023/05/29 13:57:36
Last Packet Offset From Master  : +1 ns          Last Calc: 2021/09/02 12:41:13
Last Packet Mean Path Delay     : +15 ns         Last Calc: 2021/09/02 12:41:13
APTS Asymmetry    : +140,737,488 ms    Last Calc          : 2023/05/29 13:52:09
===============================================================================

===============================================================================
IEEE 1588/PTP Packet Statistics
===============================================================================
                                                                    Input     Output
-------------------------------------------------------------------------------
PTP Packets                                                           253         11
  Announce                                                            243          1
  Sync                                                                  0          0
  Follow Up                                                             0          0
  Delay Request                                                         0          0
  Delay Response                                                        0          0
  Signaling                                                            10         10
  Other                                                                 0          0
Discards                                                                0          0
  Bad PTP domain                                                        0          0
  Alternate Master                                                      0          0
  Out Of Sequence                                                       0          0
  Packet Timing Signal Fail - Unusable                               2848          0
  Local clock found in path trace                                    1500          0
  Other                                                                 0          0
===============================================================================
```

Table 434: Output fields: PTP port detail

Label	Description
IEEE 1588/PTP Ethernet Port Information	
Port	The port ID
PTP Admin State	The PTP administrative state
PTP Oper State	The PTP operational state
Local MAC Addr	The local MAC address op
Multicast MAC Addr	The multicast MAC address
Cfg Sync Rate	The configured synchronization rate
Cfg Delay Req Rate	The configured delay request rate
Master-Only	The master-only value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
G.8275 Priority	The G.8275 priority
monitorReceiver	The monitorReceiver state
monitorSender	The monitorSender state
PTP Port Number	The PTP port number
PTP Port State	The PTP port state
Neighbors	The neighbors
Timestamp Point	The timestamp point
Port Asymmetry	The port asymmetry time
Tx path trace	true – transmit Announce messages include the PATH_TRACE TLV false – transmit Announce messages do not include the PATH_TRACE TLV
Profile Name	The profile name
Profile	The profile
Domain	The domain
IEEE 1588/PTP Ethernet Port Neighbor Clocks	
Port	The port ID
MAC Address	The MAC address
Clock Id	The clock ID
PTP Port #	The port number assigned to this PTP clock
Rx Packet Rate	The receive rate
PTSF-unusable	Indicates if there is a Packet Timing Signal Fail (PTSF)-unusable condition associated with a neighbor port
PTSF-LOTM	The PTSF-LOTM state for the neighbor clock • yes — The local clock is not receiving timing messages from the neighbor clock • no — The local clock is receiving all necessary timing messages from the neighbor clock
Best Master	Indicates if this peer is selected as the best master clock by the BTCA

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Parent Clock	Indicates if this is the parent clock. May differ from the best master if there is a local GNSS.
Backup Source	Indicates if this port is operating as a backup slave to the parent clock
Monitor Time State	Time recovery state of the monitored PTP port or peer
Last Packet Offset from Master	The offsetFromMaster calculated from the last packet exchange with the parent clock
Last Packet Mean Path Delay	The meanPathDelay calculated from the last packet exchange with the parent clock
APTS Asymmetry	The asymmetry computed by the backup source. This is used to compensate if the clock switches to this backup.
IEEE 1588/PTP Packet Statistics	
Input	The number of input packets within the specified category
Output	The number of output packets within the specified category
PTP Packets	The number of PTP packets
Announce	The number of Announce packets
Sync	The number of Sync packets
Follow Up	The number of Follow_Up packets
Delay Request	The number of Delay_Req packets
Delay Response	The number of Delay_Resp packets
Signaling	The number of Signaling packets
Other	The number of other packets
Discards	The number of input and output discards
Bad PTP domain	The number of messages discarded because of a bad PTP domain
Alternate Master	The number of messages discarded because of an alternate master
Out Of Sequence	The number of messages discarded because of out-of-sequence messages
Packet Timing Signal Fail - Unusable	The number of Announce messages discarded because of packet timing signal failure

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Local clock found in path trace	The number of Announce messages discarded because the local clock identifier was found in the PATH-TRACE TLV
Other	The number of messages discarded because of other reasons

port

Syntax

port *port-id* **neighbor** *ieee-address* **ptsf-unusable statistics**

Context

[Tree] (clear>system>ptp port)

Full Context

clear system ptp port

Description

This command clears PTP port information.

Parameters

port-id

Clears the specified port ID.

Values *slot*/*mda*/*port*

ieee-address

Specifies the MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

ptsf-unusable

Keyword used to clear the PTSF-unusable condition associated with a neighbor port.

statistics

Keyword used to clear statistics information of the specified port ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port

Syntax

port *port-id* [*port-id*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] [**multiclass**] [**aggregate-queue**]

port all-ethernet-rates [**interval** *seconds*] [**repeat** *repeat*]

Context

[Tree] (monitor port)

Full Context

monitor port

Description

This command enables port traffic monitoring. The specified port(s) statistical information displays at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified port(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the **rate** is specified, the "rate per second" for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

port-id

Specify up to 5 port IDs. Port-IDs are only MLPPP bundles or bundle protection groups when the multiclass is specified.

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b
	aps-id	aps-*group-id*[.*channel*]	
		aps	keyword
		group-id	1 to 64

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Keyword that displays the raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Keyword that displays the rate-per-second for each statistic; instead of the delta.

all-ethernet-rates

Keyword that displays port traffic monitoring and utilization output for all data Ethernet ports enabled in the system, in a table output format.

aggregate-queue

Keyword that periodically displays the aggregated number of forwarded and dropped packets and bytes per direction across all queues on a PXC port (pxc-<id>.a or pxc-<id>.b).

The system periodically aggregates statistics from all queues under the specified PXC port for presentation. The duration required to gather these statistics is typically brief, though it may vary based on the system load at the time of querying and the number of queues and member ports in a LAG.

Statistics are cached for a 30-second interval, which is also the minimum interval at which this command can output results.

Platforms

All

Output

The following outputs are examples of port information.

Output Example

```
A:ALA-12>monitor# port 2/1/4 interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for Port 2/1/4
===============================================================================
                                            Input                      Output
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Octets                                          0                           0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Packets                                          39                          175
Errors                                            0                            0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Octets                                            0                            0
Packets                                          39                          175
Errors                                            0                            0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Octets                                            0                            0
Packets                                          39                          175
Errors                                            0                            0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Octets                                            0                            0
Packets                                          39                          175
Errors                                            0                            0
===============================================================================
A:ALA-12>monitor#

A:ALA-12>monitor# port 2/1/4 interval 3 repeat 3 rate
===============================================================================
Monitor statistics for Port 2/1/4
===============================================================================
                                               Input                       Output
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Octets                                            0                            0
Packets                                          39                          175
Errors                                            0                            0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
Octets                                            0                            0
Packets                                           0                            0
Errors                                            0                            0
Bits                                              0                            0
Utilization (% of port capacity)               0.00                         0.00
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
Octets                                            0                            0
Packets                                           0                            0
Errors                                            0                            0
Bits                                              0                            0
Utilization (% of port capacity)               0.00                         0.00
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
Octets                                            0                            0
Packets                                           0                            0
Errors                                            0                            0
Bits                                              0                            0
Utilization (% of port capacity)               0.00                         0.00
===============================================================================
A:ALA-12>monitor#


===============================================================================
*A:Cpm-A> monitor port bundle-fr-1/1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Monitor statistics for Port bundle-fr-1/1.1
===============================================================================
                                                  Input                 Output
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Octets                                              0                     0
Packets                                             0                     0
Errors                                              0                     0

===============================================================================
*A:Cpm-A> monitor port pxc-1.a interval 30 repeat 10 aggregate-queue
===============================================================================
Monitor statistics for port pxc-1.a
===============================================================================
 Ingress Packets Fwd      Ingress Octets Fwd
Ingress Packets Drop      Ingress Octers Drop
  Egress Packets Fwd      Egress Octets Fwd
 Egress Packets Drop      Egress Octets Drop
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
             4654649       94523288
               22544          99852
            98652214       65889554
               55451          22144
-------------------------------------------------------------------------------
At time t = 30 sec (Mode: Delta)
-------------------------------------------------------------------------------
             4654649       94523288
               22544          99852
            98652214       65889554
               55451          22144
 -------------------------------------------------------------------------------
At time t = 60 sec (Mode: Delta)
-------------------------------------------------------------------------------
             4654649       94523288
               22544          99852
            98652214       65889554
               55451          22144
-------------------------------------------------------------------------------

===============================================================================
*A:Cpm-A> monitor port pxc-1.a interval 30 repeat 10 rate aggregate-queue

===============================================================================
Monitor statistics for port pxc-1.a
===============================================================================
                                                Input                 Output
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Forwarded Packets                               454649        94288
Forwarded Bytes                                 3343434      777998

-------------------------------------------------------------------------------
At time t = 30 sec
-------------------------------------------------------------------------------
Rate [kbps]                                     4654649      94288
Utilization (% of port capacity)                22.54        9.98
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
At time t = 60 sec
-------------------------------------------------------------------------------
Rate [kbps]                                     4654649      94288
Utilization (% of port capacity)                22.54        9.98
-------------------------------------------------------------------------------
```

The following output is an example of Ethernet port information.

Output Example

```
A:ALA-12>monitor# port all-ethernet-rates interval 3 repeat 100
===============================================================================
Monitor statistics for all Ethernet Port Rates
===============================================================================
Port-Id          D                Bits   Packets     Errors    Util
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
5/1/1            I                0        0          0          0.00
                 O                0        0          0          0.00

5/2/1            I                0        0          0          0.00
                 O                0        0          0          0.00

-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
5/1/1            I                0        0          0          0.00
                 O                0        0          0          0.00

5/2/1            I                0        0          0          0.00
                 O                0        0          0          0.00

-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
5/1/1            I                0        0          0          0.00
                 O                0        0          0          0.00

5/2/1            I                0        0          0          0.00
                 O                0        0          0          0.00

-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
5/1/1            I       4286480384   697669          0         43.98
                 I       4286382080   697653          0         43.98

5/2/1            I       4254070784   692394          0         43.64
                 I       4253952000   692375          0         43.64
-------------------------------------------------------------------------------
At time t = 12 sec (Mode: Rate)
-------------------------------------------------------------------------------
5/1/1            I       9746288640    1586K          0         99.99
                 I       9746216960    1586K          0         99.99

5/2/1            I       9746280448    1586K          0         99.99
                 I       9746167808    1586K          0         99.99
===============================================================================
A:ALA-12>monitor#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port

Syntax

port *port-id* **egress** *network* **queue-group** *queue-group-name* **instance** *instance-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] [**arbiter** [**root** | *name*]]

Context

[Tree] (monitor>qos>arbiter-stats port)

Full Context

monitor qos arbiter-stats port

Description

This command monitors arbiter statistics in an egress port queue group.

Parameters

port *port-id*

port-id	*slot*/*mda*/*port* [.*channel*]		
	eth-sat-id	esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
	pxc-id	pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b

Values slot/mda/port

egress *network*

Specifies statistics are for an egress network queue group.

queue-group *queue-group-name*

Specifies the name of the queue group up to 32 characters.

instance *instance-id*

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

interval *seconds*

Configures the interval for each display in seconds.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default 11 seconds

Values 11 to 60

repeat *repeat*

Configures how many times the command is repeated.

Default 10

Values 1 to 999

absolute

When the **absolute** keyword is specified, the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

When the **rate** keyword is specified, the rate-per-second for each statistic is displayed.

arbiter ***name***

Specify the name of the policer control policy arbiter.

Values An existing arbiter-name in the form of a string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

root

Specify the root arbiter.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

port

Syntax

port *port-id* **queue-group** *queue-group-name* [**ingress** | **egress**] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] [**access** | **network**] [**instance** *instance-id*]

port *port-id* **vport** *name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>qos>scheduler-stats port)

Full Context

monitor qos scheduler-stats port

Description

This command enables port traffic monitoring.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

port *port-id*

Specifies the port ID.

Values

slot/*mda*/*port* [.*channel*]		
eth-sat-id	esat-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	pxc-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

queue-group *queue-group-name*

Specifies the name of the queue group up to 32 characters.

instance *instance-id*

Specifies the identification of a specific instance of the queue-group.

Values 1 to 65535

ingress

Specifies statistics are for an ingress queue group.

egress

Specifies statistics are for an egress queue group.

interval *seconds*

Configures the interval for each display in seconds.

Default 11 seconds

Values 11 to 60

repeat *repeat*

Configures how many times the command is repeated.

Default 10

Values 1 to 999

absolute

When the **absolute** keyword is specified, the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

When the **rate** keyword is specified, the rate-per-second for each statistic is displayed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

access

Displays scheduler statistics applied on an access port.

network

Displays scheduler statistics applied on a network port.

Platforms

All

port

Syntax

port *port-id* **exp-secondary-shaper** *shaper-name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

port *port-id* **vport** *name* [**interval** *seconds*] [**repeat** *repeat*]

Context

[Tree] (monitor>qos port)

Full Context

monitor qos port

Description

This command monitors expanded secondary shaper statistics.

Parameters

port-id

Specifies the port ID.

Values *slot/mda/port*
esat-*id*/*slot*/*port*
pxc-*id*.*sub-port*

shaper-name

Displays statistics for the named exp secondary shaper.

seconds

Configures the interval for each display in seconds.

Values 11 to 60

Default 11 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic.

vport *name*

Displays statistics for the named Vport.

Platforms

All

port

Syntax

port *port-id* **queue-group** *queue-group-name* [**egress**] [**network**] [**instance** *instance-id*] [**arbiter** {*name* | *root*}]

Context

[Tree] (clear>qos>arbiter-stats port)

Full Context

clear qos arbiter-stats port

Description

This command clears the arbiter statistics per port.

Parameters

port-id

Specifies the port ID.

Values

slot/*mda*/*port* [.*channel*]

pxc-id	pxc-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

queue-group-name

Specifies the queue group name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

network

Clears the egress network queue group statistics.

instance-id

Specifies the ID of a specific instance for the queue group.

Values 1 to 65535

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

port

Syntax

port *port-id* **queue-group** *queue-group-name* [**ingress** | **egress**] [**access** | **network**] [**instance** *instance-id*] [**scheduler** *scheduler-name*]

port *port-id* **vport** *name* [**scheduler** *scheduler-name*]

Context

[Tree] (clear>qos>scheduler-stats port)

Full Context

clear qos scheduler-stats port

Description

This command clears the scheduler statistics per port.

Parameters

port-id

Specifies the ID of a specific instance for the queue group.

Values *slot*/*mda*/*port* [.*channel*]

queue-group-name

Specifies the queue group name, up to 32 characters.

ingress

Clears statistics for the ingress queue group.

egress

Clears statistics for the egress queue group.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

access

Clears scheduler statistics applied on an access port.

network

Clears scheduler statistics applied on a network port.

instance-id

Specifies the ID of a specific instance for the queue group.

Values 1 to 65535

name

Specifies the Vport name, up to 32 characters.

scheduler-name

Specifies the scheduler name, up to 32 characters.

Platforms

All

port

Syntax

port *port-id* **egress** [**network**] [**queue-group** *queue-group-name*] [**instance** *instance-id*] [**arbiter** *name* | *root*]

Context

[Tree] (show>qos>arbiter-stats port)

Full Context

show qos arbiter-stats port

Description

This command displays the arbiter statistics per port.

Parameters

port-id

Displays information about the specified port.

Values *slot*/*mda*/*port* [.*channel*]

network

Displays arbiter statistics applied on a network port.

queue-group-name

Specifies the queue group name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

port

Syntax

port *port-id* **network egress queue-group** *group-name* **instance** *instance-id* [**detail**]

Context

[Tree] (show>qos>policer port)

Full Context

show qos policer port

Description

This command displays the policer statistics per port.

Parameters

port-id

Displays information about the specified port.

Values *slot*/*mda*/*port*

group-name

Specifies the queue group name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

port

Syntax

port *port-id* **vport** *name* [**scheduler** *scheduler-name*]

Context

[Tree] (show>qos>scheduler-stats port)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show qos scheduler-stats port

Description

This command displays the Vport scheduler stats.

Parameters

port-id

Displays information for the specified port.

name

Displays information for the specified Vport.

scheduler-name

Displays information for the specified scheduler-name.

Platforms

All

Output

The following output is an example of Vport scheduler information.

Output Example

```
*A:BNG# show qos scheduler-stats port 1/1/1 vport "dslam1" scheduler "dslam-sched"
===============================================================================
Scheduler Stats
===============================================================================
Scheduler                         Forwarded Packets      Forwarded Octets
-------------------------------------------------------------------------------
Egress Schedulers

dslam-sched                       0                      0
===============================================================================
*A:BNG#
```

Table 435: Output fields: Vport scheduler statistics describes Vport scheduler statistics output fields.

Table 435: Output fields: Vport scheduler statistics

Field	Description
Scheduler	The scheduler name
Forwarded Packets	The number of forwarded packets, as determined by the subscriber ingress scheduler policy
Forwarded Octets	The number of forwarded octets, as determined by the subscriber ingress scheduler policy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port

Syntax

port *port-id*

Context

[Tree] (tools>perform port)

Full Context

tools perform port

Description

This command specifies the port to perform operations.

Parameters

port-id

Specifies the port ID.

Values

port-id | *connector-id* | *connector-port-id* |	
port-id	port-id
connector-id	slot/mda/c*connector*
connector-port-id	slot/mda/c*connector*/ connector-port cpm-slot/ gnss

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20 p Commands – Part III

20.1 port-db

port-db

Syntax

port-db sap *sap-id*

port-db sap *sap-id* **detail**

port-db sap *sap-id* **group** *grp-ipv6-address*

port-db sdp *sdp-id*:*vc-id* [**detail**]

port-db sdp *sdp-id*:*vc-id* **group** *grp-ipv6-address*

Context

[Tree] (show>service>id>mld-snooping port-db)

Full Context

show service id mld-snooping port-db

Description

This command displays MLD snooping information related to a specific SAP.

Platforms

All

Output

The following output is an example of MLD snooping information for a specific SAP.

Output Example

```
*A:rbae_C# show service id 1 mld-snooping port-db sap 1/1/4
===============================================================================
MLD Snooping SAP 1/1/4 Port-DB for service 1
===============================================================================
Group Address
                Mode    Type    From-VPLS  Up Time        Expires  Num   MC
                                                                    Src   Stdby
-------------------------------------------------------------------------------
FF04::1
                include dynamic local      0d 00:00:19    0s       1
FF04::2
                include dynamic local      0d 00:00:18    0s       1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Number of groups: 2
===============================================================================
*A:rbae_C#

*A:rbae_C# show service id 1 mld-snooping port-db sap 1/1/4 detail
===============================================================================
MLD Snooping SAP 1/1/4 Port-DB for service 1
-------------------------------------------------------------------------------
MLD Group FF04::1
-------------------------------------------------------------------------------
Mode             : include              Type             : dynamic
Up Time          : 0d 00:00:33          Expires          : 0s
Compat Mode      : MLD Version 2
V1 Host Expires  : 0s                                    :
MVR From-VPLS    : local                MVR To-SAP       : local
MC Standby       : no
-------------------------------------------------------
Source Address
                Up Time      Expires  Type     Fwd/Blk
-------------------------------------------------------
2011::1
                0d 00:00:33  20s      dynamic  Fwd
-------------------------------------------------------------------------------
MLD Group FF04::2
-------------------------------------------------------------------------------
Mode             : include              Type             : dynamic
Up Time          : 0d 00:00:32          Expires          : 0s
Compat Mode      : MLD Version 2
V1 Host Expires  : 0s                                    :
MVR From-VPLS    : local                MVR To-SAP       : local
MC Standby       : no
-------------------------------------------------------
Source Address
                Up Time      Expires  Type     Fwd/Blk
-------------------------------------------------------
2011::1
                0d 00:00:33  20s      dynamic  Fwd
-------------------------------------------------------------------------------
Number of groups: 2
===============================================================================
*A:rbae_C#
```

port-db

Syntax

port-db sap *sap-id* [**detail**]

port-db sap *sap-id* **group** *grp-address*

port-db sdp *sdp-id*:*vc-id* [**detail**]

port-db sdp *sdp-id*:*vc-id* **group** *grp-ip-address*

vxlan vtep *ip-address* **vni** *vni-id*

Context

[Tree] (show>service>id>igmp-snooping port-db)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id igmp-snooping port-db

Description

This command displays information on the IGMP snooping port database for the VPLS service.

Parameters

grp-ip-address

Displays the IGMP snooping port database for a specific multicast group address

sap-id

Displays the IGMP snooping port database for a specific SAP

sdp-id

Displays only IGMP snooping entries associated with the specified mesh SDP or spoke-SDP. For a spoke-SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional.

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID for which to display information

Default For mesh SDPs only, all VC IDs

Values 1 to 4294967295

grp-address

Displays IGMP snooping statistics matching the specified group address.

ip-address

Displays IGMP snooping statistics matching one particular source within the multicast group.

vxlan vtep *ip-address* vni *<1..16777215>*

Displays the IGMP snooping entries associated with a specific VXLAN binding, given by the VXLAN Termination Endpoint (VTEP) and VXLAN Network Identifier (VNI).

vni

The VXLAN Network Identifier (VNI) for which to display information.

Values 1 to 16777215

Platforms

All

Output

Output Example

```
*A:ALA-1>show>service>id>snooping# port-db sap 1/1/2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IGMP Snooping SAP 1/1/2 Port-DB for service 10
===============================================================================
Group Address    Mode     Type     Up Time        Expires   Num Sources
-------------------------------------------------------------------------------
239.0.0.1        include  dynamic  0d 00:04:44    0s        2
Group Address    Mode     Type     From-VPLS  Up Time        Expires  Num Src
-------------------------------------------------------------------------------
239.0.0.1        include  dynamic  Local      0d 00:04:44    0s       2
-------------------------------------------------------------------------------
Number of groups: 1
===============================================================================
*A:ALA-1>show>service>id>snooping#


*A:ALA-1>show>service>id>snooping# port-db sap 1/1/2 detail
===============================================================================
IGMP Snooping SAP 1/1/2 Port-DB for service 10
===============================================================================
IGMP Group 239.0.0.1
-------------------------------------------------------------------------------
Mode             : include              Type             : dynamic
Up Time          : 0d 00:04:57          Expires          : 0s
Compat Mode      : IGMP Version 3
V1 Host Expires  : 0s                   V2 Host Expires  : 0s
-------------------------------------------------------
Source Address  Up Time      Expires  Type     Fwd/Blk
-------------------------------------------------------
1.1.1.1         0d 00:04:57  20s      dynamic  Fwd
1.1.1.2         0d 00:04:57  20s      dynamic  Fwd
-------------------------------------------------------------------------------
Number of groups: 1
===============================================================================
*A:ALA-1>show>service>id>snooping#
```

Table 436: Output fields: IGMP snooping port database describes the show output fields.

Table 436: Output fields: IGMP snooping port database

Label	Description
Group Address	The IP multicast group address for which this entry contains information.
Mode	Specifies the type of membership reports received on the interface for the group. In the include mode, reception of packets sent to the specified multicast address is requested only from those IP source addresses listed in the source-list parameter of the IGMP membership report. In the exclude mode, reception of packets sent to the specified multicast address is requested from all IP source addresses except those listed in the **source-list** parameter.
Type	Indicates how this group entry was learned. If this group entry was learned by IGMP, the value is set to dynamic.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	For statically configured groups, the value is set to static.
Compatibility mode	Specifies the IGMP mode. This is used for routers to be compatible with older-version routers. IGMPv3 hosts must operate in Version 1 and Version 2 compatibility modes. IGMPv3 hosts must keep state per local interface regarding the compatibility mode of each attached network. A host's compatibility mode is determined from the host compatibility mode variable which can be in one of three states: IGMPv1, IGMPv2 or IGMPv3. This variable is kept per interface and is dependent on the version of general queries heard on that interface as well as the older-version querier present timers for the interface.
V1 host expires	The time remaining until the local router will assume that there are no longer any IGMP Version 1 members on the IP subnet attached to this interface. Upon hearing any IGMPv1 membership report, this value is reset to the group membership timer. While this time remaining is non-zero, the local router ignores any IGMPv2 leave messages for this group that it receives on this interface.
V2 host expires	The time remaining until the local router will assume that there are no longer any IGMP Version 2 members on the IP subnet attached to this interface. Upon hearing any IGMPv2 membership report, this value is reset to the group membership timer. While this time remaining is non-zero, the local router ignores any IGMPv3 leave messages for this group that it receives on this interface.
Source address	The source address for which this entry contains information.
Up Time	The time since the source group entry was created.
Expires	The amount of time remaining before this entry will be aged out.
Number of sources	Indicates the number of IGMP group and source specific queries received on this SAP.
Forwarding/Blocking	Indicates whether this entry is on the forward list or block list.
Number of groups	Indicates the number of groups configured for this SAP.

port-db

Syntax

port-db sap *sap-id* [**group** *grp-ip-address*]

port-db sap *sap-id* **group** *grp-ip-address* **source** *src-ip-address*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port-db sdp *sdp-id:vc-id* [**group** *grp-ip-address*]

port-db sdp *sdp-id:vc-id* **group** *grp-ip-address* **source** *src-ip-address*

port-db [**group** *grp-ip-address*] **vxlan vtep** *ip-address* **vni** *vni-id*

port-db group *grp-ip-address* **source** *src-ip-address* **vxlan vtep** *ip-address* **vni** *vni-id*

Context

[Tree] (clear>service>id>igmp-snooping port-db)

Full Context

clear service id igmp-snooping port-db

Description

This command clears the information on the IGMP snooping port database for the VPLS service.

Parameters

sap-id

Clears IGMP snooping statistics matching the specified SAP ID and optional encapsulation value

sdp-id

Clears only IGMP snooping entries associated with the specified mesh SDP or spoke-SDP. For a spoke-SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional.

Values 1 to 17407

vc-id

Clears information for the specified virtual circuit ID on the SDP ID

Default For mesh SDPs only, all VC IDs

Values 1 to 4294967295

grp-ip-address

Clears IGMP snooping statistics matching the specified group address

src-ip-address

Clears IGMP snooping statistics matching the specified particular source

vxlan vtep *ip-address* vni *<1..16777215>*

Clears the IGMP snooping statistics associated with a specific VXLAN destination given by the VXLAN Termination Endpoint (VTEP) and VXLAN Network Identifier (VNI).

vni-id

Displays information for the specified VXLAN Network Identifier (VNI)

Values 1 to 16777215

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port-db

Syntax

port-db sap *sap-id* [**group** *grp-ip-address*]

port-db sap *sap-id* **group** *grp-ip-address* **source** *src-ip-address*

port-db sdp *sdp-id:vc-id* [**group** *grp-ip-address*]

port-db sdp *sdp-id:vc-id* **group** *grp-ip-address* **source** *src-ip-address*

port-db [**group** *grp-ip-address*] **vxlan vtep** *ip-address* **vni** *vni-id*

port-db group *grp-ip-address* **source** *src-ip-address* **vxlan vtep** *ip-address* **vni** *vni-id*

Context

[Tree] (clear>service>id>mld-snooping port-db)

Full Context

clear service id mld-snooping port-db

Description

This command clears MLD snooping port-db group data.

Parameters

sap-id

Clears IGMP snooping statistics matching the specified SAP ID and optional encapsulation value

sdp-id

Clears only IGMP snooping entries associated with the specified mesh SDP or spoke-SDP. For a spoke-SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional.

Values 1 to 17407

vc-id

Clears information for the specified virtual circuit ID on the SDP ID

Default For mesh SDPs only, all VC IDs

Values 1 to 4294967295

grp-ip-address

Clears IGMP snooping statistics matching the specified group address

src-ip-address

Clears IGMP snooping statistics matching the specified particular source

vxlan vtep *ip-address* vni *<1..16777215>*

Clears the IGMP snooping statistics associated with a specific VXLAN destination given by the VXLAN Termination Endpoint (VTEP) and VXLAN Network Identifier (VNI).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

vni-id

Displays information for the specified VXLAN Network Identifier (VNI)

Values 1 to 16777215

Platforms

All

20.2 port-forwarding-action

port-forwarding-action

Syntax

port-forwarding-action

Context

[Tree] (tools>perform>nat port-forwarding-action)

Full Context

tools perform nat port-forwarding-action

Description

This command displays NAT port forwarding actions.

Platforms

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

20.3 port-forwarding-entries

port-forwarding-entries

Syntax

port-forwarding-entries

Context

[Tree] (show>service>nat port-forwarding-entries)

Full Context

show service nat port-forwarding-entries

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays port forwarding entries.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
*A:SR12_PPPOE#  show service nat port-forwarding-entries
===============================================================================
NAT port forwarding entries
===============================================================================
Subscriber
iRtr       iAddress                              prot iPort type
oRtr       oAddress                         persist-id oPort expiry

===============================================================================
100        10.2.3.4                              tcp  666   classic-lsn-sub
Base       10.0.0.6                         N/A        666   N/A

100        10.2.3.4                              udp  666   classic-lsn-sub
Base       10.0.0.6                         N/A        666   N/A

-------------------------------------------------------------------------------
No. of entries: 2
===============================================================================
*A:SR12_PPPOE#
```

20.4 port-list

port-list

Syntax

port-list [*port-list-name*]

port-list *port-list-name* **references**

Context

[Tree] (show>filter>match-list port-list)

Full Context

show filter match-list port-list

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays TCP/UDP/SCTP port values or ranges for match criteria in IPv4 and IPv6 ACL and CPM filter policies.

Parameters

port-list-name

A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

references

Displays the filter policies, policy entries and source/destination/port match type per entry referring to this match list.

Platforms

All

port-list

Syntax

port-list

port-list *port-list-name* [**association**]

Context

[Tree] (show>qos>match-list port-list)

Full Context

show qos match-list port-list

Description

This command displays the list of configured QoS port lists or the details of a specific QoS port list together with the network QoS policies in which it is used and the entry number within that policy.

Parameters

port-list-name

Displays a port list, up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

association

Displays the network QoS policy and entry number in which the specified port list is used.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of QoS port list information. Table 437: Output fields: port list describes the output fields.

Output Example

```
*A:PE# show qos match-list port-list
===============================================================================
QoS Match Port List
===============================================================================
Port List Name                   Description                   Num Ports/Ranges
-------------------------------------------------------------------------------
portlist1                                                      2
portlist2                                                      2
-------------------------------------------------------------------------------
No. of Port-List: 2
===============================================================================
*A:PE#
*A:PE# show qos match-list port-list "portlist1"
===============================================================================
QoS Match Port List
===============================================================================
Port List Name        : portlist1
Description           : (Not Specified)
-------------------------------------------------------------------------------
Ports/Ranges
-------------------------------------------------------------------------------
80 90-100
-------------------------------------------------------------------------------
No. of Ports/Ranges : 2
-------------------------------------------------------------------------------
===============================================================================
*A:PE#
*A:PE# show qos match-list port-list "portlist1" association
===============================================================================
QoS Match IP Prefix List
===============================================================================
Port List Name        : portlist1
Description           : (Not Specified)
-------------------------------------------------------------------------------
Ports/Ranges
-------------------------------------------------------------------------------
80 90-100
-------------------------------------------------------------------------------
No. of Ports/Ranges : 2
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Association
-------------------------------------------------------------------------------
QoS Policy ID                          Criteria Entry
-------------------------------------------------------------------------------
10                  (network-egress)   10                (destination-port)
-------------------------------------------------------------------------------
===============================================================================
```

Table 437: Output fields: port list

Label	Description
Port List Name	Displays the port list name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Description	Displays the port list description.
Num Ports/Range	Displays the number of ports or range of ports.
No. of Port-List	Displays the number of port lists.
QoS Policy ID	Displays the QoS policy ID.

20.5 port-map

port-map

Syntax

port-map [*client-map-id*]

Context

[Tree] (show>system>satellite>eth-sat port-map)

Full Context

show system satellite eth-sat port-map

Description

This command displays information about configured satellites port maps.

Parameters

client-map-id

Specifies the client map to display. If a client port is associated with a resilient secondary uplink, a second line shows the current secondary uplink association.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of satellite port map information.

Output Example

```
A:admin@Dut-A# show system satellite eth-sat 1 port-map
===============================================================================
Satellite Port Mapping Information
===============================================================================
Client Port     Adm  Oper  Uplink Port      Adm  Oper  Host Port Adm  Oper  Act
-------------------------------------------------------------------------------
esat-1/1/1      Down Down  esat-1/1/u4      Up   Up    2/1/2     Up   Up    Y
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                           esat-1/1/u2      Up   Up    1/1/2     Up   Up    N
esat-1/1/2      Down Down  esat-1/1/u4      Up   Up    2/1/2     Up   Up    Y
                           esat-1/1/u1      Up   Up    1/1/1     Up   Up    N
esat-1/1/3      Down Down  esat-1/1/u4      Up   Up    2/1/2     Up   Up    Y
                           esat-1/1/u1      Up   Up    1/1/1     Up   Up    N
esat-1/1/4      Down Down  esat-1/1/u4      Up   Up    2/1/2     Up   Up    Y
                           esat-1/1/u2      Up   Up    1/1/2     Up   Up    N
```

20.6 port-policy

port-policy

Syntax

port-policy

port-policy *policy-name*

port-policy *policy-name* **associations**

Context

[Tree] (show port-policy)

Full Context

show port-policy

Description

This command displays port policy information.

Parameters

policy-name

Specifies the port policy name, up to 32 characters.

Platforms

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

20.7 port-queues

port-queues

Syntax

port-queues queue-depth [**queue** *queue-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>port port-queues)

Full Context

clear port port-queues

Description

This command clears the port queues and queue depth.

Parameters

queue-depth

Clears the queue depth.

queue-id

Specifies the queue ID.

Values 1 to 16

Platforms

All

port-queues

Syntax

port-queues queue *queue-id*

port-queues queue-depth [**queue** *queue-id*]

Context

[Tree] (show>port port-queues)

Full Context

show port port-queues

Description

This command displays port queues, queue override, and queue depth information.

Parameters

queue-depth

Displays queue depth information for the specified queue group queue.

queue-id

Specifies the queue ID.

Values 1 to 16

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

20.8 port-recorder

port-recorder

Syntax

port-recorder detail [**flow-count** *flows*] [**byte-count** *kbytes*] [**isa** *mda-id /esa-vm-id*] **url** *file-url*

port-recorder status [**isa** *mda-id/esa-vm-id*]

port-recorder top *granularity* [**max-count** *max-count*] [**isa** *mda-id*]

Context

[Tree] (tools>dump>app-assure>group port-recorder)

Full Context

tools dump application-assurance group port-recorder

Description

This command saves the port recorded by the tool into a file. The port-recorder is configured using debug commands.

Parameters

flow-count *flows*

Match ports with flow count greater than the specified value.

Values slot 1 to 4294967295

bytes-count *kbytes*

Match ports with bytes count greater than the specified value.

Values slot 1 to 4294967295

status

Displays the current status of the port-recorder with current-time, start-time, stop-time, sample-rates as well as number of bytes and flows for UDP and TCP traffic on the specified AA ISA card. The port-recorder is configured using debug commands.

top

Displays by bytes or flows the top ports recorded by the tool on a particular AA ISA.

mda-id/esa-vm-id

Specifies the AA ISA.

Values slot 1 to 10, mda 1 to 2

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

file-url

Specifies the URL for the file to direct the port-recorder output to.

Values

local-url:	<cflash-id>/][<file-path>]	
	200 chars max, including cflash-id	
	directory length 99 chars max each	
remote-url:	[{ftp://| tftp://}<login>:<pswd>@<remote-locn>/][<file-path>]	
	255 chars max	
	directory length 99 chars max each	
remote-locn:	<hostname> | <ipv4-address> | <ipv6-address>]	
	ipv4-address	a.b.c.d
	ipv6-address	x:x:x:x:x:x:x:x[-interface]
		x:x:x:x:x:x:d.d.d.d[-interface]
		x - [0..FFFF]H
		d - [0..255]D
	interface	32 chars max, for link local addresses
	cflash-id	flash slot ID

granularity

Specifies if the output is sorted by bytes or flows.

Values bytes, flows

max-count

Specifies the maximum number of values to display.

Values 1 to 25

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.9 port-scheduler

port-scheduler

Syntax

port-scheduler [**interval** *seconds*] [**repeat** *repeat*] [**absolute**| **rate**]

Context

[Tree] (monitor>port port-scheduler)

Full Context

monitor port port-scheduler

Description

This command monitors port scheduler statistics.

Parameters

seconds

Configures the interval for each display in seconds.

Values 11 to 60

repeat

Configures how many times the command is repeated.

Values 1 to 999

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

port-scheduler

Syntax

port-scheduler statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>port port-scheduler)

Full Context

clear port port-scheduler

Description

This command clears port scheduler statistics.

Parameters

statistics

Clears port scheduler statistics.

Platforms

All

port-scheduler

Syntax

port-scheduler statistics

Context

[Tree] (show>lag port-scheduler)

Full Context

show lag port-scheduler

Description

This command displays port scheduler policy information applied to the LAG.

Parameters

statistics

Displays statistics for the port scheduler policy applied to the LAG.

Platforms

All

port-scheduler

Syntax

port-scheduler statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>port port-scheduler)

Full Context

show port port-scheduler

Description

This command displays port schedule policy information applied to the port.

Parameters

statistics

Displays port schedule policy statistics.

Platforms

All

20.10 port-scheduler-policy

port-scheduler-policy

Syntax

port-scheduler-policy [*port-scheduler-policy-name*] [**association**]

port-scheduler-policy *port-scheduler-policy-name* **network-policy** *network-queue-policy-name*

port-scheduler-policy *port-scheduler-policy-name* **sap-egress** *policy-id*

port-scheduler-policy *port-scheduler-policy-name* **scheduler-policy** *scheduler-policy-name*

port-scheduler-policy *port-scheduler-policy-name* **scheduler-policy** *scheduler-policy-name* **sap-egress** *policy-id*

Context

[Tree] (show>qos port-scheduler-policy)

Full Context

show qos port-scheduler-policy

Description

This command displays port-scheduler policy information

Parameters

port-scheduler-policy-name

Displays information for the specified existing port scheduler policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

association

Displays associations related to the specified port scheduler policy.

network-policy *network-queue-policy-name*

Displays information for the specified existing network queue policy.

sap-egress *policy-id*

Displays information for the specified existing SAP egress policy.

scheduler-policy *scheduler-policy-name*

Displays information for the specified existing scheduler policy.

Platforms

All

Output

The following output is an example of QoS port scheduler policy information, and Table 438: Output fields: QoS port scheduler describes the QoS port scheduler policy fields.

Output Example

```
*A:Dut-R# show qos port-scheduler-policy p1
===============================================================================
QoS Port Scheduler Policy
===============================================================================
Policy-Name       : p1
HQOS Algorithm    : default
Max Rate          : max                Last changed      : 05/21/2007 10:39:15
Lvl1 PIR          : max                Lvl1 CIR          : max
Lvl2 PIR          : max                Lvl2 CIR          : max
Lvl3 PIR          : max                Lvl3 CIR          : max
Lvl4 PIR          : max                Lvl4 CIR          : max
Lvl5 PIR          : max                Lvl5 CIR          : max
Lvl6 PIR          : max                Lvl6 CIR          : max
Lvl7 PIR          : max                Lvl7 CIR          : max
Lvl8 PIR          : max                Lvl8 CIR          : max
Orphan Lvl        : default            Orphan Weight     : default
Orphan CIR-Lvl    : default            Orphan CIR-Weight : default
===============================================================================
QoS Port Scheduler Policy
===============================================================================
Policy-Name       : p1
-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
 - Port : 5/1/1
===============================================================================
*A:Dut-R#
```

The following configuration displays **dist-lag-rate-shared** and **percent-rate** for level, **group** and **max-rate** in a port-scheduler-policy.

```
*B:vineshDut-A>config>qos>port-sched-plcy# info
----------------------------------------------
 dist-lag-rate-shared
  max-rate percent 30.00
 group "test" create
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                percent-rate 20.00 cir 20.00
  exit
  level 1 percent-rate 10.00 percent-cir 10.00
  level 2 percent-rate 20.00 percent-cir 20.00
  level 3 percent-rate 30.00 percent-cir 30.00
  level 4 percent-rate 40.00 percent-cir 40.00
  level 5 percent-rate 50.00 percent-cir 50.00
  level 6 percent-rate 60.00 percent-cir 60.00
  level 7 percent-rate 70.00 percent-cir 70.00
  level 8 percent-rate 80.00 percent-cir 80.00
```

Overrides

```
*B:vineshDut-A>config>port# info
----------------------------------------------
        ethernet
            mode access
            egress-scheduler-policy "psp2"
            egress-scheduler-override create
                max-rate percent 50.00
                level 1 percent-rate 10.00 percent-cir 10.00
                level 2 percent-rate 20.00 percent-cir 20.00
                level 3 percent-rate 30.00 percent-cir 30.00
                level 4 percent-rate 40.00 percent-cir 40.00
                level 5 percent-rate 50.00 percent-cir 50.00
                level 6 percent-rate 60.00 percent-cir 60.00
                level 7 percent-rate 70.00 percent-cir 70.00
                level 8 percent-rate 80.00 percent-cir 80.00
            exit
            autonegotiate limited
        exit
        no shutdown
----------------------------------------------
```

The following output is an example of **port-scheduler-policy** Dist Lag Rate and percent parameters.

```
*B:vineshDut-A>config>port# /show qos port-scheduler-policy "psp2"
===============================================================================
QoS Port Scheduler Policy
===============================================================================
Policy-Name       : psp2
Description       : (Not Specified)
HQOS Algorithm    : default
Max Rate          : max                Max Rate Percent  : 30.00
Dist LAG Rate     : True               Last changed      : 07/16/2014 21:31:51
Group             : test
Group PIR         : max                Group CIR         : max
Group PIR Percent : 20.00              Group CIR Percent : 20.00

Lvl1 PIR          : max                Lvl1 CIR          : max
Lvl1 PIR Percent  : 10.00              Lvl1 CIR Percent  : 10.00
Lvl2 PIR          : max                Lvl2 CIR          : max
Lvl2 PIR Percent  : 20.00              Lvl2 CIR Percent  : 20.00
Lvl3 PIR          : max                Lvl3 CIR          : max
Lvl3 PIR Percent  : 30.00              Lvl3 CIR Percent  : 30.00
Lvl4 PIR          : max                Lvl4 CIR          : max
Lvl4 PIR Percent  : 40.00              Lvl4 CIR Percent  : 40.00
Lvl5 PIR          : max                Lvl5 CIR          : max
Lvl5 PIR Percent  : 50.00              Lvl5 CIR Percent  : 50.00
Lvl6 PIR          : max                Lvl6 CIR          : max
Lvl6 PIR Percent  : 60.00              Lvl6 CIR Percent  : 60.00
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Lvl7 PIR          : max                 Lvl7 CIR          : max
Lvl7 PIR Percent  : 70.00               Lvl7 CIR Percent  : 70.00
Lvl8 PIR          : max                 Lvl8 CIR          : max
Lvl8 PIR Percent  : 80.00               Lvl8 CIR Percent  : 80.00
Orphan Lvl        : default             Orphan Weight     : default
Orphan CIR-Lvl    : default             Orphan CIR-Weight : default
===============================================================================
Part of show port  Output
-------------------------------------------------------------------------------
Egr Port Sched Override
-------------------------------------------------------------------------------
Max Rate          : max*                      Max Rate Percent : 50.00
Lvl1 PIR          : max*                      Lvl1 CIR         : max*
Lvl1 PIR Percent  : 10.00                     Lvl1 CIR Percent : 10.00
Lvl2 PIR          : max*                      Lvl2 CIR         : max*
Lvl2 PIR Percent  : 20.00                     Lvl2 CIR Percent : 20.00
Lvl3 PIR          : max*                      Lvl3 CIR         : max*
Lvl3 PIR Percent  : 30.00                     Lvl3 CIR Percent : 30.00
Lvl4 PIR          : max*                      Lvl4 CIR         : max*
Lvl4 PIR Percent  : 40.00                     Lvl4 CIR Percent : 40.00
Lvl5 PIR          : max*                      Lvl5 CIR         : max*
Lvl5 PIR Percent  : 50.00                     Lvl5 CIR Percent : 50.00
Lvl6 PIR          : max*                      Lvl6 CIR         : max*
Lvl6 PIR Percent  : 60.00                     Lvl6 CIR Percent : 60.00
Lvl7 PIR          : max*                      Lvl7 CIR         : max*
Lvl7 PIR Percent  : 70.00                     Lvl7 CIR Percent : 70.00
Lvl8 PIR          : max*                      Lvl8 CIR         : max*
Lvl8 PIR Percent  : 80.00                     Lvl8 CIR Percent : 80.00
* means the value is inherited
-------------------------------------------------------------------------------
```

Table 438: Output fields: QoS port scheduler

Label	Description
Policy Name	Displays the port scheduler policy name.
HQOS Algorithm	Displays the port scheduler H-QoS algorithm used to calculate the operational rates for the children connected to the port scheduler.
Max Rate	Displays the explicit maximum frame-based bandwidth limit of this port scheduler.
Lvlx PIR	Displays the total bandwidth limit, PIR, for the specified priority level.
Lvlx CIR	Displays the within-CIR bandwidth limit for the specified priority level.
Orphan Lvl	Displays above-CIR port priority of orphaned queues and scheduler.
Orphan Weight	Displays the weight of orphaned queues and schedulers that are above-CIR.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Orphan CIR-Lvl	Displays the port priority of orphaned queues and schedulers that are within-CIR.
Orphan CIR-Weight	Displays the weight of orphaned queues and schedulers that are within-CIR.
Associations	Displays associations related to the specified port scheduler policy.
Mode	Displays the port scheduler policy mode (STRICT, RR, WRR, WDRR).
Accounting	Displays whether the accounting mode is frame-based or packet-based
Last Changed	Displays the last time the configuration changed.
Queue #	Displays the weight of the queue if configured.

20.11 port-topology

port-topology

Syntax

port-topology [**uni-dir**]

Context

[Tree] (show>system port-topology)

Full Context

show system port-topology

Description

This command generates a listing of the internal connections within the router. These include connections to satellite ports. Use of the **uni-dir** keyword will list each connection twice; once for each direction.

Parameters

uni-dir

Specifies to list each direction as a separate row.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of port topology information.

Output Example

```
*A:Dut-A# show system port-topology
================================================================================
Port Topology
================================================================================
Port Far-end
Id Port Id
--------------------------------------------------------------------------------
esat-1/1/u1 1/1/1
esat-1/1/u2 1/1/2
esat-1/1/u3 1/2/1
esat-1/1/u4 1/2/2
esat-20/1/u1 1/1/3
esat-20/1/u2 1/2/3
esat-20/1/u3 2/1/3
esat-20/1/u4 2/2/3
--------------------------------------------------------------------------------
No. of Number of port-topology associations: 8
================================================================================
```

20.12 port-xc

port-xc

Syntax

port-xc [pxc *pxc-id***]**

Context

[Tree] (show>port-xc port-xc)

Full Context

show port-xc

Description

This command displays information about Port Cross-Connect (PXC) information.

Parameters

pxc-id

Specifies the PXC ID.

Values 1 to 64

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of PXC information, and Table 439: Output fields: port cross connect describes the output fields.

Output Example

```
*A:cses-B04# show port-xc
===============================================================================
Port Cross-Connect Information
===============================================================================
PXC    Admin     Oper      Port          Description
Id     State     State     Id
-------------------------------------------------------------------------------
1      Up        Up        1/x1/1/c1/1   fpe based pw-ports
2      Up        Up        1/x1/1/c2/1   (Not Specified)
3      Up        Up        1/x1/1/c3/1   (Not Specified)
4      Up        Up        1/x1/1/m1/1   (Not Specified)
5      Up        Up        1/x1/1/m1/1   (Not Specified)
-------------------------------------------------------------------------------
No. of PXCs: 5
===============================================================================
*A:cses-B04#
```

```
show port 1/1/m1/1
===============================================================================
Anchor
===============================================================================
Description        : Anchor
Interface          : 1/1/m1/1
FP Number          : 1                          MAC Chip Number  : 1
Licensed           : Yes
Admin State        : down
Oper State         : up
IfIndex            : 1610903569
Last State Change  : 12/07/2020 07:02:21
Ing. Pool % Rate   : 100                        Egr. Pool % Rate : 100
Ing. Acc. Wt.      : 50                         Egr. Acc. Wt.    : 50
Ing. Net. Wt.      : 50                         Egr. Net. Wt.    : 50
===============================================================================
```

Table 439: Output fields: port cross connect

Label	Description
PXC Id	The port cross-connect identifier
Admin State	The administrative state of the port
Oper State	The operational state of the port
Port Id	The port ID
Description	The PXC ID description
Interface	The port ID
MAC Chip Number	The MAC chip number for this port

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Licensed	Yes — The port is licensed and can be used in a service configuration. No — The port is unlicensed and may not be used
IFIndex	Displays the interface's index number which reflects its initialization sequence.
Last State Change	Displays the last time the operational status of the port changed state.
Ing. Pool % Rate	The increment or decrement of the active bandwidth associated with the ingress port. This active bandwidth affects the amount of ingress buffer space managed by the port.
Egr. Pool % Rate	The increment or decrement of the active bandwidth associated with the egress port. This active bandwidth affects the amount of egress buffer space managed by the port.

20.13 positive-app-id

positive-app-id

Syntax

positive-app-id

Context

[Tree] (tools>dump>app-assure>group>ipassist positive-app-id)

Full Context

tools dump application-assurance group ip-identification-assist positive-app-id

Description

This command dumps the statistics related to IP identification assist for top applications using IP addresses learned from successfully classified traffic using the AA application database.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

Use this command to dump the statistics.

```
tools dump application-assurance group "1" ip-identification-assist positive-app-id isa "1/1"
```

Output Example

```
===============================================================================
Application-Assurance ip-identification-assist positive-app-id:
===============================================================================
  group                       1
  ip-identification-assist    no shutdown
  passive-dns                 enabled
  positive-app-id             enabled
-------------------------------------------------------------------------------

isa 1/1
-------------------------------------------------------------------------------
Application Name                  IPs in cache IPs added              IPs updated
 IP lookups found       Parent Application Name
---------------------------------- ------------ ---------------------- ---------------------- -
--------------------- ---------------------------------
"Application1"                                 0                      0                      0
                  0 "ParentApplication1"
"Application2"                                 0                      0                      0
                  0 "ParentApplication1"
"Application3"                                 0                      0                      0
                  0 "ParentApplication1"
"Application4"                                 0                      0                      0
                  0 "ParentApplication1"
"Application5"                                 0                      0                      0
                  0 "ParentApplication2"
"Application6"                                 0                      0                      0
                  0 "ParentApplication3"
"Application7"                                 0                      0                      0
                  0 "ParentApplication3"
"Application8"                                 0                      0                      0
                  0 "ParentApplication2"
"Application9"                                 0                      0                      0
                  0 "ParentApplication4"
"Application10"                                0                      0                      0
                  0 "ParentApplication5"
"Application11"                                0                      0                      0
                  0 "ParentApplication6"
"Application12"                                0                      0                      0
                  0 "ParentApplication7"
"Application13"                                0                      0                      0
                  0 "ParentApplication2"
"Application14"                                0                      0                      0
                  0 "ParentApplication3"
---------------------------------- ------------ ---------------------- ---------------------- -
--------------------------------
TOTAL (14 applications)                        0                      0                      0
                  0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.14 post-policer-mapping

post-policer-mapping

Syntax

post-policer-mapping [*post-policer-name*] [**association** | **detail**]

Context

[Tree] (show>qos post-policer-mapping)

Full Context

show qos post-policer-mapping

Description

This command displays information about post-policer mapping policies. Omitting the policy name will list all policies.

Parameters

post-policer-name

Specifies the name of the post-policer mapping policy, up to 32 characters.

association

Displays the entities associated with the post-policer mapping policy.

detail

Displays the detailed information for the post-policer mapping policy.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

Output

This section shows output example for post-policer mapping.

Output Example

```
*A:PE# show qos post-policer-mapping
===============================================================================
Post Policer Mapping Summary
===============================================================================
Policy                        Description
-------------------------------------------------------------------------------
ppm1                          Map FC EF/exceed to BE/out
-------------------------------------------------------------------------------
Policies
===============================================================================
*A:PE#

*A:PE# show qos post-policer-mapping detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Post Policer Mapping Information
===============================================================================
Policy Name        : ppm1
Description        : Map FC EF/exceed to BE/out
-------------------------------------------------------------------------------
Post Policer Mapping Information
-------------------------------------------------------------------------------
FC                  Profile             Mapped-FC           Mapped-Profile
-------------------------------------------------------------------------------
ef                  Exceed              be                  Out
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Sap Egress Associations
-------------------------------------------------------------------------------
Policy ID
-------------------------------------------------------------------------------
10
-------------------------------------------------------------------------------
===============================================================================
```

20.15 power-cycle

power-cycle

Syntax

power-cycle

Context

[Tree] (tools>perform>card power-cycle)

Full Context

tools perform card power-cycle

Description

This command power cycles a card.

Note: If CPM **A** is specified, the chassis is power cycled. Power cycling the chassis is not supported on the 7750 DMS-1-24D, 7750 SR-1, 7750 SR-1x, single-CPM 7750 SR-7s, and single-CPM 7750 SR-14s platforms.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.16 power-management

power-management

Syntax

power-management [*zone*]

Context

[Tree] (show>chassis power-management)

Full Context

show chassis power-management

Description

This command shows the power management requirement and utilization information.

Parameters

zone

The chassis power zone.

Values 1, 2

Platforms

7750 SR-12e, 7750 SR-s, 7950 XRS

Output

The following output is an example of power management information, and Table 440: Output fields: chassis power management describes the output fields.

Output Example: show chassis power-management

```
*A:Dut-A#  show chassis power-management

===============================================================================
Chassis Information
===============================================================================
Power Management Information

  Power Management Mode             : basic
  Power Safety Level                : 100%
  Power Safety Alert                : 0 watts
  Power-Zone                        : 1
  Number of PEQs                    : 12

  PEQ number                        : 1
    PEQ Equipped Type               : apeq-dc-2000
    PEQ Provisioned Type            : apeq-dc-2000
    Status                          : shutdown
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Input Feed Status               : input B down
    Hardware Data
      Part number                   : 3HE07114AARA01
      CLEI code                     : IPUPAJHUAA
      Serial number                 : NS1250G0116
      Manufacture date              : 12202012
      Manufacturing deviations      : (Not Specified)
     Manufacturing assembly number : 8205320107
      Administrative state          : down
      Operational state             : down
      Time of last boot             : 2014/01/07 11:01:44
      Current alarm state           : alarm active

  PEQ number                        : 2
    PEQ Equipped Type               : apeq-dc-2000
    PEQ Provisioned Type            : (Not Specified)
    Status                          : up
    Input Feed Status               : input B down
    Hardware Data
      Part number                   : 3HE07114AARA01
      CLEI code                     : IPUPAJHUAA
      Serial number                 : NS1249G0022
      Manufacture date              : 12202012
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state          : up
      Operational state             : unprovisioned
      Time of last boot             : 2014/01/07 11:01:44
      Current alarm state           : alarm active

  PEQ number                        : 3
    PEQ Equipped Type               : apeq-dc-2000
    PEQ Provisioned Type            : apeq-dc-2000
    Status                          : up
    Input Feed Status               : input B down
    Hardware Data
      Part number                   : 3HE07114AARA01
      CLEI code                     : IPUPAJHUAA
      Serial number                 : NS1250G0141
      Manufacture date              : 12202012
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state          : up
      Operational state             : up
      Time of last boot             : 2014/01/07 11:01:44
      Current alarm state           : alarm active

  PEQ number                        : 4
    PEQ Equipped Type               : apeq-dc-2000
    PEQ Provisioned Type            : apeq-dc-2000
    Status                          : up
    Input Feed Status               : input B down
    Hardware Data
      Part number                   : 3HE07114AARA01
      CLEI code                     : IPUPAJHUAA
      Serial number                 : NS1249G0201
      Manufacture date              : 12202012
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state          : up
      Operational state             : up
      Time of last boot             : 2014/01/07 11:01:44
      Current alarm state           : alarm active
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  PEQ number                          : 5
    PEQ Equipped Type                 : apeq-dc-2000
    PEQ Provisioned Type              : apeq-dc-2000
    Status                            : up
    Input Feed Status                 : input B down
    Hardware Data
      Part number                     : 3HE07114AARA01
      CLEI code                       : IPUPAJHUAA
      Serial number                   : NS1250G0123
      Manufacture date                : 12202012
      Manufacturing deviations        : (Not Specified)
      Manufacturing assembly number   : 8205320107
      Administrative state            : up
      Operational state               : up
      Time of last boot               : 2014/01/07 11:01:44
      Current alarm state             : alarm active

  PEQ number                          : 6
    PEQ Equipped Type                 : apeq-dc-2000
    PEQ Provisioned Type              : apeq-dc-2000
    Status                            : up
    Input Feed Status                 : input B down
    Hardware Data
      Part number                     : 3HE07114AARA01
      CLEI code                       : IPUPAJHUAA
      Serial number                   : NS1250G0061
      Manufacture date                : 12182012
      Manufacturing deviations        : (Not Specified)
      Manufacturing assembly number   : 8205320107
      Administrative state            : up
      Operational state               : up
      Time of last boot               : 2014/01/07 11:01:44
      Current alarm state             : alarm active

  PEQ number                          : 7
    PEQ Equipped Type                 : apeq-dc-2000
    PEQ Provisioned Type              : apeq-dc-2000
    Status                            : up
    Input Feed Status                 : input B down
    Hardware Data
      Part number                     : 3HE07114AARB01
      CLEI code                       : IPUPAJHUAA
      Serial number                   : NS13226A310
      Manufacture date                : 06042013
      Manufacturing deviations        : (Not Specified)
      Manufacturing assembly number   : 82-0532-02
      Administrative state            : up
      Operational state               : up
      Time of last boot               : 2014/01/07 11:01:44
      Current alarm state             : alarm active

  PEQ number                          : 8
    PEQ Equipped Type                 : apeq-dc-2000
    PEQ Provisioned Type              : apeq-dc-2000
    Status                            : up
    Input Feed Status                 : input B down
    Hardware Data
      Part number                     : 3HE07114AARA01
      CLEI code                       : IPUPAJHUAA
      Serial number                   : NS1250G0152
      Manufacture date                : 12202012
      Manufacturing deviations        : (Not Specified)
      Manufacturing assembly number   : 8205320107
      Administrative state            : up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Operational state             : up
    Time of last boot             : 2014/01/07 11:01:44
    Current alarm state           : alarm active

PEQ number                        : 9
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : apeq-dc-2000
  Status                          : up
  Input Feed Status               : input B down
  Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1250G0122
    Manufacture date              : 12202012
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : up
    Time of last boot             : 2014/01/07 11:01:44
    Current alarm state           : alarm active

PEQ number                        : 10
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : apeq-dc-2000
  Status                          : up
  Input Feed Status               : input B down
  Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1250G0146
    Manufacture date              : 12202012
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : up
    Time of last boot             : 2014/01/07 11:01:44
    Current alarm state           : alarm active

PEQ number                        : 11
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : apeq-dc-2000
  Status                          : up
  Input Feed Status               : input B down
  Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1249G0202
    Manufacture date              : 12202012
    Manufacturing deviations      : (Not Specified)
    Manufacturing assembly number : 8205320107
    Administrative state          : up
    Operational state             : up
    Time of last boot             : 2014/01/07 11:01:44
    Current alarm state           : alarm active

PEQ number                        : 12
  PEQ Equipped Type               : apeq-dc-2000
  PEQ Provisioned Type            : apeq-dc-2000
  Status                          : up
  Input Feed Status               : input B down
  Hardware Data
    Part number                   : 3HE07114AARA01
    CLEI code                     : IPUPAJHUAA
    Serial number                 : NS1250G0115
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      Manufacture date              : 12202012
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number : 8205320107
      Administrative state          : up
      Operational state             : up
      Time of last boot             : 2014/01/07 11:01:44
      Current alarm state           : alarm active
===============================================================================
```

```
  PCM number                        : 1
    PCM Equipped Type               : not detected
    PCM Provisioned Type            : (not provisioned)
  PCM number                        : 2
    PCM Equipped Type               : not detected)
    PCM Provisioned Type            : (not provisioned)

  PCM number                        : 3
    PCM Equipped Type               : not detected
    PCM Provisioned Type            : (not provisioned)
  PCM number                        : 4
    PCM Equipped Type               : not detected
    PCM Provisioned Type            : (Not provisioned)
  PCM number                        : 5
    PCM Equipped Type               : not detected
    PCM Provisioned Type            : (Not provisioned)
  PCM number                        : 6
    PCM Equipped Type               : indeterminate
    PCM Provisioned Type            : (Not provisioned)
  PCM number                        : 7
    PCM Equipped Type               : indeterminate
    PCM Provisioned Type            : (Not provisioned)
  PCM number                        : 8
    PCM Equipped Type               : indeterminate
    PCM Provisioned Type            : (Not provisioned)
  PCM number                        : 9
    PCM Equipped Type               : indeterminate
    PCM Provisioned Type            : dual-pcm
  PCM number                        : 10
    PCM Equipped Type               : quad-pcm
    PCM Provisioned Type            : (Not provisioned)
    Power-Zone                      : 1
    Status                          : up
    Input Feed Status               : power to all inputs
```

```
Hardware Data
      Part number                   : Sim Part#
      CLEI code                     : Sim CLEI
      Serial number                 : peq-12
      Manufacture date              : 01012003
      Manufacturing deviations      : Sim MfgDeviation peq-12
      Manufacturing assembly number : 01-2345-67


  PCM number                        : 11
    PCM Equipped Type               : quad-pcm
    PCM Provisioned Type            : quad-pcm
    Power-Zone                      : 1
    Status                          : up
    Input Feed Status               : power to all inputs
    Hardware Data
      Part number                   : Sim Part#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      CLEI code                     : Sim CLEI
      Serial number                 : peq-12
      Manufacture date              : 01012003
      Manufacturing deviations      : Sim MfgDeviation peq-12
      Manufacturing assembly number : 01-2345-67

  PCM number                        : 12
    PCM Equipped Type               : quad-pcm
    PCM Provisioned Type            : quad-pcm
    Power-Zone                      : 1
    Status                          : up
    Input Feed Status               : power to all inputs
    Hardware Data
      Part number                   : Sim Part#
      CLEI code                     : Sim CLEI
      Serial number                 : peq-12
      Manufacture date              : 01012003
      Manufacturing deviations      : Sim MfgDeviation peq-12
      Manufacturing assembly number : 01-2345-67


-------------------------------------------------------------------------------
Chassis Control Module (CCM) Information

  CCM Slot                          : A
    Equipped                        : yes
    Hardware Data
      Part number                   : Sim Part#
      CLEI code                     : Sim CLEI
      Serial number                 : ccm-1
      Manufacture date              : 01012003
      Manufacturing deviations      : Sim MfgDeviation ccm-1
      Manufacturing assembly number : 01-2345-67
      Administrative state          : up
      Operational state             : up
      Temperature                   : -128C
      Temperature threshold         : 75C
      Time of last boot             : N/A
      Current alarm state           : alarm cleared
    Hardware Resources (Power-Zone 1)
      Voltage
        Minimum                     :    52.80 Volts  (09/10/2014 18:09:58)
        Current                     :    52.80 Volts
        Peak                        :    52.80 Volts  (09/10/2014 18:09:58)
      Wattage
        Minimum                     :    20.00 Watts  (09/10/2014 18:09:58)
        Current                     :    20.00 Watts
        Peak                        :    20.00 Watts  (09/10/2014 18:09:58)
        Max Required                :    22.00 Watts
      Amperage
        Minimum                     :     0.38 Amps   (09/10/2014 18:09:58)
        Current                     :     0.38 Amps
        Peak                        :     0.38 Amps   (09/10/2014 18:09:58)

  CCM Slot                          : B
    Equipped                        : yes
    Hardware Data
      Part number                   :
      CLEI code                     :
      Serial number                 :
      Manufacture date              :
      Manufacturing deviations      : (Not Specified)
      Manufacturing assembly number :
      Administrative state          : up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      Operational state             : up
      Temperature                   : 0C
      Temperature threshold         : 75C
      Time of last boot             : N/A
      Current alarm state           : alarm cleared
    Hardware Resources (Power-Zone 1)
      Voltage
        Minimum                     :     0.00 Volts  (N/A)
        Current                     :     0.00 Volts
        Peak                        :     0.00 Volts  (N/A)
      Wattage
        Minimum                     :     0.00 Watts  (N/A)
        Current                     :     0.00 Watts
        Peak                        :     0.00 Watts  (N/A)
        Max Required                :     0.00 Watts
      Amperage
        Minimum                     :     0.00 Amps   (N/A)
        Current                     :     0.00 Amps
        Peak                        :     0.00 Amps   (N/A)
===============================================================================
Chassis 2 Detail
===============================================================================
```

Table 440: Output fields: chassis power management

Label	Description
Power Management Mode	Specifies the configured power management mode: None, Basic, or Advanced.
Power Safety Level	Specifies the configured Power Safety Level, which is a percentage of the worst case power consumption level.
Power Safety Alert	Specifies the configured power level in watts, which causes the system to raise an alarm if the available power level drops below a set level.
Power-Zone	Specifies the chassis power zone.
Number of PEQs	Specifies the total number of APEQs installed.
PEQ number:	Specifies the APEQ to which the information is associated
PEQ Equipped Type	Specifies the APEQ type installed.
PEQ Provisioned Type	Specifies the APEQ type provisioned.
Status	Specifies the APEQ status.
Input Feed Status	Specifies the feed status. This field indicates that power is detected on all inputs or lists the inputs where no power is detected.
PCM Equipped Type	Indicates the type of PCM installed in the specified PIM or PCM slot: • (empty slot) • indeterminate • quad-pcm

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Some PCMs can only be verified for presence based on power available at the associated APEQ. These are indicated as indeterminate. When the equipped type is quad-pcm, the additional fields of Power-Zone, Status, and Input Feed Status and Hardware Data are displayed.
PCM Provisioned Type	One of the following types: • (not specified) • dual-pcm • quad-pcm For a given PCM number, if the equipped type is not detected and the provisioned type is not specified, the PCM is not displayed.
Hardware Data:	
Part number	The APEQ part number.
CLEI code	The APEQ CLEI code.
Serial number	The APEQ serial number.
Manufacture date	The date the APEQ was manufactured.
Manufacturing deviations	Specifies any manufacturing deviations.
Manufacturing assembly number	The APEQ assembly number.
Administrative state	Specifies the administrative state of the APEQ.
Operational state	Specifies the operational state of the APEQ.
Time of last boot	Indicates the time stamp of the last system restart.
Current alarm state	Indicates the current alarm state.

power-management

Syntax

power-management

Context

[Tree] (tools>perform>system power-management)

Full Context

tools perform system power-management

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context perform power management operations.

Platforms

7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

20.17 power-module

power-module

Syntax

power-module [*power-module-id*] [**detail**]

Context

[Tree] (show>chassis>power-shelf power-module)

Full Context

show chassis power-shelf power-module

Description

This command displays the power-module.

Parameters

power-module-id

Specifies the power module ID.

Values 1 to 10

detail

Displays detailed power module information.

Platforms

7750 SR-s

Output

The following output is an example of a power module

Output Example: show chassis power-shelf power-module

```
A:DUT-A# show chassis power-shelf 1 power-module
===============================================================================
Power Shelf Summary
===============================================================================
Slot       Provisioned Type             Admin Operational   Zone   Input Output
               Equipped Type (if diff)  State State                Mode
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1          ps-a10-shelf-dc              up    up            1      80A   on
===============================================================================
===============================================================================
Power Module Summary
===============================================================================
Slot       Provisioned Type             Admin Operational   Input  Zone
               Equipped Type (if diff)  State State         A B
-------------------------------------------------------------------------------
1          ps-a-dc-6000                 up    up            Y Y    1
2          ps-a-dc-6000                 up    up            Y Y    1
===============================================================================
A:DUT-A# show chassis power-shelf 2 power-module
===============================================================================
Power Shelf Summary
===============================================================================
Slot       Provisioned Type             Admin Operational   Zone   Input Output
               Equipped Type (if diff)  State State                Mode
-------------------------------------------------------------------------------
2          ps-b10-shelf-ac/hv           up    up            1      N/A   on
===============================================================================
===============================================================================
Power Module Summary
===============================================================================
Slot       Provisioned Type             Admin Operational   Input  Zone
               Equipped Type (if diff)  State State         A B
-------------------------------------------------------------------------------
1          ps-b-ac/hv-6000              up    up            Y Y    1
2          ps-b-ac/hv-6000              up    down          N N    1
5          ps-b-ac/hv-6000              up    down          N N    1
===============================================================================
A:DUT-A#
A:DUT-A# show chassis power-shelf 2 power-module 1 detail
===============================================================================
Power Shelf Summary
===============================================================================
Slot       Provisioned Type             Admin Operational   Zone   Input Output
               Equipped Type (if diff)  State State                Mode
-------------------------------------------------------------------------------
2          ps-b10-shelf-ac/hv           up    up            1      N/A   on
===============================================================================
===============================================================================
Power Module 1 detail
===============================================================================
Slot       Provisioned Type             Admin Operational   Input  Zone
               Equipped Type (if diff)  State State         A B
-------------------------------------------------------------------------------
1          ps-b-ac/hv-6000              up    up            Y Y    1
Power Module Specific Data
    Output Status                : ok
Hardware Data
    Platform type                : N/A
    Part number                  : 3HE11183AARA0101
    CLEI code                    : GA-PSUHVDC
    Serial number                : NS1736W0096
    Manufacture date             : 09152017
    Manufacturing deviations     : For Internal Use Only
    Manufacturing assembly number :
    Time of last boot            : 2020/07/07 11:13:07
    Current alarm state          : alarm cleared
===============================================================================
A:DUT-A# show chassis power-shelf 2 detail
===============================================================================
Power Shelf 2 detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Slot       Provisioned Type             Admin Operational   Zone   Input Output
               Equipped Type (if diff)  State State                 Mode
-------------------------------------------------------------------------------
2          ps-b10-shelf-ac/hv           up    up            1      N/A   on
Power Shelf Specific Data
    Description                  : (Not Specified)
    Controller serial number     : NS1745W0143
Hardware Data
    Platform type                : N/A
    Part number                  : 3HE11179AARA
    CLEI code                    : T-REX-HVDC
    Serial number                : NS1747W0004
    Manufacture date             : 12212017
    Manufacturing deviations     : For Internal Use Only
    Manufacturing assembly number :
    Time of last boot            : 2020/07/07 11:13:07
    Current alarm state          : alarm cleared
Hardware Data
    Platform type                : N/A
    Part number                  : 3HE11181AARA
    CLEI code                    : M-SHELFCON
    Serial number                : NS1745W0143
    Manufacture date             : 11152017
    Manufacturing deviations     : For Internal Use Only
    Manufacturing assembly number :
    Time of last boot            : 2020/07/07 11:13:07
    Current alarm state          : alarm cleared
===============================================================================
A:DUT-A#
```

power-module

Syntax

power-module *power-module-id*

Context

[Tree] (clear>chassis>power-shelf power-module)

Full Context

clear chassis power-shelf power-module

Description

This command toggles the output power of the power module, turning it off for two seconds then on. This procedure can be used to clear an ovSD (output voltage shutdown) fault. The only alternative method to clear the ovSD fault is to physically remove the power module from the power shelf and re-insert. Running this command does not clear the latched faults.

Parameters

power-module-id

Specifies the power-module ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 10

Platforms

7750 SR-s

power-module

Syntax

power-module *power-module-id* **telemetry**

Context

[Tree] (tools>dump>power-shelf power-module)

Full Context

tools dump power-shelf power-module

Description

This command displays the specified power module information, telemetry, and fault data. When a fault is no longer active it remains marked as a latched fault for tracking purposes until manually cleared.

Parameters

power-module-id

Displays information about the specified power-module ID.

Values 1 to 10

telemetry

Displays telemetry and fault data for the specified power module.

Platforms

7750 SR-s

power-module

Syntax

power-module *power-module-id* **clear-faults**

Context

[Tree] (tools>perform>power-shelf power-module)

Full Context

tools perform power-shelf power-module

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears all the latched faults for inactive faults.

Parameters

power-module-id

Specifies power-module ID.

Values 1 to 10

clear-faults

Clears fault conditions against the specified power module.

Platforms

7750 SR-s

20.18 power-save

power-save

Syntax

power-save

Context

[Tree] (show>chassis>power-management power-save)

Full Context

show chassis power-management power-save

Description

This command displays power save information.

Platforms

7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

Output

The following output is an example of power save information, and Table 441: Output fields: power management power save describes the output fields.

Output Example: show chassis power-management power-save

```
[/]
A:admin@node-2# show chassis power-management power-save
===============================================================================
Power Save Information
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Low Power Switch Fabric Mode
-------------------------------------------------------------------------------
Admin State             : Up
Oper State              : Up
Switch Fabric Capacity  : 50.00%
===============================================================================
```

Table 441: Output fields: power management power save

Label	Description
Admin State	Displays the administrative state.
Oper State	Displays the operational state.
Switch Fabric Capacity	Displays the switch fabric capacity percentage.

power-save

Syntax

power-save

Context

[Tree] (tools>perform>system>power-management power-save)

Full Context

tools perform system power-management power-save

Description

Commands in this context perform power save operations.

Platforms

7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

20.19 power-shelf

power-shelf

Syntax

power-shelf [*power-shelf-id*] [**detail**] [**chassis** *chassis-name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>chassis power-shelf)

Full Context

show chassis power-shelf

Description

This command displays the power shelf.

Parameters

power-shelf-id

Specifies the power shelf ID.

Values 1 to 2

detail

Displays detailed power shelf information.

chassis-name

Specifies the chassis name, up to 256 characters maximum.

Platforms

7750 SR-s

Output

The following output is an example of power shelves

Output Example: show chassis power-shelf

```
A:DUT-A# show chassis power-shelf
===============================================================================
Power Shelf Summary
===============================================================================
Slot       Provisioned Type             Admin Operational   Zone   Input Output
               Equipped Type (if diff)  State State                Mode
-------------------------------------------------------------------------------
1          ps-a10-shelf-dc              up    up            1      80A   on
2          ps-b10-shelf-ac/hv           up    up            1      N/A   on
===============================================================================
```

power-shelf

Syntax

power-shelf *power-shelf-id*

Context

[Tree] (clear>chassis power-shelf)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear chassis power-shelf

Description

Commands in this context clear power-shelf components.

Parameters

power-shelf-id

Specifies power-shelf ID.

Values 1 to 2

Platforms

7750 SR-s

power-shelf

Syntax

power-shelf *power-shelf-id*

Context

[Tree] (tools>dump power-shelf)

Full Context

tools dump power-shelf

Description

Commands in this context display power-shelf information.

Parameters

power-shelf-id

Displays information about the specified power-shelf.

Values 1, 2

Platforms

7750 SR-s

power-shelf

Syntax

power-shelf *power-shelf-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>perform power-shelf)

Full Context

tools perform power-shelf

Description

Commands in this context configure power-shelf parameters.

Parameters

power-shelf-id

Specifies the power-shelf ID.

Values 1, 2

Platforms

7750 SR-s

20.20 ppp

ppp

Syntax

ppp

Context

[Tree] (show>service>id ppp)

Full Context

show service id ppp

Description

Commands in this context display service PPP information for the specified service.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ppp

Syntax

ppp

Context

[Tree] (tools>perform>subscr-mgmt>loc-user-db ppp)

Full Context

tools perform subscriber-mgmt local-user-db ppp

Description

This command provides the tools to control PPPoE entries in the local user database.

Platforms

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

ppp

Syntax

ppp

Context

[Tree] (show>call-trace ppp)

Full Context

show call-trace ppp

Description

Commands in this context display Point-to-Point Protocols (PPP) call trace information.

Platforms

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

ppp

Syntax

ppp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>service>id ppp)

Full Context

clear service id ppp

Description

Commands in this context clear PPP-related data for the specified service.

Platforms

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

20.21 ppp-policy

ppp-policy

Syntax

ppp-policy [*ppp-policy-name* [**association**]]

Context

[Tree] (show>subscr-mgmt ppp-policy)

Full Context

show subscriber-mgmt ppp-policy

Description

This command displays PPP policy information.

Parameters

ppp-policy-name

Specifies an existing PPP policy.

association

Displays the object with which the PPP policy is associated.

Platforms

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

Output

The following output is an example of PPP policy information, and Table 442: Output fields: subscriber management PPP policy describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
# /show subscriber-mgmt ppp-policy "ppp-policy-1"
===============================================================================
PPP Policy "ppp-policy-1"
===============================================================================
Description          : (Not Specified)
Last Mgmt Change     : 01/09/2020 16:40:19
PPP-mtu              : N/A                     Force PPP-mtu >1492  : No
Keepalive Interval   : 30s                     Keepalive Multiplier : 3
Disable AC-Cookies   : No                      PADO Delay           : 0msec
Max Sessions-Per-Mac : 1                       Reply-On-PADT        : No
Allow Same CID       : No                      Re-establish Session : Disabled
Max Sessions-Per-Cid : 10
Allow No CID         : No
PPP-Authentication   : pref-CHAP               PPP-CHAP Challenge   : 32 - 64
PPP-Init-Delay (ms)  : 0                       IPCP negotiate subnet: No
Unique SIDs-Per-SAP  : disabled                Reject-Disabled-Ncp  : No
Ignore-Magic-Num     : No                      Session Timeout      : unlimited
SID Allocation       : sequential
PADO AC-Name         : (Not Specified)
Default username     : (Not Specified)
Default password     : (Not Specified)
-------------------------------------------------------------------------------
PPP Custom Options
-------------------------------------------------------------------------------
Protocol Number Value
-------------------------------------------------------------------------------
No options configured.
-------------------------------------------------------------------------------
MLPPP
-------------------------------------------------------------------------------
Accept MRRU                : false
Request short sequence nr.  : false
Endpoint class              : null
Endpoint address            : (Not Specified)
-------------------------------------------------------------------------------
```

Table 442: Output fields: subscriber management PPP policy

Label	Description
Description	Specifies the description.
Last Mgmt Change	Specifies the date and time of the last management change.
PPP-mtu	Specifies the configured maximum PPP MTU size.
Force PPP-mtu >1492	Specifies if PPPoE MRU negotiations greater than 1492 bytes are enabled without receiving a "PPP-Max-Payload" tag in the PADI/PADR client message (Yes, No).
Keepalive Interval	Specifies the keepalive interval, in seconds.
Keepalive Multiplier	Specifies the keepalive multiplier value.
Disable AC-Cookies	Specifies to disable AC cookies (Yes, No).
PADO Delay	Specifies the PADO delay value, in milliseconds.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Max Sessions-Per-Mac	Specifies the maximum number of sessions with the same client MAC address and active on the same SAP or MSAP.
Reply-On-PADT	Specifies to reply on PADT (Yes, No).
Allow Same CID	Specifies to allow the same Circuit ID for multiple PPPoE sessions with the same client MAC address and active on the same SAP when using the internal DHCPv4 client for IPv4 address allocation (Yes, No).
Re-establish Session	Specifies if a PPPoE session can be re-established upon receiving a PADR from a PPPoE client that previously disconnected without sending a PADT and for which a session is still active in the BNG (PADR, Disabled).
Max Sessions-Per-Cid	Specifies the maximum number of sessions with the same Agent Circuit ID that can be active on the same SAP or MSAP.
Allow No CID	Specifies whether PPPoE sessions without an Agent Circuit ID to be established on a SAP or MSAP with a **max-sessions-per-cid** limit configured (Yes, No).
PPP-Authentication	Specifies the PPP Authentication method (PAP, CHAP, pref-PAP or pref-CHAP).
PPP-CHAP Challenge	Specifies the minimum and maximum length of a PPP CHAP Challenge (in bytes).
PPP-Init-Delay (ms)	Specifies the delay in milliseconds for sending an LCP configure request after the discovery phase.
IPCP negotiate subnet	Specifies if IPCP subnet negotiation is enabled (Yes, No).
Unique SIDs-Per-SAP	Specifies the unique SIDs per-SAP (disabled, per-capture-sap, per-msap).
Reject-Disabled-Ncp	Specifies if an LCP protocol reject is sent for an unconfigured NCP (Yes, No).
Ignore-Magic-Num	Specifies if the LCP peer magic number should be ignored (Yes, No).
Session Timeout	Specifies the session timeout value in seconds (default = unlimited).
SID Allocation	Specifies the PPPoE Session ID allocation method (sequential, random).
PADO AC-Name	Specifies the AC name used in PADO messages.
Default username	Specifies the default username for PAP or CHAP authentication.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Default password	Specifies the default PAP password (Specified, Not specified).
Accept MRRU	Specifies to accept MRRU (true, false).
Request short sequence nr.	Specifies to request short sequence numbers (true, false).
Endpoint class	Specifies the endpoint class (null, ipv4-address or mac-address).
Endpoint address	Specifies the endpoint IPv4 or mac address.

20.22 pppoe

pppoe

Syntax

pppoe

Context

[Tree] (show>service>id pppoe)

Full Context

show service id pppoe

Description

Commands in this context display PPPoE information.

Platforms

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

pppoe

Syntax

pppoe

Context

[Tree] (clear>call-trace pppoe)

Full Context

clear call-trace pppoe

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context clear the PPPoE job.

Platforms

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

pppoe

Syntax

pppoe

Context

[Tree] (clear>service>id pppoe)

Full Context

clear service id pppoe

Description

Commands in this context clear PPPoE-related data for the specified service.

Platforms

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

20.23 pppoe-client

pppoe-client

Syntax

pppoe-client [**brg-id** *brg-ident*]

pppoe-client [**brg-id** *brg-ident*] [**detail**]

pppoe-client [**brg-id** *brg-ident*] [**statistics**]

Context

[Tree] (show>subscr-mgmt>vrgw>brg pppoe-client)

Full Context

show subscriber-mgmt vrgw brg pppoe-client

Description

This command displays information of PPPoE clients started by the vRGW.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

brg-ident

Specifies the string identifying the BRG, up to 32 characters maximum.

detail

Displays detailed PPPoE client information.

statistics

Displays PPPoE client statistics.

Platforms

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

Output

The following output is an example of PPPoE client information.

Output Example

```
Node# show subscriber-mgmt vrgw brg pppoe-client
===============================================================
PPPoE Clients
===============================================================
Id
  Svc-Id     MAC               PPPoE-Sid Up-Time
    IP-Address      IPv6-Prefix
---------------------------------------------------------------
00:0c:29:00:00:10
  20         00:0c:29:00:00:10 1         0d 00:00:05
    10.255.1.16     2001:db8:101::/64
---------------------------------------------------------------
No. of PPPoE Clients: 1
===============================================================
Node# show subscriber-mgmt vrgw brg pppoe-client detail
===============================================================================
PPPoE Clients detail
===============================================================================
Id                  : 00:0c:29:00:00:10
Service Id          : 20
MAC Address         : 00:0c:29:00:00:10
Up Time             : 0d 00:00:27
Policy              : clnt_plcy
PPPoE Session Id    : 1
Service Name        : (Not Specified)
AC MAC              : 08:06:ff:00:00:02
AC Name             : BNG
LCP State           : opened
IPCP State          : opened
IPv6CP State        : opened
Local Magic Num     : 201366211
Remote Magic Num    : 374038276
Remote MRU          : 1492
PPP User-Name       : 00:0c:29:00:00:10
PPP Auth-Protocol   : none
IP Address          : 10.255.1.16
Primary DNS         : 1.1.1.1
Secondary DNS       : 1.1.2.2
Primary NBNS        : 2.2.1.1
Secondary NBNS      : 2.2.2.2
IPv6 Intf Id        : 02:0c:29:ff:fe:00:00:10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPv6 Prefix        : 2001:db8:101::/64
Prefix Timeout     : 86375
Primary IPv6 DNS   : 2001:db8:dddd:1::1
Secondary IPv6 DNS : 2001:db8:dddd:2::1
-------------------------------------------------------------------------------
No. of PPPoE Clients: 1
===============================================================================
Node# show subscriber-mgmt vrgw brg pppoe-client statistics
================================================
PPPoE Clients statistics
================================================
Id            : 00:0c:29:00:00:10
Packet Type         Received       Transmitted
PADI                -              1
PADO                1              -
PADR                -              1
PADS                1              -
PADT                0              0
Session             9              9
LCP Echo Request
(since restart)     0              21
LCP Echo Reply
(since restart)     21             0
RS                  -              1
RA                  1              -
DHCP6 Info          -              1
DHCP6 Reply         1              -
------------------------------------------------
Rx Dropped    : 0
------------------------------------------------
No. of PPPoE Clients: 1
================================================
```

pppoe-client

Syntax

pppoe-client

Context

[Tree] (tools>perform>subscr-mgmt>brg pppoe-client)

Full Context

tools perform subscriber-mgmt vrgw brg pppoe-client

Description

This command enables tools for controlling PPPoE clients in a BRG.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.24 pppoe-client-policy

pppoe-client-policy

Syntax

pppoe-client-policy [*name*]

pppoe-client *name* **associations**

Context

[Tree] (show>subscr-mgmt pppoe-client-policy)

Full Context

show subscriber-mgmt pppoe-client-policy

Description

This command displays PPPoE client policy information.

Parameters

name

Specifies the PPPoE client policy name, up to 32 characters.

associations

Displays information associated with the policy.

Platforms

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

20.25 prefix-ext-stats

prefix-ext-stats

Syntax

prefix-ext-stats *ipv6-address/prefix-length*

prefix-ext-stats pool *pool-name*

Context

[Tree] (show>router>dhcp6>server prefix-ext-stats)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router dhcp6 local-dhcp-server prefix-ext-stats

Description

This command displays extended statistics per DHCPv6 prefix in local DHCPv6 server.

The following statistics are included in output:

- The number of stable leases in the prefix
- The number of provisioned /64 address block in the prefix
- The number of used /64 address block in the prefix
- The number of free /64 address block in the prefix
- The percentage of used address (with /64 address block)
- The percentage of free address (with /64 address block)

For each statistic (except for Provisioned Addresses), there is current value and peak value, peak value is the highest value since prefix creation or last reset via command **clear>router** *rt-id*>**dhcp6**>**local-dhcp-server** *svr-name*>**prefix-ext-stats**.

When the **pool** parameter is used, the statistics of each prefix in the pool are displayed.

Parameters

ipv6-address/prefix-length

Specifies the IPv6 prefix.

pool-name

The name of DHCPv6 local server pool.

Platforms

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

Output

The following output is an example of prefix extended stats information.

Output Example

```
show router 500 dhcp6 local-dhcp-server "d6" prefix-ext-stats 2001:ABCD::/62
===============================================================================
Extended statistics for prefix 2001:ABCD::/62
===============================================================================
                          Current         Peak            TimeStamp
-------------------------------------------------------------------------------
Local:
  Failover Oper State     Active
  Stable Leases           0               0               01/07/2013 19:54:52
  Provisioned Blks        4
  Used Blks               0               0               01/07/2013 19:54:52
  Free Blks               4               4               01/07/2013 19:54:52
  Used Pct                0               0               01/07/2013 19:54:52
  Free Pct                100             100             01/07/2013 19:54:52
Last Reset Time                                           01/07/2013 19:54:52
-------------------------------------------------------------------------------
Number of entries         1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Table 443: Output fields: prefix extended statistics describes extended prefix statistics output fields.

Table 443: Output fields: prefix extended statistics

Field	Description
Current	The current extended prefix statistics
Peak	The peak value since the last reset
TimeStamp	The date and time of the last reset
Failover Oper State	The operational state of the DHCP specified prefix
Stable Leases	The number of stable leases
Provisioned Blks	The number of provisioned blocks
Used Blks	The number of used blocks
Free Blks	The number of free blocks
Used Pct	The percentage of extended prefixes in use
Free Pct	The percentage of free prefixes in use
Last Reset Time	The date and time of the last reset
Number of entries	The total number of entries

prefix-ext-stats

Syntax

prefix-ext-stats *ipv6-address/prefix-length*

prefix-ext-stats pool *pool-name*

Context

[Tree] (clear>router>dhcp6>server prefix-ext-stats)

Full Context

clear router dhcp6 local-dhcp-server prefix-ext-stats

Description

This command reset the begin time of peak values in output of the **show router** *rt-id* **dhcp6 local-dhcp-server** *svr-name* **prefix-ext-stats** command/

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ipv6-address/prefix-length

Clears information about the specified IPv6 prefix.

pool-name

Clears information about the specified local DHCPv6 server pool name.

Platforms

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

20.26 prefix-label

prefix-label

Syntax

prefix-label [*family*] [*[rd:]ip-prefix[/ip-prefix-length]*]

prefix-label [*family*] *[rd:]ip-prefix[/ip-prefix-length]* **detail**

Context

[Tree] (show>router>bgp prefix-label)

Full Context

show router bgp prefix-label

Description

This command displays BGP per-prefix label information for label-IPv4, label-IPv6, VPN-IPv4, and VPN-IPv6 prefixes.

Parameters

family

Specifies the BGP address family of the prefixes to display.

Values label-ipv4 | label-ipv6 | vpn-ipv4 | vpn-ipv6

[rd:]ip-prefix[/ip-prefix-length]

Specifies the IP prefix to display. Include the route distinguisher for VPN-IPv4 and VPN-IPv6 prefixes. An IP prefix is required when **detail** is specified.

Values *rd*: *ip-address:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

where:

- *ip-address* — a.b.c.d
- *comm-val* — 0 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *2byte-asnumber* — 0 to 65535
- *ext-comm-val* — 0 to 4294967295
- *4byte-asnumber* — *asn1.asn2* (two 2-byte pieces)
  - *asn1* — 1 to 65535
  - *asn2* — 0 to 65535

ip-prefix:

- ipv4-prefix — a.b.c.d
- ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)
- ipv6-prefix — x:x:x:x:x:x:d.d.d.d

where:

- *x* — 0 to FFFF (hexadecimal)
- *d* — 0 to 255 (decimal)

ip-prefix-length:

- ipv4-prefix-length — 0 to 32
- ipv6-prefix-length — 0 to 128

detail

Keyword that displays detailed per-next-hop information.

Platforms

All

Output

The following output is an example of VPN-IPv6 per-prefix labels, and Table 444: Output fields: prefix-labels describes the output fields.

Output example: VPN-IPv6

```
A:node-2# show router bgp prefix-label vpn-ipv6 1:1:3ffe::300:0/128 detail
===============================================================================
BGP Per-Prefix labels
Flags: B - entry has backup next-hop, E - entry has ECMP next-hops
===============================================================================
Network                                          Advertised  Received    Flags
  Next-Hop                                       Label       Label
    Resolution
-------------------------------------------------------------------------------
1:1:3ffe::300:0/128                              524285                  B
  10.2.4.4                                                   524283
    10.2.4.4 owner LOCAL
  10.2.5.5 (backup)                                          524282
    10.2.5.5 owner LOCAL
-------------------------------------------------------------------------------
Total Labels allocated:   1
===============================================================================
```

The following output is an example of label-IPv4 per-prefix labels, and Table 444: Output fields: prefix-labels describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: label-IPv4

```
A:node-2# show router bgp prefix-label label-ipv4 1:1:3.0.0.0/32 detail
===============================================================================
BGP Per-Prefix labels
Flags: B - entry has backup next-hop, E - entry has ECMP next-hops
===============================================================================
Prefix                                          Advertised  Received    Flags
  Next-Hop                                      Label       Label
    Resolution
-------------------------------------------------------------------------------
1:1:3.0.0.0/32                                     524025                  B
 10.2.4.4                                                  524024
    10.2.4.4 owner LOCAL
  10.2.5.5 (backup)                                         524024
    10.2.5.5 owner LOCAL
-------------------------------------------------------------------------------
Total Labels allocated:   1
===============================================================================
```

Table 444: Output fields: prefix-labels

Label	Description
Network	Displays the VPN-IPv6 prefix for which the per-prefix label is allocated, including the route distinguisher, IPv6 prefix, and prefix length.
Prefix	Displays the label-IPv4 prefix and prefix length for which the per-prefix label is allocated.
Advertised Label	Displays the per-prefix label that this router advertises to BGP peers for the prefix. The value is shown on the prefix line.
Received Label	Displays the label received from the BGP peer. The value is shown on each next-hop line.
Flags	Displays the flags associated with the prefix entry. The flag is set to one of the following values: • B — entry has backup next-hop • E — entry has ECMP next-hops
Next-Hop	Displays the BGP next-hop address for the prefix. A backup next hop is marked (backup).
Resolution	Displays how the next hop is resolved. The line shows the resolved address and the route owner.
Total Labels allocated	Displays the number of per-prefix labels allocated for the prefixes in the display.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.27 prefix-sids

prefix-sids

Syntax

prefix-sids [**ipv4-unicast**| **ipv6-unicast** | **ipv4-multicast** | **ipv6-multicast** | **mt** *mt-id-number*] [*ip-prefix*[/*prefix-length*]] [**sid** *sid*] [**adv-router** *system-id* | *hostname*] [**srms** | **no-srms**] [**algo** *algo-id*]

Context

[Tree] (show>router>isis prefix-sids)

Full Context

show router isis prefix-sids

Description

This command displays IS-IS prefix SIDs.

Parameters

ipv4-unicast

Displays IPv4 unicast parameters.

ipv6-unicast

Displays IPv6 unicast parameters.

ipv4-multicast

Displays IPv4 multicast parameters.

ipv6-multicast

Displays IPv6 multicast parameters.

mt-id-number

Displays multi-topology parameters.

Values 0, 2, 3, 4

ip-prefix[/prefix-length]

Displays information about the specified IP prefix and length.

Values ipv4-prefix:

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

ipv6-prefix-length:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- x: [0 to FFFF]H
- d: [0 to 255]D
- ipv6-prefix-length: [0 to 128]

sid

Displays information for the specific segment identifier.

Values 0 to 524287

system-id* | *hostname

Displays information for the specific IS-IS advertising router. Host name up to 38 characters.

srms

Displays parameters filtered for segment routing mapping server.

no-srms

Displays parameters filtered for no segment routing mapping server.

algo-id

Displays information for the specified algorithm.

Values 0 to 255

Platforms

All

Output

The following outputs are examples of prefix SID information, and Table 445: Output fields: IS-IS prefix SIDs describes the output fields.

Output Example

```
*A:Dut-B# show router isis 0 prefix-sids
===============================================================================
Rtr Base ISIS Instance 0 Prefix/SID Table
===============================================================================
Prefix                          SID        Lvl/Typ    SRMS   AdvRtr
                                            Algo       MT     Flags
-------------------------------------------------------------------------------
10.20.1.1/32                    1          2/Int.      N     Dut-A
                                               0          0      NnP
10.20.1.1/32                    11         2/Int.      N     Dut-A
                                               128        0      NnP
10.20.1.2/32                    2          1/Int.      N     Dut-B
                                               0          0      NnP
10.20.1.2/32                    12         1/Int.      N     Dut-B
                                               128        0      NnP
10.20.1.2/32                    2          2/Int.      N     Dut-B
                                               0          0      NnP
10.20.1.2/32                    12         2/Int.      N     Dut-B
                                               128        0      NnP
10.20.1.3/32                    3          2/Int.      N     Dut-C
                                               0          0      NnP
10.20.1.3/32                    13         2/Int.      N     Dut-C
                                               128        0      NnP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.4/32                        4          2/Int.      N     Dut-B
                                                  0          0      RNnP
10.20.1.4/32                        14         2/Int.      N     Dut-B
                                                  128        0      RNnP
10.20.1.4/32                        4          1/Int.      N     Dut-D
                                                  0          0      NnP
10.20.1.4/32                        14         1/Int.      N     Dut-D
                                                  128        0      NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 12 (4 unique)
-------------------------------------------------------------------------------
SRMS : Y/N  = prefix SID advertised by SR Mapping Server (Y) or not (N)
       S    = SRMS prefix SID is selected to be programmed
Flags: R    = Re-advertisement
       N    = Node-SID
       nP   = no penultimate hop POP
E    = Explicit-Null
       V    = Prefix-SID carries a value
       L    = value/index has local significance
===============================================================================

*A:Dut-B# show router isis 0 prefix-sids algo 128
===============================================================================
Rtr Base ISIS Instance 0 Prefix/SID Table
===============================================================================
Prefix                              SID        Lvl/Typ    SRMS   AdvRtr
                                               Algo       MT     Flags
-------------------------------------------------------------------------------
10.20.1.1/32                        11         2/Int.      N     Dut-A
                                                  128        0      NnP
10.20.1.2/32                        12         1/Int.      N     Dut-B
                                                  128        0      NnP
10.20.1.2/32                        12         2/Int.      N     Dut-B
                                                  128        0      NnP
10.20.1.3/32                        13         2/Int.      N     Dut-C
                                                  128        0      NnP
10.20.1.4/32                        14         2/Int.      N     Dut-B
                                                  128        0      RNnP
10.20.1.4/32                        14         1/Int.      N     Dut-D
                                                  128        0      NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 6 (4 unique)
-------------------------------------------------------------------------------
SRMS : Y/N  = prefix SID advertised by SR Mapping Server (Y) or not (N)
       S    = SRMS prefix SID is selected to be programmed
Flags: R    = Re-advertisement
       N    = Node-SID
       nP   = no penultimate hop POP
       E    = Explicit-Null
       V    = Prefix-SID carries a value
       L    = value/index has local significance
===============================================================================
```

Output Example

```
A:Dut-A>config>router# show router isis prefix-sids
===============================================================================
Rtr Base ISIS Instance 0 Prefix/SID Table
===============================================================================
Prefix                              SID        Lvl/Typ    SRMS   AdvRtr
                                    Shared                MT     Flags
-------------------------------------------------------------------------------
1.0.0.1/32                          4001       1/Int.      N     Dut-A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                    Yes                   0      NnP
1.0.0.1/32                       4001       2/Int.      N     Dut-A
                                    Yes                   0      NnP
10.20.0.1/32                     301        1/Int.      N     Dut-A
                                    No                    0      NnP
10.20.0.1/32                     301        2/Int.      N     Dut-A
                                    No                    0      NnP
10.20.0.2/32                     402        1/Int.      N     Dut-B
                                    N.A.                  0      NnP
10.20.0.2/32                     402        2/Int.      N     Dut-B
                                    N.A.                  0      NnP
3ffe::100:1/128                  6001       1/Int.      N     Dut-A
                                    Yes                   0      NnP
3ffe::100:1/128                  6001       2/Int.      N     Dut-A
                                    Yes                   0      NnP
3ffe::a14:1/128                  401        1/Int.      N     Dut-A
                                    No                    0      NnP
3ffe::a14:1/128                  401        2/Int.      N     Dut-A
                                    No                    0      NnP
3ffe::a14:2/128                  402        1/Int.      N     Dut-B
                                    N.A.                  0      NnP
3ffe::a14:2/128                  402        2/Int.      N     Dut-B
                                    N.A.                  0      NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 12 (6 unique)
-------------------------------------------------------------------------------
SRMS:   Y/N  = prefix SID advertised by SR Mapping Server (Y) or not (N)
        S    = SRMS prefix SID is selected to be programmed
Flags:  R    = Re-advertisement
        N    = Node-SID
        nP   = no penultimate hop POP
        E    = Explicit-Null
        V    = Prefix-SID carries a value
        L    = value/index has local significance
Shared: Yes  = local shared Node-SID
        No   = not a local shared Node-SID
        N.A. = not applicable for Remote prefix-sid
===============================================================================
*A:Dut-C#
```

Table 445: Output fields: IS-IS prefix SIDs

Label	Description
Prefix	Displays the IP prefix for the SID
SID	Displays the SID value
Adv-Rtr	Displays the IP address of the advertised router
SRMS	Displays whether the prefix SID is advertised by the SR mapping server (Y or N) or selected to be programmed (S)
Flags	Displays the SID flags
No. of Prefix/SIDs	Displays the number of Prefix/SIDs

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

prefix-sids

Syntax

prefix-sids [*ip-prefix*[/*prefix-length*]] [**sid** *sid*] [**adv-router** *router-id*] [**algo** *algo-id*]

Context

[Tree] (show>router>ospf prefix-sids)

Full Context

show router ospf prefix-sids

Description

This command displays OSPF prefix SIDs.

Parameters

ip-prefix[/prefix-length]

Displays information about the specified IP prefix and length, up to 64 characters.

sid

Displays information for the specific segment identifier.

Values 0 to 524287

router-id

Displays information for the specific advertising router identified by its router identifier.

algo-id

Displays the algorithm identifier.

Values 0 to 255

Platforms

All

Output

The following outputs are examples of OSPF prefix SIDs information, and Table 446: Output fields: OSPF prefix SIDs describes the output fields.

Output Example

```
*A:Dut-F# show router ospf prefix-sids
===============================================================================
Rtr Base OSPFv2 Instance 0 Prefix-Sids
===============================================================================
Prefix                          Area            RtType      SID
                                Adv-Rtr                     Flags
-------------------------------------------------------------------------------
1.0.11.1/32                     0.0.0.0         INTER-AREA  4
                                10.20.1.2                   NnP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1.0.11.1/32                         0.0.0.1         INTRA-AREA  4
                                    10.20.1.1                   NnP
1.0.11.1/32                         0.0.0.1         INTRA-AREA  999
                                    10.20.1.3                   NnPB
1.0.22.2/32                         0.0.0.0         INTER-AREA  5
                                    10.20.1.2                   NnPA
1.0.22.2/32                         0.0.0.1         INTRA-AREA  5
                                    10.20.1.2                   NnP
1.0.22.2/32                         0.0.0.1         INTRA-AREA  996
                                    10.20.1.6                   NnPB
1.0.33.3/32                         0.0.0.0         INTER-AREA  0
                                    10.20.1.2                   NnP
1.0.33.3/32                         0.0.0.1         INTRA-AREA  0
                                    10.20.1.3                   NnP
1.0.33.3/32                         0.0.0.1         INTRA-AREA  998
                                    10.20.1.1                   NnPB
1.0.44.4/32                         0.0.0.0         INTRA-AREA  1
                                    10.20.1.4                   NnP
1.0.44.4/32                         0.0.0.0         INTRA-AREA  994
                                    10.20.1.5                   NnPB
1.0.44.4/32                         0.0.0.1         INTER-AREA  1
                                    10.20.1.2                   NnP
1.0.55.5/32                         0.0.0.0         INTRA-AREA  2
                                    10.20.1.5                   NnP
1.0.55.5/32                         0.0.0.0         INTRA-AREA  995
                                    10.20.1.4                   NnPB
1.0.55.5/32                         0.0.0.1         INTER-AREA  2
                                    10.20.1.2                   NnP
1.0.66.6/32                         0.0.0.0         INTER-AREA  3
                                    10.20.1.2                   NnP
1.0.66.6/32                         0.0.0.1         INTRA-AREA  3
                                    10.20.1.6                   NnP
1.0.66.6/32                         0.0.0.1         INTRA-AREA  997
                                    10.20.1.2                   NnPB
10.20.1.1/32                        0.0.0.0         INTER-AREA  10
                                    10.20.1.2                   NnP
10.20.1.1/32                        0.0.0.1         INTRA-AREA  10
                                    10.20.1.1                   NnP
10.20.1.2/32                        0.0.0.0         INTRA-AREA  11
                                    10.20.1.2                   NnP
10.20.1.2/32                        0.0.0.1         INTER-AREA  11
                                    10.20.1.2                   NnPA
10.20.1.3/32                        0.0.0.0         INTER-AREA  6
                                    10.20.1.2                   NnP
10.20.1.3/32                        0.0.0.1         INTRA-AREA  6
                                    10.20.1.3                   NnP
10.20.1.4/32                        0.0.0.0         INTRA-AREA  7
                                    10.20.1.4                   NnP
10.20.1.4/32                        0.0.0.1         INTER-AREA  7
                                    10.20.1.2                   NnP
10.20.1.5/32                        0.0.0.0         INTRA-AREA  8
                                    10.20.1.5                   NnP
10.20.1.5/32                        0.0.0.1         INTER-AREA  8
                                    10.20.1.2                   NnP
10.20.1.6/32                        0.0.0.0         INTRA-AREA  9
                                    10.20.1.6                   NnP
10.20.1.6/32                        0.0.0.1         INTER-AREA  9
                                    10.20.1.2                   NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 30
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
===============================================================================
```

```
*A:Dut-C# show router ospf prefix-sids sid 66
===============================================================================
Rtr Base OSPFv2 Instance 0 Prefix-Sids
===============================================================================
Prefix                          Area            RtType      SID
                                Adv-Rtr         Active      Flags
-------------------------------------------------------------------------------
10.20.1.6/32                    0.0.0.0         INTER-AREA  66
                                10.20.1.4       N           NnP
10.20.1.6/32                    0.0.0.0         INTER-AREA  66
                                10.20.1.5       Y           NnP
10.20.1.6/32                    0.0.0.1         INTER-AREA  66
                                10.20.1.2       N           NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 3
Flags:  N = Node-SID
       nP = no penultimate hop POP
        M = Mapping server
        E = Explicit-Null
        V = Prefix-SID carries a value
        L = value/index has local significance
        I = Inter Area flag
        A = Attached flag
===============================================================================
```

```
*A:Dut-C>config>router>ospf3# show router ospf3 0 prefix-sids
===============================================================================
Rtr Base OSPFv3 Instance 0 Prefix-Sids
===============================================================================
Prefix                          Area            RtType     SID
                                Adv-Rtr         SRMS       Flags
-------------------------------------------------------------------------------
3ffe::100:b01/128               0.0.0.1         INTRA-AREA 4
                                10.20.1.1       N          NnPA
3ffe::100:1602/128              0.0.0.1         INTRA-AREA 5
                                10.20.1.2       N          NnPA
3ffe::100:2103/128              0.0.0.1         INTRA-AREA 0
                                10.20.1.3       N          NnPA
3ffe::100:2c04/128              0.0.0.1         INTER-AREA 1
                                10.20.1.2       N          NnP
3ffe::100:2c04/128              0.0.0.1         INTER-AREA 1
                                10.20.1.6       N          NnP
3ffe::100:3705/128              0.0.0.1         INTER-AREA 2
                                10.20.1.2       N          NnP
3ffe::100:3705/128              0.0.0.1         INTER-AREA 2
                                10.20.1.6       N          NnP
3ffe::100:4206/128              0.0.0.1         INTRA-AREA 3
                                10.20.1.6       N          NnPA
3ffe::a14:101/128               0.0.0.1         INTRA-AREA 10
                                10.20.1.1       N          NnPA
3ffe::a14:102/128               0.0.0.1         INTER-AREA 11
                                10.20.1.2       N          NnPA
3ffe::a14:102/128               0.0.0.1         INTER-AREA 11
                                10.20.1.6       N          NnP
3ffe::a14:103/128               0.0.0.1         INTRA-AREA 6
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                    10.20.1.3       N          NnPA
3ffe::a14:104/128                   0.0.0.1         INTER-AREA 7
                                    10.20.1.2       N          NnP
3ffe::a14:104/128                   0.0.0.1         INTER-AREA 7
                                    10.20.1.6       N          NnP
3ffe::a14:105/128                   0.0.0.1         INTER-AREA 8
                                    10.20.1.2       N          NnP
3ffe::a14:105/128                   0.0.0.1         INTER-AREA 8
                                    10.20.1.6       N          NnP
3ffe::a14:106/128                   0.0.0.1         INTER-AREA 9
                                    10.20.1.2       N          NnP
3ffe::a14:106/128                   0.0.0.1         INTER-AREA 9
                                    10.20.1.6       N          NnPA
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 18
SRMS      : Y/N = prefix SID advertised by SR Mapping Server (Y) or not (N)
            S   = SRMS prefix SID is selected to be programmed
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
===============================================================================
```

```
*A:Dut-C# show router ospf prefix-sids
===============================================================================
Rtr Base OSPFv2 Instance 0 Prefix-Sids
===============================================================================
Prefix                              Area            RtType     SID
  Algo                              Adv-Rtr         SRMS       Flags
-------------------------------------------------------------------------------
10.20.1.2/32                        0.0.0.0         INTRA-AREA 2
  0                                 10.20.1.2       N          NnP
10.20.1.2/32                        0.0.0.0         INTRA-AREA 1282
  128                               10.20.1.2       N          NnP
10.20.1.3/32                        0.0.0.0         INTRA-AREA 3
  0                                 10.20.1.3       N          NnP
10.20.1.3/32                        0.0.0.0         INTRA-AREA 1283
  128                               10.20.1.3       N          NnP
10.20.1.5/32                        0.0.0.0         INTRA-AREA 5
  0                                 10.20.1.5       N          NnP
10.20.1.5/32                        0.0.0.0         INTRA-AREA 1285
  128                               10.20.1.5       N          NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 6
SRMS      : Y/N = prefix SID advertised by SR Mapping Server (Y) or not (N)
            S   = SRMS prefix SID is selected to be programmed
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
===============================================================================

*A:Dut-C# show router ospf prefix-sids algo 128
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Rtr Base OSPFv2 Instance 0 Prefix-Sids
===============================================================================
Prefix                          Area            RtType     SID
  Algo                          Adv-Rtr         SRMS       Flags
-------------------------------------------------------------------------------
10.20.1.2/32                    0.0.0.0         INTRA-AREA 1282
  128                           10.20.1.2       N          NnP
10.20.1.3/32                    0.0.0.0         INTRA-AREA 1283
  128                           10.20.1.3       N          NnP
10.20.1.5/32                    0.0.0.0         INTRA-AREA 1285
  128                           10.20.1.5       N          NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 3
SRMS      : Y/N = prefix SID advertised by SR Mapping Server (Y) or not (N)
            S   = SRMS prefix SID is selected to be programmed
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
===============================================================================
```

Output Example

```
A:Dut-A>config>router# show router ospf prefix-sids
===============================================================================
Rtr Base OSPFv2 Instance 0 Prefix-Sids
===============================================================================
Prefix                          Area            RtType     SID        Shared
                                Adv-Rtr         SRMS       Flags
-------------------------------------------------------------------------------
1.0.0.1/32                      0.0.0.0         INTRA-AREA 4001       Yes
                                10.20.0.1       N          NnP
10.20.0.1/32                    0.0.0.0         INTRA-AREA 101        No
                                10.20.0.1       N         NnP
10.20.0.2/32                    0.0.0.0         INTRA-AREA 402        N.A.
                                10.20.0.2       N          NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 3
SRMS      : Y/N = prefix SID advertised by SR Mapping Server (Y) or not (N)
            S   = SRMS prefix SID is selected to be programmed
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
Shared    : Yes  = local shared Node-SID
            No   = not a local shared Node-SID
            N.A. = not applicable for Remote prefix-sid
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 446: Output fields: OSPF prefix SIDs

Label	Description
Prefix	Displays the IP prefix for the SID
Area	Displays the OSPF area
RtType	Displays the route type (INTRA-AREA or INTER-AREA)
SID	Displays the SID value
Adv-Rtr	Displays the IP address of the advertised router
SRMS	Displays whether the prefix SID is advertised by the SR mapping server (Y or N) or selected to be programmed (S)
Flags	Displays the SID flags
No. of Prefix/SIDs	Displays the number of Prefix/SIDs

prefix-sids

Syntax

prefix-sids [*ip-prefix*[/*prefix-length*]] [**sid** *sid*] [**adv-router** *router-id*]

Context

[Tree] (show>router>ospf3 prefix-sids)

Full Context

show router ospf3 prefix-sids

Description

This command displays OSPF prefix SIDs.

Parameters

ip-prefix[/prefix-length]

Displays information about the specified IP prefix and length, up to 64 characters.

sid

Displays information for the specific segment identifier.

Values 0 to 524287

router-id

Displays information for the specific advertising router identified by its router ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of OSPFv3 prefix SIDs information, and Table 447: Output fields: OSPFv3 prefix SIDs describes the output fields.

Output Example

```
*A:Dut-F# show router ospf prefix-sids
===============================================================================
Rtr Base OSPFv2 Instance 0 Prefix-Sids
===============================================================================
Prefix                          Area            RtType      SID
                                Adv-Rtr                     Flags
-------------------------------------------------------------------------------
1.0.11.1/32                     0.0.0.0         INTER-AREA  4
                                10.20.1.2                   NnP
1.0.11.1/32                     0.0.0.1         INTRA-AREA  4
                                10.20.1.1                   NnP
1.0.11.1/32                     0.0.0.1         INTRA-AREA  999
                                10.20.1.3                   NnPB
1.0.22.2/32                     0.0.0.0         INTER-AREA  5
                                10.20.1.2                   NnPA
1.0.22.2/32                     0.0.0.1         INTRA-AREA  5
                                10.20.1.2                   NnP
1.0.22.2/32                     0.0.0.1         INTRA-AREA  996
                                10.20.1.6                   NnPB
1.0.33.3/32                     0.0.0.0         INTER-AREA  0
                                10.20.1.2                   NnP
1.0.33.3/32                     0.0.0.1         INTRA-AREA  0
                                10.20.1.3                   NnP
1.0.33.3/32                     0.0.0.1         INTRA-AREA  998
                                10.20.1.1                   NnPB
1.0.44.4/32                     0.0.0.0         INTRA-AREA  1
                                10.20.1.4                   NnP
1.0.44.4/32                     0.0.0.0         INTRA-AREA  994
                                10.20.1.5                   NnPB
1.0.44.4/32                     0.0.0.1         INTER-AREA  1
                                10.20.1.2                   NnP
1.0.55.5/32                     0.0.0.0         INTRA-AREA  2
                                10.20.1.5                   NnP
1.0.55.5/32                     0.0.0.0         INTRA-AREA  995
                                10.20.1.4                   NnPB
1.0.55.5/32                     0.0.0.1         INTER-AREA  2
                                10.20.1.2                   NnP
1.0.66.6/32                     0.0.0.0         INTER-AREA  3
                                10.20.1.2                   NnP
1.0.66.6/32                     0.0.0.1         INTRA-AREA  3
                                10.20.1.6                   NnP
1.0.66.6/32                     0.0.0.1         INTRA-AREA  997
                                10.20.1.2                   NnPB
10.20.1.1/32                    0.0.0.0         INTER-AREA  10
                                10.20.1.2                   NnP
10.20.1.1/32                    0.0.0.1         INTRA-AREA  10
                                10.20.1.1                   NnP
10.20.1.2/32                    0.0.0.0         INTRA-AREA  11
                                10.20.1.2                   NnP
10.20.1.2/32                    0.0.0.1         INTER-AREA  11
                                10.20.1.2                   NnPA
10.20.1.3/32                    0.0.0.0         INTER-AREA  6
                                10.20.1.2                   NnP
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.3/32                        0.0.0.1         INTRA-AREA  6
                                    10.20.1.3                   NnP
10.20.1.4/32                        0.0.0.0         INTRA-AREA  7
                                    10.20.1.4                   NnP
10.20.1.4/32                        0.0.0.1         INTER-AREA  7
                                    10.20.1.2                   NnP
10.20.1.5/32                        0.0.0.0         INTRA-AREA  8
                                    10.20.1.5                   NnP
10.20.1.5/32                        0.0.0.1         INTER-AREA  8
                                    10.20.1.2                   NnP
10.20.1.6/32                        0.0.0.0         INTRA-AREA  9
                                    10.20.1.6                   NnP
10.20.1.6/32                        0.0.0.1         INTER-AREA  9
                                    10.20.1.2                   NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 30
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
===============================================================================
*A:Dut-F#
```

```
*A:Dut-C# show router ospf prefix-sids sid 66
===============================================================================
Rtr Base OSPFv2 Instance 0 Prefix-Sids
===============================================================================
Prefix                              Area            RtType      SID
                                    Adv-Rtr         Active      Flags
-------------------------------------------------------------------------------
10.20.1.6/32                        0.0.0.0         INTER-AREA  66
                                    10.20.1.4       N           NnP
10.20.1.6/32                        0.0.0.0         INTER-AREA  66
                                    10.20.1.5       Y           NnP
10.20.1.6/32                        0.0.0.1         INTER-AREA  66
                                    10.20.1.2       N           NnP
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 3
Flags:  N = Node-SID
       nP = no penultimate hop POP
        M = Mapping server
        E = Explicit-Null
        V = Prefix-SID carries a value
        L = value/index has local significance
        I = Inter Area flag
        A = Attached flag
===============================================================================
*A:Dut-C#
```

```
*A:Dut-C>config>router>ospf3# show router ospf3 0 prefix-sids
===============================================================================
Rtr Base OSPFv3 Instance 0 Prefix-Sids
===============================================================================
Prefix                              Area            RtType     SID
                                    Adv-Rtr         SRMS       Flags
-------------------------------------------------------------------------------
3ffe::100:b01/128                   0.0.0.1         INTRA-AREA 4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                    10.20.1.1       N          NnPA
3ffe::100:1602/128                  0.0.0.1         INTRA-AREA 5
                                    10.20.1.2       N          NnPA
3ffe::100:2103/128                  0.0.0.1         INTRA-AREA 0
                                    10.20.1.3       N          NnPA
3ffe::100:2c04/128                  0.0.0.1         INTER-AREA 1
                                    10.20.1.2       N          NnP
3ffe::100:2c04/128                  0.0.0.1         INTER-AREA 1
                                    10.20.1.6       N          NnP
3ffe::100:3705/128                  0.0.0.1         INTER-AREA 2
                                    10.20.1.2       N          NnP
3ffe::100:3705/128                  0.0.0.1         INTER-AREA 2
                                    10.20.1.6       N          NnP
3ffe::100:4206/128                  0.0.0.1         INTRA-AREA 3
                                    10.20.1.6       N          NnPA
3ffe::a14:101/128                   0.0.0.1         INTRA-AREA 10
                                    10.20.1.1       N          NnPA
3ffe::a14:102/128                   0.0.0.1         INTER-AREA 11
                                    10.20.1.2       N          NnPA
3ffe::a14:102/128                   0.0.0.1         INTER-AREA 11
                                    10.20.1.6       N          NnP
3ffe::a14:103/128                   0.0.0.1         INTRA-AREA 6
                                    10.20.1.3       N          NnPA
3ffe::a14:104/128                   0.0.0.1         INTER-AREA 7
                                    10.20.1.2       N          NnP
3ffe::a14:104/128                   0.0.0.1         INTER-AREA 7
                                    10.20.1.6       N          NnP
3ffe::a14:105/128                   0.0.0.1         INTER-AREA 8
                                    10.20.1.2       N          NnP
3ffe::a14:105/128                   0.0.0.1         INTER-AREA 8
                                    10.20.1.6       N          NnP
3ffe::a14:106/128                   0.0.0.1         INTER-AREA 9
                                    10.20.1.2       N          NnP
3ffe::a14:106/128                   0.0.0.1         INTER-AREA 9
                                    10.20.1.6       N          NnPA
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 18
SRMS      : Y/N = prefix SID advertised by SR Mapping Server (Y) or not (N)
            S   = SRMS prefix SID is selected to be programmed
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
===============================================================================
```

Output Example

```
A:Dut-A>config>router# show router ospf3 prefix-sids
===============================================================================
Rtr Base OSPFv3 Instance 0 Prefix-Sids
===============================================================================
Prefix                              Area            RtType     SID        Shared
                                    Adv-Rtr         SRMS       Flags
-------------------------------------------------------------------------------
3ffe::100:1/128                     0.0.0.0         INTRA-AREA 6001       Yes
                                    10.20.0.1       N          NnPA
3ffe::a14:1/128                     0.0.0.0         INTRA-AREA 201        No
                                    10.20.0.1       N          NnPA
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3ffe::a14:2/128                   0.0.0.0         INTRA-AREA 402        N.A.
                                  10.20.0.2       N          NnPA
-------------------------------------------------------------------------------
No. of Prefix/SIDs: 3
SRMS      : Y/N = prefix SID advertised by SR Mapping Server (Y) or not (N)
            S   = SRMS prefix SID is selected to be programmed
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
Shared    : Yes  = local shared Node-SID
            No   = not a local shared Node-SID
            N.A. = not applicable for Remote prefix-sid
===============================================================================
```

Table 447: Output fields: OSPFv3 prefix SIDs

Label	Description
Prefix	Displays the IP prefix for the SID
Area	Displays the OSPF area
RtType	Displays the route type (INTRA-AREA or INTER-AREA)
SID	Displays the SID value
Adv-Rtr	Displays the IP address of the advertised router
SRMS	Displays whether the prefix SID is advertised by the SR mapping server (Y or N) or selected to be programmed (S)
Flags	Displays the SID flags
No. of Prefix/SIDs	Displays the number of Prefix/SIDs

prefix-sids

Syntax

prefix-sids [**interface** *ip-int-name*] [**ipv4** | **ipv6**] [**algo** *algo-id*]

Context

[Tree] (show>router>seg-rt>sr-mpls prefix-sids)

Full Context

show router segment-routing sr-mpls prefix-sids

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information about the prefix SIDs and their state on the router.

Parameters

algo-id

Displays information about the specified algorithm associated with the prefix SID.

ip-int-name

Displays information about the specified interface, up to 32 characters.

ipv4

Displays the prefix SIDs that are IPv4 capable.

ipv6

Displays the prefix SIDs that are IPv6 capable.

Platforms

All

Output

The following output is an example of prefix SIDs information, and Table 448: Output fields: SR-MPLS prefix SIDs describes the output fields.

Output Example

```
A:node-2# show router segment-routing sr-mpls prefix-sids
===============================================================================
Rtr Base SR-MPLS Prefix-SIDs
===============================================================================
Interface Name                  AF     SID       Label     State
-------------------------------------------------------------------------------
System                          IPv4   123       100123    enabled
System                          IPv6   234       100234    ifFailed
loopback.0                      IPv4   345       100345    ifDown
loopback.0                      IPv6   456       100456    ifDown
loopback.4                      IPv4   567       100567    failed
loopback.4                      IPv6   -         -         adminDown
loopback.6                      IPv4   -         -         adminDown
loopback.6                      IPv6   678       100678    notPref
-------------------------------------------------------------------------------
No. of Prefix-SIDs: 4
===============================================================================
```

The following output is an example of prefix SIDs information showing algorithm information, and Table 448: Output fields: SR-MPLS prefix SIDs describes the output fields.

Output Example

```
A:node-2>config>router# show router segment-routing sr-mpls prefix-sids

===============================================================================
Rtr Base SR-MPLS Prefix-SIDs
===============================================================================
Interface                        AF   SID        Label      State
                                 Algo
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
system                          IPv4 1          100001     if-down
                                0
system                          IPv6 2          100002     if-down
                                0
loopback/1                      IPv4 21         100021     enabled
                                0
loopback/1                      IPv6 22         100022     if-failed
                                0
loopback/1                      IPv4 23         100023     enabled
                                128
loopback/1                      IPv6 24         100024     if-failed
                                128
loopback/1                      IPv4 25         100025     enabled
                                129
loopback/1                      IPv6 N.A.       N.A.       admin-down
                                129
===============================================================================
```

Table 448: Output fields: SR-MPLS prefix SIDs

Label	Description
Interface Name/ Interface	The name of the loopback or system interface
AF	The address family associated with the prefix SID
SID	The SID index
Label	The SID label
State	The operational state of the prefix SID • enabled – operational state up • adminDown – administrative state down (for example, no SID configured) • failed – operational state down due to failure (for example, resource allocation failure) • ifDown – the interface is down • ifFailed – interface configuration failure (for example, the interface is not a loopback)
Algo	The algorithm associated with the prefix SID

20.28 prefix-stats

prefix-stats

Syntax

prefix-stats *ipv6-address/prefix-length*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

prefix-stats pool *pool-name*

Context

[Tree] (show>router>dhcp6>local-dhcp-server prefix-stats)

Full Context

show router dhcp6 local-dhcp-server prefix-stats

Description

This command displays prefix statistics.

Parameters

ipv6-address

Specifies the base IP address of the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

pool-name

Specifies the name of DHCPv6 local server pool.

Platforms

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

20.29 prefix-threshold-stats

prefix-threshold-stats

Syntax

prefix-threshold-stats pool *pool-name* **detail** [**format** {**exact** | **scientific**}]

prefix-threshold-stats pool *pool-name*

prefix-threshold-stats *ipv6-address*/*prefix-length* **detail** [**format** {**exact** | **scientific**}]

prefix-threshold-stats *ipv6-address*/*prefix-length*

Context

[Tree] (show>router>dhcp6>server prefix-threshold-stats)

Full Context

show router dhcp6 local-dhcp-server prefix-threshold-stats

Description

This commands displays prefix level threshold stats of local DHCPv6 server prefix. A minimum-free threshold needs to be configured before system collects threshold stats for the prefix.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The stats for each threshold are calculated based on the configured minimum-free prefix length.

For example, a /59 prefix is provision in the local DHCPv6 server, and the server allocated two PD leases, one /62 and one /63. And there is a /63 minimum threshold configured. The threshold stats are calculated based on /63 as the base unit (block). Then the value of the current used block would be 3 because there is one /62 lease and one /63 lease, that equals to a total three /63.

Parameters

pool *pool-name*

Specifies the name of the pool in local DHCPv6 server, up to 32 characters.

detail

Displays detailed output statistics.

format

Specifies that the number format in the display is either **exact** or **scientific**.

ipv6-address/prefix-length

Specifies the IPv6 prefix with prefix length.

Values

ipv6-address x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x [0 to FFFF]H

d [0 to 255]D

prefix-length [1 to 128]

Platforms

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

Output

The following output is an example of prefix threshold information.

Output Example

```
show router 500 dhcp6 local-dhcp-server "d6" leases
===============================================================================
Leases for DHCPv6 server d6
===============================================================================
IP Address/Prefix                          Lease State       Remaining   Fail
  Link-local Address                                         LifeTime    Ctrl
-------------------------------------------------------------------------------
8888:0:0:ffe0:db8:/62
  fe80::3:ffff:fe00:db8:111                    stable            18h19m2s    local
8888:0:0:ffe4::/63
  fe80::3:ffff:fe00:db8:211                    stable            19h49m37s   local
-------------------------------------------------------------------------------
2 leases found
===============================================================================
show router 500 dhcp6 local-dhcp-server "d6" prefix-threshold-stats pool "1"
===============================================================================
Server "d6"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
  Operational state         : inService
-------------------------------------------------------------------------------
Pool                        : 1
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
-------------------------------------------------------------------------------
Prefix                      : 8888:0:0:ffe0:db8:/59
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
  Draining                  : N
  -----------------------------------------------------------------------------
  Threshold   Used   Peak   Too low   Depleted   Peak timestamp
  -----------------------------------------------------------------------------
  /62         25%    25%    Y         N          01/20/2015 23:51:36
  /63         19%    19%    N         N          01/21/2015 05:00:53
===============================================================================
```

The command shown above displays an overview of prefix level thresholds in the specified pool:

- The **Peak** field indicates the peak value of used.
- The **Too low** field indicate if the configured minimum-free threshold is exceeded.
- The **Depleted** field indicate if there is no available prefix with the length in the provisioned prefix.
- The **Peak** timestamp field indicates the time of peak used value.

```
show router 500 dhcp6 local-dhcp-server "d6" prefix-threshold-stats pool "1" detail
===============================================================================
Server "d6"
===============================================================================
  Operational state         : inService
-------------------------------------------------------------------------------
Pool                        : 1
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
-------------------------------------------------------------------------------
Prefix                      : 8888:0:0:ffe0::/59
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
  Draining                  : N
  -----------------------------------------------------------------------------
  Threshold                 : /62
  -----------------------------------------------------------------------------
  Current Provisioned Blks  : 8.000000x10^0
  Current Used Blks         : 2.000000x10^0
  Current Free Blks         : 6.000000x10^0
  Current Used Percent      : 25%
  Current Used Peak Blks    : 2.000000x10^0
  Current Used Peak Percent : 25%
  Current Used Peak Time    : 01/21/2015 21:59:02
  Current Free Percent      : 75%
  Current Free Too Low      : N
  Current Free Depleted     : N
  Local Provisioned Blks    : 8.000000x10^0
  Local Used Blks           : 2.000000x10^0
  Local Free Blks           : 6.000000x10^0
  Local Used Peak Blks      : 2.000000x10^0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Local Used Peak Percent   : 25%
  Local Used Peak Time      : 01/21/2015 21:59:02
  Remote Provisioned Blks   : 0.000000x10^0
  Remote Used Blks          : 0.000000x10^0
  Remote Free Blks          : 0.000000x10^0
  Remote Used Peak Blks     : 0.000000x10^0
  Remote Used Peak Percent  : 0%
  Remote Used Peak Time     : 01/21/2015 21:59:02
  Peak Reset Time           : 01/21/2015 21:59:02
  Valid Data                : Y
  -------------------------------------------------------------------------------
  Threshold                 : /63
  -------------------------------------------------------------------------------
  Current Provisioned Blks  : 1.600000x10^1
  Current Used Blks         : 3.000000x10^0
  Current Free Blks         : 1.300000x10^1
  Current Used Percent      : 19%
  Current Used Peak Blks    : 3.000000x10^0
  Current Used Peak Percent : 19%
  Current Used Peak Time    : 01/21/2015 21:59:13
  Current Free Percent      : 81%
  Current Free Too Low      : N
  Current Free Depleted     : N
  Local Provisioned Blks    : 1.600000x10^1
  Local Used Blks           : 3.000000x10^0
  Local Free Blks           : 1.300000x10^1
  Local Used Peak Blks      : 3.000000x10^0
  Local Used Peak Percent   : 19%
  Local Used Peak Time      : 01/21/2015 21:59:13
  Remote Provisioned Blks   : 0.000000x10^0
  Remote Used Blks          : 0.000000x10^0
  Remote Free Blks          : 0.000000x10^0
  Remote Used Peak Blks     : 0.000000x10^0
  Remote Used Peak Percent  : 0%
  Remote Used Peak Time     : 01/21/2015 21:59:13
  Peak Reset Time           : 01/21/2015 21:59:13
  Valid Data                : Y
```

The command shown above displays detailed statistics of all prefix level thresholds in the specified pool:

- **Blks** means the minimum free prefix length.
- **Valid Data** output indicates whether the data is or is not valid. The data is invalid when a background stats update is scheduled or busy.

```
show router 500 dhcp6 local-dhcp-server "d6" prefix-threshold-
stats 8888:0:0: ffe0:db8:/59
===============================================================================
Server "d6"
===============================================================================
  Operational state         : inService
-------------------------------------------------------------------------------
Pool                        : 1
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
-------------------------------------------------------------------------------
Prefix                      : 8888:0:0:ffe0:db8:/59
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
  Draining                  : N
  -------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Threshold   Used   Peak   Too low   Depleted   Peak timestamp
  -------------------------------------------------------------------------------
  /62         25%    25%    N         N          01/21/2015 21:59:02
  /63         19%    19%    N         N          01/21/2015 21:59:13
```

The command shown above displays an overview of prefix level thresholds in the specified provision prefix.

```
show router 500 dhcp6 local-dhcp-server "d6" prefix-threshold-stats 8888:0:0:ffe0::/
59 detail
===============================================================================
Server "d6"
===============================================================================
  Operational state         : inService
-------------------------------------------------------------------------------
Pool                        : 1
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
-------------------------------------------------------------------------------
Prefix                      : 8888:0:0:ffe0:db8:/59
-------------------------------------------------------------------------------
  Stable leases             : 2
  Advertised leases         : 0
  Draining                  : N
  -------------------------------------------------------------------------------
  Threshold                 : /62
  -------------------------------------------------------------------------------
  Current Provisioned Blks  : 8.000000x10^0
  Current Used Blks         : 2.000000x10^0
  Current Free Blks         : 6.000000x10^0
  Current Used Percent      : 25%
  Current Used Peak Blks    : 2.000000x10^0
  Current Used Peak Percent : 25%
  Current Used Peak Time    : 01/21/2015 21:59:02
  Current Free Percent      : 75%
  Current Free Too Low      : N
  Current Free Depleted     : N
  Local Provisioned Blks    : 8.000000x10^0
  Local Used Blks           : 2.000000x10^0
  Local Free Blks           : 6.000000x10^0
  Local Used Peak Blks      : 2.000000x10^0
  Local Used Peak Percent   : 25%
  Local Used Peak Time      : 01/21/2015 21:59:02
  Remote Provisioned Blks   : 0.000000x10^0
  Remote Used Blks          : 0.000000x10^0
  Remote Free Blks          : 0.000000x10^0
  Remote Used Peak Blks     : 0.000000x10^0
  Remote Used Peak Percent  : 0%
  Remote Used Peak Time     : 01/21/2015 21:59:02
  Peak Reset Time           : 01/21/2015 21:59:02
  Valid Data                : Y
  -------------------------------------------------------------------------------
  Threshold                 : /63
  -------------------------------------------------------------------------------
  Current Provisioned Blks  : 1.600000x10^1
  Current Used Blks         : 3.000000x10^0
  Current Free Blks         : 1.300000x10^1
  Current Used Percent      : 19%
  Current Used Peak Blks    : 3.000000x10^0
  Current Used Peak Percent : 19%
  Current Used Peak Time    : 01/21/2015 21:59:13
  Current Free Percent      : 81%
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Current Free Too Low      : N
  Current Free Depleted     : N
  Local Provisioned Blks    : 1.600000x10^1
  Local Used Blks           : 3.000000x10^0
  Local Free Blks           : 1.300000x10^1
  Local Used Peak Blks      : 3.000000x10^0
  Local Used Peak Percent   : 19%
  Local Used Peak Time      : 01/21/2015 21:59:13
  Remote Provisioned Blks   : 0.000000x10^0
  Remote Used Blks          : 0.000000x10^0
  Remote Free Blks          : 0.000000x10^0
  Remote Used Peak Blks     : 0.000000x10^0
  Remote Used Peak Percent  : 0%
  Remote Used Peak Time     : 01/21/2015 21:59:13
  Peak Reset Time           : 01/21/2015 21:59:13
  Valid Data                : Y
```

The command displayed above displays detailed statistics of prefix level thresholds in the specified provision prefix.

Table 449: Output fields: prefix threshold statistics describes prefix threshold statistics output fields.

Table 449: Output fields: prefix threshold statistics

Field	Description
Operational state	The operational state of the local DHCP server instance unknown — The operational state is unknown inService — The operational state is in service outOfService — The operational state is out of service transition — The operational state is in transition waitPersistence — The DHCP server instance is waiting for a persistence action to complete.
Pool	The number of pools in the specified prefix
Stable leases	The number of stable leases associated with the prefix
Advertised leases	The advertised leases associated with the prefix
Prefix	The specified prefix
Draining	The draining state Y — enabled N — disabled
Threshold	The prefix level threshold
Current Provisioned Blks	The number of provisioned blocks for this prefix
Current Used Blks	The number of used blocks for this prefix
Current Free Blks	The number of free blocks for this prefix

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Current Used Percent	The percentage of used prefixes with the minimum free threshold length for this prefix
Current Used Peak Blks	A 64-bit word of the peak value of the number of used blocks for this prefix
Current Used Peak Percentage	The peak value of the number of used prefixes with the minimum free threshold length in the pool as a percentage of the provisioned prefixes.
Current Used Peak Time	The time at which the peak value of the number of used prefixes in the pool was reached
Current Free Percent	The percentage of free prefixes with the minimum free threshold length in the pool compared to the number of provisioned prefixes.
Current Free Too Low	The number of free prefixes with the minimum free threshold length available in the pool that is below the configured number of prefixes with the minimum free threshold length
Current Free Depleted	The number of prefixes with the minimum free threshold length available
Local Provisioned Blks	A 64-bit word of the number of provisioned prefixes with the minimum free threshold length local
Local Used Blks	The higher 64-bits word of the number of used prefixes with the minimum free threshold length
Local Free Blks	A 64-bit word of the number of free prefixes with the minimum free threshold length
Local Used Peak Blks	A 64-bit word of the peak value of the number of used prefixes with the minimum free threshold length
Local Used Peak Percent	The peak value of the number of used prefixes with the minimum free threshold length local in the pool as a percentage of the provisioned prefixes
Local Used Peak Time	The time at which the peak value of the number of used prefixes local in the pool was reached
Remote Provisioned Blks	A 64-bit word of the number of provisioned prefixes with the minimum free threshold length
Remote Used Blks	A 64-bit word of the number of used prefixes with the minimum free threshold length remote in the pool
Remote Free Blks	A 64-bit word of the number of free prefixes with the minimum free threshold length remote in the pool

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Remote Used Peak Blks	The higher 64-bit word of the number of used prefixes with the minimum free threshold length
Remote Used Peak Percent	The peak value of the number of used prefixes with the minimum free threshold length remote in the pool as a percentage of the provisioned prefixes
Remote Used Peak Time	The time at which the peak value of the number of used prefixes remote in the pool was reached.
Peak Reset Time	The time at which the peak values have been reset
Valid Dada	The actual status of the threshold statistics data of the pool. Y — the data is up to date and may be used. N — the data is being recalculated in the background and is not stable for further use

prefix-threshold-stats

Syntax

prefix-threshold-stats *ipv6-address/prefix-length*

prefix-threshold-stats pool *pool-name*

Context

[Tree] (clear>router>dhcp6>server prefix-threshold-stats)

Full Context

clear router dhcp6 local-dhcp-server prefix-threshold-stats

Description

This commands resets the peak stats in the prefix level threshold stats in the specified provision prefix or pool.

Parameters

pool-name

Clears information about the specified pool in local DHCPv6 server.

ipv6-address/prefix-length

Clears information about the specified IPv6 prefix with prefix length.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.30 prefixes

prefixes

Syntax

prefixes prefix ip-*prefix/ip-prefix-length* [**summary** | **detail**] [**session** *ip-addr*[*label-space*]] [**community** *community*]

prefixes prefix [*family*] [**summary** | **detail**] [**session** *ip-addr*[*label-space*]] [**community** *community*]

prefixes [*family*] [**summary** | **detail**] [**egress-if** *port-id*] [**community** *community*]

prefixes [*family*] [**summary** | **detail**] [**egress-lsp** *tunnel-id*] [**community** *community*]

prefixes [**egress-nh** *ip-address*] [**family**] [**summary** | **detail**] [**community** *community*]

prefixes prefix *ip-prefix/ip-prefix-length* [**summary** | **detail**] [**egress-if** *port-id*] [**community** *community*]

prefixes prefix ip-*prefix/ip-prefix-length* [**summary** | **detail**] [**egress-lsp** *tunnel-id*] [**community** *community*]

prefixes prefix *ip-prefix/ip-prefix-length* [**egress-nh** *ip-address*] [**summary** | **detail**] [**community** *community*]

Context

[Tree] (show>router>ldp>bindings prefixes)

Full Context

show router ldp bindings prefixes

Description

This command displays LDP Prefix fec bindings.

Parameters

prefix *ip-prefix*/*ip-prefix-length*

Specify information for the specified IP prefix and mask length.

Values		
	ipv4-prefix	- a.b.c.d
	ipv4-prefix-length	[0 to 32]
	ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x - [0 to FFFF]H
		d - [0 to 255]D
	ipv6-prefix-length	[0 to 128]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session *ip-addr*[*label-space*]

Specify information for the specified IP address and label space.

Values

ipv4-address	- a.b.c.d:*label-space*
ipv6-address	- x:x:x:x:x:x:x:x[*label-space*]
label-space	0 to 65535

detail

Displays detailed information.

summary

Displays information in a summarized format.

family

Displays either IPv4 or IPv6 active LDP information.

Values ipv4 or ipv6

egress-lsp *tunnel-id*

Specifies the tunnel identifier for this egress LSP.

Values 0 to 4294967295

egress-nh *ip-address*

Displays LDP active bindings by matching egress-nh.

Values

ipv4-address	- a.b.c.d
ipv6-address	- x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

egress-if *port-id*

Displays LDP active bindings by matching egress-if.

community

The string defining the LDP community assigned to the session. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string.

Values up to 32 characters | no-community (selects FEC with no community string

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

Output Example

```
*A:SRU4# show router ldp bindings prefixes
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.4)
             (IPv6 LSR ID 3ffe::6e14:104)
===============================================================================
Label Status:
        U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        e - Label ELC
FEC Flags:
        LF - Lower FEC, UF - Upper FEC, M - Community Mismatch, BA - ASBR Backup FEC
===============================================================================
LDP IPv4 Prefix Bindings
===============================================================================
Prefix                                  IngLbl                  EgrLbl
Peer                                    EgrIntf/LspId
EgrNextHop                              FEC-Flags
-------------------------------------------------------------------------------
0.0.0.0/0                                 --                    16910
10.100.1.1:0                              --
  --

1.1.1.0/24                              3U                      14828
10.100.1.1:0                              --
  --

1.1.1.0/24                              3U                      3e
10.20.1.1:0
```

```
*A:Dut-C>config>router>ldp# show router ldp bindings prefixes detail
===============================================================================
LDP Bindings (IPv4 LSR ID 10.20.1.4)
             (IPv6 LSR ID 3ffe::6e14:104)
===============================================================================
Label Status:
        U - Label In Use, N - Label Not In Use, W - Label Withdrawn
        WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route
        e - Label ELC
FEC Flags:
        LF - Lower FEC, UF - Upper FEC, M - Community Mismatch, BA - ASBR Backup FEC
===============================================================================
LDP IPv4 Prefix Bindings
===============================================================================
-------------------------------------------------------------------------------
Prefix         : 0.0.0.0/0
-------------------------------------------------------------------------------
Peer           : 10.100.1.1:0
Community      : RED
Ing Lbl        :   --               Egr Lbl    : 16910
Egr Int/LspId  :   --
EgrNextHop     :   --
Egr. Flags     : None               Ing. Flags : None
Egr If Name    : n/a
-------------------------------------------------------------------------------
Prefix         : 1.1.1.0/24
-------------------------------------------------------------------------------
Peer           : 10.100.1.1:0
Community      : RED
Ing Lbl        : 3U                 Egr Lbl    : 14828
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Egr Int/LspId  :   --
EgrNextHop     :   --
Egr. Flags     : None              Ing. Flags : None
Egr If Name    : n/a
-------------------------------------------------------------------------------
Prefix         : 1.1.1.0/24
-------------------------------------------------------------------------------
```

prefixes

Syntax

prefixes [*family*] [**summary** | **detail**] [**egress-if** *port-id*] [**community** *community*]

prefixes [*family*] [**summary** | **detail**] [**egress-lsp** *tunnel-id*] [**community** *community*]

prefixes [**egress-nh** *ip-address*] [*family*] [**summary** | **detail**] [**community** *community*]

prefixes prefix *ip-prefixlip-prefix-length* [**summary** | **detail**] [**egress-if** *port-id*] [**community** *community*]

prefixes prefix *ip-prefixlip-prefix-length* [**summary** | **detail**] [**egress-lsp** *tunnel-id***]** [**community** *community*]

prefixes prefix *ip-prefixlip-prefix-length* [**egress-nh** *ip-address*] [**summary** | **detail**] [**community** *community*]

Context

[Tree] (show>router>ldp>bindings>active prefixes)

Full Context

show router ldp bindings active prefixes

Description

This command displays LDP active prefix bindings.

Parameters

ip-prefix/ip-prefix-length

Specifies information for the IP prefix and mask length.

Values

ipv4-prefix:	a.b.c.d
ipv4-prefix-length:	0 to 32
ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D
ipv6-prefix-length:	1 to 128

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Specifies the IPv4 or IPv6 address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

family

Specifies the address family.

Values ipv4, ipv6

port-id

Specifies the port ID.

Values *slot*[/*mda*[/*port*]] or *slot*/*mda*/*port* [.*channel*]

aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-sat-id	**esat**-*id*[/*slot*/[**u**]*port*]	
	esat	keyword
	id	1 to 20
	u	keyword for up-link port
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a to b

tunnel-id

Specifies the tunnel ID.

Values 0 to 4294967295

community

The string defining the LDP community assigned to the session. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string.

Values up to 32 characters | no-community (selects FEC with no communitystring

Platforms

All

20.31 profile

profile

Syntax

profile [*user-profile-name*]

Context

[Tree] (show>system>security profile)

Full Context

show system security profile

Description

This command displays user profile information.

If the *profile-name* is not specified, information for all profiles is displayed.

Parameters

user-profile-name

Displays information for the specified user profile.

Platforms

All

Output

The following output is an example of user profile information, and Table 450: Output fields: user profile describes the output fields.

Output Example

```
A:ALA-7# show system security profile administrative
===============================================================================
User Profile
===============================================================================
User Profile : administrative
Def. Action  : permit-all
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Entry        : 10
Description  :
Match Command: configure system security
Action       : permit
-------------------------------------------------------------------------------
Entry        : 20
Description  :
Match Command: show system security
Action       : permit
-------------------------------------------------------------------------------
No. of profiles:
===============================================================================
A:ALA-7#
```

Table 450: Output fields: user profile

Label	Description
User Profile	Displays the profile name used to deny or permit user console access to a hierarchical branch or to specific commands.
Def. action	Permit all — Permits access to all commands. Deny — Denies access to all commands. None — No action is taken.
Entry	The entry ID in a policy or filter table.
Description	Displays the text string describing the entry.
Match Command	Displays the command or subtree commands in subordinate command levels.
Action	Permit all — Commands matching the entry command match criteria are permitted. Deny — Commands not matching the entry command match criteria are not permitted.
No. of profiles	The total number of profiles listed.

20.32 protection-template

protection-template

Syntax

protection-template

Context

[Tree] (show>router>mpls>mpls-tp protection-template)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router mpls mpls-tp protection-template

Description

This command displays MPLS-TP protection template information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of MPLS protection template fields.

Output Example

```
*A:mlstp-dutA# show router mpls mpls-tp protection-template
===============================================================================
MPLS-TP Protection Templates
===============================================================================
Template Name  : privatebed-protection-template  Router ID      : 1
Protection Mode: one2one                         Direction      : bidirectional
Revertive      : revertive                       Wait-to-Restore: 300sec
Rapid-PSC-Timer: 10ms                            Slow-PSC-Timer : 5sec
===============================================================================
```

20.33 protocol

protocol

Syntax

protocol

Context

[Tree] (clear>router>bgp protocol)

Full Context

clear router bgp protocol

Description

This command resets the entire BGP protocol. If the AS number was previously changed, the BGP AS number does not inherit the new value.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

protocol

Syntax

protocol [*protocol-name*] **count** [**detail**]

protocol count [**detail**]

protocol count top *granularity* [**max-count** *max-count*]

Context

[Tree] (show>app-assure>group protocol)

[Tree] (show>app-assure>group>aa-sub protocol)

Full Context

show application-assurance group protocol

show application-assurance group aa-sub protocol

Description

This command displays per-protocol statistics. The system-wide statistics displayed account for all flows completed and the last internal snapshot of the active flows.

Subscriber statistics are available for special study subscribers and account for all completed and active flows at the moment of this statistics request.

Parameters

protocol-name

Displays information about the specified protocol name.

count

Displays protocol counters.

detail

Displays detailed information.

Platforms

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

Output

The following output is an example of the **protocol** command.

Output Example

```
A:ALU>show>app-assure>group# protocol count
===============================================================================
Protocol Statistics
===============================================================================
Protocol                         Disc Octets          Packets       Flows
-------------------------------------------------------------------------------
aim_oscar                          0% 0               0             0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
aim_oscar_file_xfer                0% 0               0             0
aim_oscar_video_voice              0% 0               0             0
aim_toc                            0% 0               0             0
bittorrent                         0% 0               0             0
...


A:ALU>show>app-assure>group# protocol "http_audio" count detail
===============================================================================
Protocol "http_audio" Statistics
===============================================================================
    Protocol:
Type                      Octets            Packets         Flows
-------------------------------------------------------------------------------
    http_audio:
Admitted from subscriber: 14958             201             2
Denied from subscriber:   0                 0               0
Active flows from subscriber:                               0
Admitted to subscriber:   587590            396             2
Denied to subscriber:     0                 0               0
Active flows to subscriber:                                 0
Total flow duration:      21 seconds
Terminated flows:                                           4
Short Duration flows:                                       4
Medium Duration flows:                                      0
Long Duration flows:                                        0
Active subscribers:       1
===============================================================================
A:ALU>show>app-assure>group#
```

protocol

Syntax

protocol [*protocol-name*]

protocol [*protocol-name*] **detail**

Context

[Tree] (show>app-assure protocol)

Full Context

show application-assurance protocol

Description

This command displays application-assurance policy protocols loaded from the isa-aa.tim file.

Parameters

protocol-name

Displays all protocols from the isa-aa.tim file.

detail

Displays detailed information about the specified protocol name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of the **protocol** command information.

Output Example

```
A:ALU-ABC>show>app-assure# protocol
===============================================================================
Application Assurance Protocols
===============================================================================
                        Protocol : Description
-------------------------------------------------------------------------------
                      aim_oscar : America Online Oscar Instant Messaging.
             aim_oscar_file_xfer : America Online Oscar File Transfer.
           aim_oscar_video_voice : America Online Oscar Video and Voice
                                   Traffic.
                        aim_toc : America Online Talk to Oscar Instant
                                   Messaging.
                     bittorrent : BitTorrent peer to peer protocol.
...
A:ALU-ABC>show>app-assure#


A:ALU-ABC>show>app-assure# protocol tftp
===============================================================================
Application Assurance Protocols
===============================================================================
                        Protocol : Description
-------------------------------------------------------------------------------
                            tftp : IETF RFC 1350: Trivial File Transfer
                                   Protocol.
===============================================================================
A:ALU-ABC>show>app-assure#
```

20.34 protocol-list

protocol-list

Syntax

protocol-list [*protocol-list-name*]

protocol-list *protocol-list-name* **references**

Context

[Tree] (show>filter>match-list protocol-list)

Full Context

show filter match-list protocol-list

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the protocol-list information.

Parameters

protocol-list-name

A string of up to 32 characters of printable ASCII characters. If special characters are used, the string must be enclosed within double quotes.

references

Displays the filter policies and policy entries referring to this match.

Platforms

All

20.35 protocol-protection

protocol-protection

Syntax

protocol-protection

Context

[Tree] (show>system>security>cpu-protection protocol-protection)

Full Context

show system security cpu-protection protocol-protection

Description

This command display all interfaces with non-zero drop counters.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

protocol-protection

Syntax

protocol-protection

Context

[Tree] (clear>cpu-protection protocol-protection)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear cpu-protection protocol-protection

Description

This command clears the interface counts of packets dropped by protocol protection.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

20.36 provider-tunnel

provider-tunnel

Syntax

provider-tunnel

provider-tunnel spmsi-tunnels [**detail**]

Context

[Tree] (show>service>id provider-tunnel)

Full Context

show service id provider-tunnel

Description

This command displays the service provider tunnel information.

Platforms

All

Output

The following command displays the service provider tunnel information and Table 451: Output fields: provider tunnel describes the output fields.

```
show service id provider-tunnel
```

Output Example

```
===============================================================================
Service Provider Tunnel Information
===============================================================================
Type               : inclusive          Root and Leaf      : enabled
Admin State        : disabled           Data Delay Intvl   : 15 secs
PMSI Type          : ldp                LSP Template       :
Remain Delay Intvl : 0 secs             LSP Name used      : 8193
PMSI Owner         : bgpEvpnMpls
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Oper State         : up                 Root Bind Id       : 32767
-------------------------------------------------------------------------------
Type               : selective          wildcard-spmsi     : enabled
Admin State        : enabled            Data Delay Intvl   : 15 secs
PMSI Type          : ldp                Maximum-p2mp-spmsi : 10
PMSI Owner         : bgpEvpnMpls
Oper State         : up

Group-range        : 239.1.0.0/16       s-pmsi-threshold   : 10 kbps
Pe-threshold-add   : 2                  Pe-threshold-delete: 10

Group-range        : 239.2.0.0/24       s-pmsi-threshold   : 0 kbps
Pe-threshold-add   : 3                  Pe-threshold-delete: 5
===============================================================================
```

Tthe following command displays the service provider tunnel information and Table 451: Output fields: provider tunnel describes the output fields.

```
show service id provider-tunnel
```

Output Example

```
===============================================================================
Service Provider Tunnel Information
===============================================================================
Type               : inclusive          Root and Leaf      : disabled
Admin State        : disabled           Data Delay Intvl   : 15 secs
PMSI Type          : none               LSP Template       :
Remain Delay Intvl : 0 secs             LSP Name used      :
PMSI Owner         : none
-------------------------------------------------------------------------------
Type               : selective          Wildcard SPMSI     : enabled
Admin State        : enabled            Data Delay Intvl   : 5 secs
PMSI Type          : mLdp               Max P2MP SPMSI     : 10
PMSI Owner         : bgpEvpnMpls

Group range        : 224.0.0.0/4
S-PMSI Threshold   : 0 kbps
PE Threshold add   : 65535              PE Threshold del   : 65535

Group range        : 239.0.0.0/8
S-PMSI Threshold   : 1 kbps
PE Threshold add   : 65535              PE Threshold del   : 65535
===============================================================================
```

The following command displays the service provider tunnel SPMSI information and Table 451: Output fields: provider tunnel describes the output fields.

```
show service id provider-tunnel spmsi-tunnels
```

Output Example

```
===============================================================================
LDP Spmsi Tunnels
===============================================================================
LSP ID             : 8199
Root Address       : 192.0.2.4
S-PMSI If Index    : 73743
Num. Leaf PEs      : 2
Uptime             : 0d 00:00:00
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Group Address      : 239.0.0.4
Source Address     : 10.0.0.4
Origin IP Address  : 192.0.2.4
State              : TX Join Pending
Remain Delay Intvl : 3
-------------------------------------------------------------------------------
LSP ID             : 8197
Root Address       : 192.0.2.4
S-PMSI If Index    : 73739
Uptime             : 0d 00:28:37
Group Address      : * (wildcard)
Source Address     : *
Origin IP Address  : 192.0.2.4
State              : TX Joined
Remain Delay Intvl : 0
-------------------------------------------------------------------------------
===============================================================================
```

The following command displays the service provider tunnel SPMSI detailed information and Table 451: Output fields: provider tunnel describes the output fields.

```
show service id provider-tunnel spmsi-tunnels detail
```

Output Example

```
===============================================================================
LDP Spmsi Tunnels
===============================================================================
LSP ID             : 8199
Root Address       : 192.0.2.4
S-PMSI If Index    : 73743
Num. Leaf PEs      : 2
Uptime             : 0d 00:00:03
Group Address      : 239.0.0.4
Source Address     : 10.0.0.4
Origin IP Address  : 192.0.2.4
State              : TX Joined
Remain Delay Intvl : 0
Group Receiver PE  : 192.0.2.2, 192.0.2.3
-------------------------------------------------------------------------------
LSP ID             : 8197
Root Address       : 192.0.2.4
S-PMSI If Index    : 73739
Uptime             : 0d 00:28:44
Group Address      : * (wildcard)
Source Address     : *
Origin IP Address  : 192.0.2.4
State              : TX Joined
Remain Delay Intvl : 0
-------------------------------------------------------------------------------
===============================================================================
```

Table 451: Output fields: provider tunnel

Label	Description
Service Provider Tunnel Information	
Type	The provider tunnel type (inclusive or selective)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Root and Leaf	The root and leaf status
Admin State	The administrative state
Data Delay Intvl	The data delay interval in seconds
PMSI Type	The PMSI type
LSP Template	The LSP template name
Remain Delay Intvl	The remaining delay interval in seconds
LSP Name used	The LSP name
PMSI Owner	The PMSI owner
Oper State	The operational state
Root Bind Id	The root binding ID
wildcard-spmsi/ Wildcard SPMSI	The wildcard SPMSI status
Maximum-p2mp-spmsi/Max P2MP SPMSI	The maximum P2MP SPMSI value
Group-range/Group range	The group range
s-pmsi-threshold/ S-PMSI Threshold	The SPMSI threshold so that the root node attempts to setup an S-PMSI tree, in Kbps
Pe-threshold-add/ PE Threshold add	The PE threshold add value
Pe-threshold-delete/ PE Threshold del	The PE threshold delete value
LDP Spmsi tunnels	
LSP ID	The LSP ID
Root Addr/Root Address	The root address
Spmsi IfIndex/S-PMSI If Index	The SPMSI If Index value
Num. Leaf PEs	The number of leaf PEs
Number of SGs	The number of SGs

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Uptime	The cummulative up time
Group Address	The group address
Source Address	The source address
Origin IP Address	The origin IP address
State	The state value
S-pmsi Threshold	The SPMSI threshold value
Remain Delay Intvl	The remaining delay interval in seconds
Group Receiver PE	The group receiver PE IP address
Leaf Address	The Leaf IP addresses
Pe-threshold-add	The PE threshold add value
Pe-threshold-delete	The PE threshold delete value
Current Receiver PE Count	The current receive PE count value
LDP Spmsi Tunnels	The total number of SPMSI tunnels

20.37 provider-tunnel-using

provider-tunnel-using

Syntax

provider-tunnel-using leaf-only [**bgp-ad** | **bgp-vpls** | **bgp-evpn-mpls**]

provider-tunnel-using root-and-leaf [**bgp-ad** | **bgp-vpls** | **bgp-evpn-mpls**]

Context

[Tree] (show>service provider-tunnel-using)

Full Context

show service provider-tunnel-using

Description

This command displays the list of provider tunnels existing in the router for all services. The output can be filtered based on the provider tunnel owner.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

leaf-only

Displays the leaf-only provider tunnels for all services.

root-and-leaf

Displays the root and leaf provider tunnels for all services.

bgp-ad

Filters the provider tunnels owned by BGP AD services.

bgp-vpls

Filters the provider tunnels owned by BGP VPLS services.

bgp-evpn-mpls

Filters the provider tunnels owned by BGP EVPN-MPLS services.

Platforms

All

Output

The following output is an example of provider tunnel using information.

Output Example

```
A:PE-76# show service provider-tunnel-using root-and-leaf
=====================================================
Provider-Tunnel Using (Root-and-Leaf)
=====================================================
SvcId      SdpId             Owner       Admin Oper
                                         State State
-----------------------------------------------------
300        32767:4294967294  bgpEvpnMpls Up    Up
-----------------------------------------------------
Number of Root-and-Leaf : 1
=====================================================
A:PE-76# show service provider-tunnel-using root-and-leaf bgp-evpn-mpls
=====================================================
Provider-Tunnel Using (Root-and-Leaf)
=====================================================
SvcId      SdpId             Owner       Admin Oper
                                         State State
-----------------------------------------------------
300        32767:4294967294  bgpEvpnMpls Up    Up
-----------------------------------------------------
Number of Root-and-Leaf : 1
=====================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.38 provider-tunnels

provider-tunnels

Syntax

provider-tunnels [**type** {**originating** | **terminating**}

Context

[Tree] (tools>dump>service>id provider-tunnels)

Full Context

tools dump service id provider-tunnels

Description

This command dumps the inclusive or selective provider tunnels based on type.

Platforms

All

Output

Use the following command to display terminating provider tunnels.

```
tools dump service id provider-tunnels type terminating
```

Output Example

```
===============================================================================
VPLS 1001 Inclusive Provider Tunnels Terminating
===============================================================================
ipmsi (RSVP)                                P2MP-ID Tunl-ID Ext-Tunl-ID
-------------------------------------------------------------------------------
                                            1001    61440   10.20.1.1
                                            1001    64944   10.20.1.2
-------------------------------------------------------------------------------
```

Use the following command to display originating provider tunnels.

```
tools dump service id provider-tunnels type originating
```

Output Example

```
===============================================================================
VPLS 1001 Inclusive Provider Tunnels Originating
===============================================================================
ipmsi (RSVP)                                P2MP-ID Tunl-ID Ext-Tunl-ID
-------------------------------------------------------------------------------
ipmsi-1001-73728                            1001    61440   10.20.1.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 ---------------------------------------------------------------------
```

Use the following command to display both originating and terminating provider tunnels.

```
tools dump service id provider-tunnels
```

Output Example

```
===============================================================================
VPLS 1001 Inclusive Provider Tunnels Originating
===============================================================================
ipmsi (RSVP)                                P2MP-ID Tunl-ID Ext-Tunl-ID
-------------------------------------------------------------------------------
ipmsi-1001-73728                            1001    61440   10.20.1.3
-------------------------------------------------------------------------------

===============================================================================
VPLS 1001 Inclusive Provider Tunnels Terminating
===============================================================================
ipmsi (RSVP)                                P2MP-ID Tunl-ID Ext-Tunl-ID
-------------------------------------------------------------------------------
                                            1001    61440   10.20.1.1
                                            1001    64944   10.20.1.2
 -------------------------------------------------------------------------
```

Use the following command to display both originating and terminating provider tunnels.

```
tools dump service id provider-tunnels
```

Output Example

```
===============================================================================
VPLS 10000 Inclusive Provider Tunnels Originating
===============================================================================

No Tunnels Found
-------------------------------------------------------------------------------

===============================================================================
VPLS 10000 Inclusive Provider Tunnels Terminating
===============================================================================

No Tunnels Found
-------------------------------------------------------------------------------

===============================================================================
VPLS 10000 Selective Provider Tunnels Originating
===============================================================================
spmsi (LDP) Source-Addr       Group-Addr        Root-Addr     LSP-ID  Lsp-Name
-------------------------------------------------------------------------------

            10.0.0.4          239.0.0.4         192.0.2.4         8199     8199

            *                 *                 192.0.2.4         8197     8197


-------------------------------------------------------------------------------

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
VPLS 10000 Selective Provider Tunnels Terminating
===============================================================================
spmsi (LDP) Source-Addr       Group-Addr        Root-Addr     LSP-ID  Lsp-Name
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
```

20.39 proxy-arp

proxy-arp

Syntax

proxy-arp [*ip-address*] [**detail**]

proxy-arp [*ip-address*] **dynamic**

Context

[Tree] (show>service>id proxy-arp)

Full Context

show service id proxy-arp

Description

This command displays the existing proxy-ARP entries for a particular service in a table. The table entries are populated by EVPN MAC routes that contain a MAC and an IP address, as well as static entries or dynamic entries learned from snooped ARP messages on access SAP or SDP-bindings.

A 7750 SR, 7450 ESS, or 7950 XRS that receives an ARP request from a SAP or SDP-binding performs a lookup in the proxy-ARP table for the service. If a match is found, the router replies to the ARP and prevents ARP flooding in the VPLS service. If no match is found, the ARP is flooded within the service if the configuration allows it.

This command allows specific IP addresses to be displayed. Dynamic IP entries associated with a MAC list are displayed with the corresponding MAC list and resolve-timer information.

Parameters

ip-address

Specifies an IP address.

Values a.b.c.d

detail

Displays detailed information.

dynamic

Displays detailed information about dynamic entries.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of proxy ARP information, and the associated tables describe the output fields:

- Output example, Table 452: Output fields: proxy-ARP detail
- Output example: proxy-ARP detail, Table 452: Output fields: proxy-ARP detail
- Output example: proxy-ARP dynamic

Output example

```
*A:PE-3# show service id 5 proxy-arp
-------------------------------------------------------------------------------
Proxy Arp
-------------------------------------------------------------------------------
Admin State       : enabled
Dyn Populate      : enabled
Age Time          : disabled            Send Refresh      : 120 secs
Table Size        : 250                 Total             : 1
Static Count      : 0                   EVPN Count        : 0
Dynamic Count     : 1                   Duplicate Count   : 0
Dup Detect
-------------------------------------------------------------------------------
Detect Window     : 3 mins              Num Moves         : 5
Hold down         : 9 mins
Anti Spoof MAC    : None
EVPN
-------------------------------------------------------------------------------
Garp Flood        : enabled             Req Flood         : enabled
Static Black Hole : disabled
EVPN Route Tag    : 10
-------------------------------------------------------------------------------
```

Output example: proxy-ARP detail

```
A:PE-3>## show service id 70 proxy-arp detail
-------------------------------------------------------------------------------
Proxy Arp
-------------------------------------------------------------------------------
Admin State       : enabled
Dyn Populate      : enabled
Age Time          : 300 secs            Send Refresh      : 120 secs
Table Size        : 250                 Total             : 1
Static Count      : 1                   EVPN Count        : 0
Dynamic Count     : 0                   Duplicate Count   : 0
Process Probes    : enabled
Restrict Non Configured IPs : enabled
Sponge MAC        : 00:de:ad:ba:ca:00
Evpn Local ES type: evpn-local-es       Retention timer   : 240

Dup Detect
-------------------------------------------------------------------------------
Detect Window     : 3 mins              Num Moves         : 5
Hold down         : 9 mins
Anti Spoof MAC    : None

VPLS Flood Control
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Rcvd Garp Flood   : enabled             Rcvd Req Flood    : enabled

EVPN
-------------------------------------------------------------------------------
Garp Flood        : enabled             Req Flood         : enabled
Static Black Hole : disabled
EVPN Route Tag    : 0
-------------------------------------------------------------------------------

===============================================================================
VPLS Proxy Arp Entries
===============================================================================
IP Address          Mac Address         Type  Status Flags  Last Update
-------------------------------------------------------------------------------
10.0.0.10           00:00:00:00:02:02   stat  active I      05/21/2024 12:20:39
-------------------------------------------------------------------------------
Number of entries : 1
Legend : I=Immutable
===============================================================================
```

Table 452: Output fields: proxy-ARP detail

Label	Description
Proxy ARP	
Admin State	The administrative state of proxy-arp
Dyn Populate	The addition of dynamic entries to the table
Age Time	The aging timer for proxy entries, where entries are flushed upon timer expiry
Send Refresh	The time at which to send a refresh message in seconds
Table Size	The maximum number of learned and static entries allowed in the proxy table of the service
Total	The total number of entries in the service
Static Count	The current number of static entries in the service
EVPN Count	The current number of EVPN entries in the service
Dynamic Count	The current number of dynamic entries in the service
Duplicate Count	The current number of duplicate entries in the service
Process Probes	The process probe status
Restrict Non Configured IPs	The restrict non-configured IPs status
Sponge MAC	The sponge MAC address
Evpn Local ES type	The EVPN local ES type applied to the proxy-ARP
Retention timer	The retention timer for the EVPN local ES entry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Dup Detect	
Detect Window	The window size in minutes
Num Moves	The number of moves required to declare a duplicate entry
Hold down	The hold-down time for a duplicate entry
Anti Spoof MAC	The MAC address to replace the proxy-arp offending entry's MAC
VPLS Flood Control	
Rcvd Garp Flood	The received VPLS Garp flood status
Rcvd Req Flood	The received VPLS request flood status
EVPN	
Garp Flood	The EVPN received Garp flood status
Req Flood	The received EVPN request flood status
Static Black Hole	The static black hole status
EVPN Route Tag	The route tag of the entry
VPLS Proxy Arp Entries	
IP Address	The IP address of proxy-arp
Mac Address	The optional anti-spoof-mac to use
Type	The type of entry
Status	The status of entry
Flags	The flag type
Last Update	The date and time of the last update
Number of entries	The number of VPLS proxy ARP entries

Output example: proxy-ARP dynamic

```
===============================================================================
*A:PE-3# show service id 5 proxy-arp dynamic
===============================================================================
Proxy ARP Dyn Cfg Summary
===============================================================================
IP Addr                                 Mac List
-------------------------------------------------------------------------------
10.0.0.1                                list-1
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:PE-3# show service id 5 proxy-arp dynamic 10.0.0.1
===============================================================================
Proxy ARP Dyn Cfg Detail
===============================================================================
IP Addr        Mac List                          Resolve Time   Remaining
                                                 (mins)          Resolve Time
                                                                 (secs)
-------------------------------------------------------------------------------
10.0.0.1       list-1                            1              0
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================
```

proxy-arp

Syntax

proxy-arp

Context

[Tree] (tools>perform>service>id proxy-arp)

Full Context

tools perform service id proxy-arp

Description

Commands in this context provide proxy-arp tools.

Platforms

All

proxy-arp

Syntax

proxy-arp

proxy-arp duplicate [*ip-address*]

proxy-arp dynamic [*ip-address*]

Context

[Tree] (clear>service>id proxy-arp)

Full Context

clear service id proxy-arp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command allows all the duplicate or dynamic proxy-ARP entries to be cleared from the table. Individual IP entries can also be specified.

Platforms

All

proxy-arp

Syntax

proxy-arp usage

Context

[Tree] (tools>dump>service proxy-arp)

Full Context

tools dump service proxy-arp

Description

This command provides information about the usage and limit of the system-wide proxy-arp table for all the services. The command also shows if the limit has been exceeded and a trap raised.

Platforms

All

Output

Output Example

```
*A:Dut# tools dump service proxy-arp usage
Proxy arp Usage
Current Usage       :         10
System Limit        :     511999
High Usage Trap Raised:       No
High Usage Threshold:         95 percent
High Usage Clear Threshold:   90 percent
```

20.40 proxy-arp-nd

proxy-arp-nd

Syntax

proxy-arp-nd mac-list

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

proxy-arp-nd mac-list *name*

proxy-arp-nd mac-list *name* **associations**

Context

[Tree] (show>service proxy-arp-nd)

Full Context

show service proxy-arp-nd

Description

This command displays MAC address list information including MAC lists, MAC list details, and associations used in the **proxy-arp-nd** context.

Parameters

name

Name of the MAC address list for which the detailed information is shown; the name can be up to 32 characters.

associations

Mandatory keyword to display the service ID and dynamic IP to which the MAC list is associated.

Platforms

All

Output

Output Example

```
*A:PE-3# show service proxy-arp-nd mac-list
===============================================================================
MAC List Information
===============================================================================
MAC List Name                     Last Change         Num Macs    Num Assocs
-------------------------------------------------------------------------------
list-1                            12/20/2016 09:21:13  3           1
-------------------------------------------------------------------------------
Number of Entries: 1
```

```
===============================================================================
*A:PE-3# show service proxy-arp-nd mac-list "list-1"
===============================================================================
MAC List MAC Addr Information
===============================================================================
MAC Addr                                Last Change
-------------------------------------------------------------------------------
00:ca:fe:ca:fe:01                       12/20/2016 09:21:13
00:ca:fe:ca:fe:02                       12/20/2016 09:21:13
00:ca:fe:ca:fe:03                       12/20/2016 09:21:13
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Number of Entries: 3
```

```
===============================================================================
*A:PE-3# show service proxy-arp-nd mac-list "list-1" associations
===============================================================================
MAC List Associations
===============================================================================
Service Id                    IP Addr
-------------------------------------------------------------------------------
5                             10.0.0.1
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================
```

20.41 proxy-db

proxy-db

Syntax

proxy-db [**detail**]

proxy-db group *grp-ipv6-address*

Context

[Tree] (show>service>id>mld-snooping proxy-db)

Full Context

show service id mld-snooping proxy-db

Description

This command displays proxy-reporting database entries.

Platforms

All

Output

The following output is an example of MLD snooping proxy database information.

Output Example

```
*A:rbae_C# show service id 1 mld-snooping proxy-db
===============================================================================
MLD Snooping Proxy-reporting DB for service 1
===============================================================================
Group Address
                  Mode     Up Time        Num Sources
-------------------------------------------------------------------------------
FF04:db8:1
                  include  0d 00:01:01    1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
FF04:db8:2
                include  0d 00:01:00    1
-------------------------------------------------------------------------------
Number of groups: 2
===============================================================================
*A:rbae_C#


*A:rbae_C# show service id 1 mld-snooping proxy-db detail
===============================================================================
MLD Snooping Proxy-reporting DB for service 1
-------------------------------------------------------------------------------
MLD Group FF04::1
-------------------------------------------------------------------------------
Up Time : 0d 00:01:03                  Mode : include
-------------------------------------------------------------------
Source Address                                              Up Time
-------------------------------------------------------------------
2011:db8:1                                                    0d 00:01:03
-------------------------------------------------------------------------------
MLD Group FF04:db8:2
-------------------------------------------------------------------------------
Up Time : 0d 00:01:02                  Mode : include
-------------------------------------------------------------------
Source Address                                              Up Time
-------------------------------------------------------------------
2011:db8:1                                                    0d 00:01:02
-------------------------------------------------------------------------------
Number of groups: 2
===============================================================================
*A:rbae_C#
```

proxy-db

Syntax

proxy-db [**detail**]

proxy-db group *grp-address*

Context

[Tree] (show>service>id>igmp-snooping proxy-db)

Full Context

show service id igmp-snooping proxy-db

Description

This command displays information on the IGMP snooping proxy reporting database for the VPLS service.

Parameters

grp-ip-address

Displays the IGMP snooping proxy reporting database for a specific multicast group address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

Output Example

```
*A:ALA-1>show>service>id>snooping# proxy-db
===============================================================================
IGMP Snooping Proxy-reporting DB for service 10
===============================================================================
Group Address    Mode     Up Time        Num Sources
-------------------------------------------------------------------------------
239.0.0.1        include  0d 00:05:40    2
-------------------------------------------------------------------------------
Number of groups: 1
===============================================================================
*A:ALA-1>show>service>id>snooping#


*A:ALA-1>show>service>id>snooping# proxy-db detail
===============================================================================
IGMP Snooping Proxy-reporting DB for service 10
-------------------------------------------------------------------------------
IGMP Group 239.0.0.1
-------------------------------------------------------------------------------
Up Time : 0d 00:05:54                  Mode : include
------------------------------
Source Address  Up Time
------------------------------
1.1.1.1         0d 00:05:54
1.1.1.2         0d 00:05:54
-------------------------------------------------------------------------------
Number of groups: 1
===============================================================================
*A:ALA-1>show>service>id>snooping#
```

Table 453: Output fields: IGMP snooping proxy describes the show output fields.

Table 453: Output fields: IGMP snooping proxy

Label	Description
Group Address	The IP multicast group address for which this entry contains information.
Mode	Specifies the type of membership report(s) received on the interface for the group. In the include mode, reception of packets sent to the specified multicast address is requested only from those IP source addresses listed in the source-list parameter of the IGMP membership report. In the "exclude" mode, reception of packets sent to the specified multicast address is requested from all IP source addresses except those listed in the source-list parameter.
Up Time	The total operational time in seconds.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Num Sources	Indicates the number of IGMP group and source specific queries received on this interface.
Number of groups	Number of IGMP groups.
Source Address	The source address for which this entry contains information.

20.42 proxy-nd

proxy-nd

Syntax

proxy-nd [*ipv6-address*] [**detail**]

proxy-nd [*ipv6-address*] **dynamic**

Context

[Tree] (show>service>id proxy-nd)

Full Context

show service id proxy-nd

Description

This command displays the existing proxy-ND entries for a particular service in a table. The table entries are populated by the EVPN MAC routes containing a MAC and an IPv6 address, as well as static entries or dynamic entries learned from snooped NA messages on access SAP or SDP-bindings.

A 7750 SR, 7450 ESS, or 7950 XRS that receives a Neighbor Solicitation (NS) from a SAP or SDP-binding performs a lookup in the proxy-ND table for the service. If a match is found, the router replies to the NS and prevents NS flooding in the VPLS service. If no match is found, the NS is flooded in the service if the configuration allows it.

This command allows specific IPv6 addresses to be displayed. Dynamic IPv6 entries associated with a MAC list are displayed with the corresponding MAC list and resolve-timer information.

Parameters

ipv6-address

Specifies an IPv6 address.

Values ipv6-address:

x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

where:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

x - [0 to FFFF]H

d - [0 to 255]D

detail

Displays detailed information.

dynamic

Displays detailed information about dynamic entries.

Platforms

All

Output

The following outputs are examples of proxy ND information, and the associated tables describe the output fields:

- Output example, Table 454: Output fields: proxy-ND detail
- Output example: proxy-ND detail, Table 454: Output fields: proxy-ND detail
- Output example: proxy-ND dynamic, Table 455: Output fields: proxy-ND dynamic

Output example

```
A:node-2>show>service>id# proxy-nd
-------------------------------------------------------------------------------
Proxy ND
-------------------------------------------------------------------------------
Admin State       : enabled
Dyn Populate      : disabled
Age Time          : disabled            Send Refresh      : 120 secs
Table Size        : 250                 Total             : 2
Static Count      : 1                   EVPN Count        : 1
Dynamic Count     : 0                   Duplicate Count   : 0
Process DAD NS    : enabled

Dup Detect
-------------------------------------------------------------------------------
Detect Window     : 3 mins              Num Moves         : 5
Hold down         : 9 mins
Anti Spoof MAC    : None

EVPN
-------------------------------------------------------------------------------
Unknown NS Flood  : enabled             ND Advertise      : Host
Rtr Unsol NA Flood: enabled             Host Unsol NA Fld : enabled
EVPN Route Tag    : 0
-------------------------------------------------------------------------------
```

Output example: proxy-ND detail

```
*A:PE-3>config>service>vpls# show service id 70 proxy-nd detail
-------------------------------------------------------------------------------
Proxy ND
-------------------------------------------------------------------------------
Admin State       : disabled
Dyn Populate      : disabled
Age Time          : disabled            Send Refresh      : disabled
Table Size        : 250                 Total             : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Static Count      : 1                   EVPN Count        : 0
Dynamic Count     : 0                   Duplicate Count   : 0
Process DAD NS    : enabled
Restrict Non Configured IPs : enabled
Sponge MAC        : 00:de:ad:ba:ca:00
Evpn Local ES type: evpn-local-es       Retention timer   : 240


Dup Detect
-------------------------------------------------------------------------------
Detect Window     : 3 mins              Num Moves         : 5
Hold down         : 9 mins
Anti Spoof MAC    : None

VPLS Flood Control
-------------------------------------------------------------------------------
Rcvd Unknown NS Flood  : enabled
Rcvd Rtr Unsol NA Flood: enabled        Rcvd Host Unsol NA Fld : enabled

EVPN
-------------------------------------------------------------------------------
Unknown NS Flood  : enabled             ND Advertise      : Router
Rtr Unsol NA Flood: enabled             Host Unsol NA Fld : enabled
EVPN Route Tag    : 0
-------------------------------------------------------------------------------

===============================================================================
VPLS Proxy ND Entries
===============================================================================
IP Address             Mac Address       Type Status Flags  Last Update
-------------------------------------------------------------------------------
2001:db8:1::10         00:00:00:00:02:02 stat inActv R I O  05/21/2024 12:23:37
-------------------------------------------------------------------------------
Number of entries : 1
Legend : I=Immutable, O=Override, R=Router, H=Host
===============================================================================
```

Table 454: Output fields: proxy-ND detail

Label	Description
Proxy ND	
Admin State	The administrative state of proxy-nd
Dyn Populate	The addition of dynamic entries to the table
Age Time	The aging timer for proxy entries, where entries are flushed upon timer expiry
Send Refresh	The time at which to send a refresh message in seconds
Table Size	The maximum number of learned and static entries allowed in the proxy table of the service
Total	The total number of entries in the service
Static Count	The current number of static entries in the service
EVPN Count	The current number of EVPN entries in the service

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Dynamic Count	The current number of dynamic entries in the service
Duplicate Count	The current number of duplicate entries in the service
Process DAD NS	The response to DAD neighbor solicitations
Restrict Non Configured IPs	The restrict non-configured IPs status
Sponge MAC	The sponge MAC address
Evpn Local ES	The EVPN local ES type applied to the proxy-ND EVPN local ES entry
Retention timer	The retention timer for the EVPN local ES entry
Dup Detect	
Detect Window	The window size in minutes
Num Moves	The number of moves required to declare a duplicate entry
Hold down	The hold-down time for a duplicate entry
Anti Spoof MAC	The MAC address to replace the proxy-nd offending entry's MAC
VPLS Flood Control	
Rcvd Unknown NS Flood	The received unknown neighbor solicitations flood status
Rcvd Rtr Unsol NA Flood	The received router unsolicited neighbor association flood status
Rcvd Host Unsol NA Fld	The received host unsolicited neighbor association flood status
EVPN	
Unknown NS Flood	Displays if unknown Neighbor Solicitation messages floods into the EVPN network
ND Advertise	The advertisement of static or dynamic entries that are learned as host or routers
Rtr Unsol NA Flood	Displays if system floods router unsolicited Neighbor Advertisements to EVPN
Host Unsol NA Fld	Displays if the system floods host unsolicited Neighbor Advertisements to the EVPN
EVPN Route Tag	The route tag of the entry
VPLS Proxy ND Entries	
IP Address	The IP address of proxy-nd
Mac Address	The optional anti-spoof-mac to use
Type	The type of entry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Status	The status of entry
Flags	The flag type
Last Update	The date and time of the last update
Number of entries	The number of VPLS proxy ARP entries

Output example: proxy-ND dynamic

```
A:node-2>show>service>id# proxy-nd dynamic
===============================================================================
Proxy ND Dyn Cfg Summary
===============================================================================
IP Addr                                 Mac List
-------------------------------------------------------------------------------
2001:db8:1000::1                        list-1
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================

A:node-2>show>service>id# proxy-nd dynamic ipv6-address
===============================================================================
Proxy ND Dyn Cfg Detail
===============================================================================
IP Addr                                 Mac List
 Resolve Time(mins)                      Remaining Resolve Time(secs)
-------------------------------------------------------------------------------
2001:db8:1000::1                        list-1
1                                       0
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================
```

Table 455: Output fields: proxy-ND dynamic

Label	Description
Proxy ND Dyn Cfg Summary	
IP Addr	The IP address of proxy-nd dynamic
Mac List	The MAC list for dynamic entry
Resolve Time (mins)	The resolve time in minutes
Remaining Resolve Time (secs)	The remaining resolve time in seconds
Number of Entries	The total number of entries

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

proxy-nd

Syntax

proxy-nd

Context

[Tree] (tools>perform>service>id proxy-nd)

Full Context

tools perform service id proxy-nd

Description

Commands in this context provide proxy-nd tools.

Platforms

All

proxy-nd

Syntax

proxy-nd

proxy-nd duplicate [*ipv6-address*]

proxy-nd dynamic [*ipv6-address*]

Context

[Tree] (clear>service>id proxy-nd)

Full Context

clear service id proxy-nd

Description

This command allows all the duplicate or dynamic proxy-ND entries to be cleared from the table. Individual IPv6 entries can also be specified.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

proxy-nd

Syntax

proxy-nd usage

Context

[Tree] (tools>dump>service proxy-nd)

Full Context

tools dump service proxy-nd

Description

This command provides information about the usage and limit of the system-wide proxy-nd table for all the services. The command also shows if the limit has been exceeded and a trap raised.

Platforms

All

Output

Output Example

```
*A:Dut# tools dump service proxy-nd usage
Proxy nd Usage
Current Usage       :         0
System Limit        :     511999
High Usage Trap Raised:       No
High Usage Threshold:         95 percent
High Usage Clear Threshold:   90 percent
```

20.43 psb

psb

Syntax

psb [**endpoint** *endpoint-address*] [**sender** *sender-address*] [**tunnelid** *tunnel-id*] [**lspid** *lsp-id*] [**detail**] [**status** {**up** | **down**}]

Context

[Tree] (tools>dump>router>rsvp psb)

Full Context

tools dump router rsvp psb

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays path state block (PSB) information for RSVP.

When a PATH message arrives at an LSR, the LSR stores the label request in the local PSB for the LSP. If a label range is specified, the label allocation process assigns a label from that range.

The PSB contains the IP address of the previous hop, and the session, sender, and TSPEC. This information is used to route the corresponding RESV message back to LSR 1.

Parameters

endpoint *endpoint-address*

Specifies the IP address of the last hop.

sender *sender-address*

Specifies the IP address of the sender.

tunnelid *tunnel-id*

Specifies the SDP ID.

Values 0 to 4294967295

lspid *lsp-id*

Specifies the label switched path that is signaled for this entry.

Values 1 to 65535

detail

Displays detailed RSVP PSB information.

status {up | down}

Specifies the LSP status.

Platforms

All

Output

The following output is an example of MPLS RSVP PSB information.

Output Example

```
*A:Dut-C# tools dump router rsvp psb detail
-------------------------------------------------------------------------------
PSB:
 P2P: Session (To: 10.20.1.6 - 6 - 10.20.1.3), Sender (10.20.1.3 - 41986) PHop 0.0.0
 .0
 PSB CurrState: PRIMARYS_CONNECTED PrevState: PRIMARYS_INIT Flags: 0x0
 LocalLabel 0 OutLabel 524277
 Incoming IfIndex: Interface: Local API(-1)
 Refresh interval 5, Send Path refresh in 1 secs, Path Refresh timeout 0 secs
 PrevHop: Ctype 1 Addr 0.0.0.0, LIH 0
 DnStream Nbr: Addr-> 10.10.11.4 IfIndex ip-10.10.11.3(5)
 UpStream Neighbor is NULLP
 Session Attribute:
   Session Name: 6::6
   HoldPri: 0 SetupPri: 7 Flags: 0x6
   Ctype: 7, IncludeGroup: 0x0 IncludeAllGroup: 0x0 ExcludeGroup: 0x0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 ClassType: Absent
 TSpec: Flags 0x8000 QOSC 1, PDR (infinity), PBS 0.000 bps, CDR (0.000 bps) MTU: 150
0
 CSPF Hop List: ->
  (1) Ipv4Addr 10.10.11.3 RtrId 10.20.1.3 EgrAdmGrp 0x0 (Strict)
  (2) Ipv4Addr 10.10.11.4 RtrId 10.20.1.4 EgrAdmGrp 0x0 (Strict)
  (3) Ipv4Addr 10.10.9.6 RtrId 10.20.1.6 EgrAdmGrp 0x0 (Strict)
PSB RRO : ->
  (1) * Flags : 0x0 : I
  (1) * IPv4 -> 10.10.11.3(10.20.1.3)
PSB SENT RRO : ->
  (1) * Flags : 0x0 : I
  (1) * IPv4 -> 10.10.11.3(0.0.0.0)
PSB FILTERSPEC RRO : ->
  (1) * Flags : 0x0 : I
  (1) * IPv4 -> 10.10.11.4(10.20.1.4)
  (2) * Flags : 0x1 : Global
  (2) * Label : 524277
  (3) * Flags : 0x0 : I
  (3) * IPv4 -> 10.10.9.6(10.20.1.6)
  (4) * Flags : 0x1 : Global
  (4) * Label : 524279
PSB ERO : ->
  (1) IPv4Prefix 10.10.11.4/32, Strict
  (2) IPv4Prefix 10.10.9.6/32, Strict
PSB SENT ERO : ->
  (1) IPv4Prefix 10.10.11.4/32, Strict
  (2) IPv4Prefix 10.10.9.6/32, Strict
SendTempl: Sender:10.20.1.3_41986
Sent AdSpec: Flags 0x2
 AdSpec General
  - Service Break bit : 0x0
  - IS Hop Count : 0x0
  - Path Bandwidth Estimate : 0x0
  - Minimum Path latency : 0xffffffff
  - Composed path MTU : 1500
 AdSpec Controlled Load
  - Service Break bit : 0x0
Num Paths Received :0
Num Paths Transmitted:6
Num Resvs Received :7
Num Resvs Transmitted:0
Num Summmary Paths Received :0
Num Summmary Paths Transmitted:0
Num Summmary Resvs Received :0
Num Summmary Resvs Transmitted:0
Created at 1804 (26 secs back)
-------------------------------------------------------------------------------
Total PSB Count : 1
*A:Dut-C#
*A:Dut-D# show router mpls lsp transit
===============================================================================
MPLS LSPs (Transit)
===============================================================================
Legend : @ - Active Detour
===============================================================================
From To In I/F Out I/F State LSP Name
-------------------------------------------------------------------------------
10.20.1.3 10.20.1.6 1/1/4 1/1/2 Up
6::6
-------------------------------------------------------------------------------
LSPs : 1
-------------------------------------------------------------------------------
*A:Dut-D# tools dump router rsvp psb detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
PSB:
P2P: Session (To: 10.20.1.6 - 6 - 10.20.1.3), Sender (10.20.1.3 - 41986) PHop 10.10
.11.3
PSB CurrState: PRIMARYS_CONNECTED PrevState: PRIMARYS_INIT Flags: 0x0
LocalLabel 524277 OutLabel 524279
Incoming IfIndex: ip-10.10.11.4(5)
Refresh interval 5, Send Path refresh in 3 secs, Path Refresh timeout 24 secs
Send Resv refresh in 4 secs
PrevHop: Ctype 1 Addr 10.10.11.3, LIH 5
DnStream Nbr: Addr-> 10.10.9.6 IfIndex ip-10.10.9.4(3)
UpStream Nbr: Addr-> 10.10.11.3 IfIndex ip-10.10.11.4(5)
Session Attribute:
  Session Name: 6::6
  HoldPri: 0 SetupPri: 7 Flags: 0x6
  Ctype: 7, IncludeGroup: 0x0 IncludeAllGroup: 0x0 ExcludeGroup: 0x0
ClassType: Absent
TSpec: Flags 0x8000 QOSC 1, PDR (infinity), PBS 0.000 bps, CDR (0.000 bps) MTU: 150
0
PSB RRO : ->
  (1) * Flags : 0x0 : I
  (1) * IPv4 -> 10.10.11.3(0.0.0.0)
PSB SENT RRO : ->
  (1) * Flags : 0x0 : I
  (1) * IPv4 -> 10.10.9.4(0.0.0.0)
  (2) * Flags : 0x0 : I
  (2) * IPv4 -> 10.10.11.3(0.0.0.0)
PSB FILTERSPEC RRO : ->
  (1) * Flags : 0x0 : I
  (1) * IPv4 -> 10.10.9.6(0.0.0.0)
  (2) * Flags : 0x1 : Global
  (2) * Label : 524279
PSB ERO : ->
  (1) IPv4Prefix 10.10.11.4/32, Strict
  (2) IPv4Prefix 10.10.9.6/32, Strict
PSB SENT ERO : ->
  (1) IPv4Prefix 10.10.9.6/32, Strict
SendTempl: Sender:10.20.1.3_41986
Received AdSpec: Flags 0x2
 AdSpec General
  - Service Break bit : 0x0
  - IS Hop Count : 0x0
  - Path Bandwidth Estimate : 0x0
  - Minimum Path latency : 0xffffffff
  - Composed path MTU : 1500
 AdSpec Controlled Load
  - Service Break bit : 0x0
Sent AdSpec: Flags 0x2
 AdSpec General
  - Service Break bit : 0x0
  - IS Hop Count : 0x0
  - Path Bandwidth Estimate : 0x0
  - Minimum Path latency : 0xffffffff
  - Composed path MTU : 1500
 AdSpec Controlled Load
  - Service Break bit : 0x0
Num Paths Received :12
Num Paths Transmitted:12
Num Resvs Received :13
Num Resvs Transmitted:14
Num Summmary Paths Received :0
Num Summmary Paths Transmitted:0
Num Summmary Resvs Received :0
Num Summmary Resvs Transmitted:0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Created at 1786 (55 secs back)
-------------------------------------------------------------------------------
Total PSB Count : 1
*A:Dut-D#
*A:Dut-F# show router mpls lsp terminate
===============================================================================
MPLS LSPs (Terminate)
===============================================================================
Legend : @ - Active Detour
===============================================================================
From To In I/F Out I/F State LSP Name
-------------------------------------------------------------------------------
10.20.1.3 10.20.1.6 1/1/1 n/a Up
6::6
-------------------------------------------------------------------------------
LSPs : 1
-------------------------------------------------------------------------------
*A:Dut-F# tools dump router rsvp psb detail
-------------------------------------------------------------------------------
PSB:
P2P: Session (To: 10.20.1.6 - 6 - 10.20.1.3), Sender (10.20.1.3 - 41986) PHop 10.10
.9.4
PSB CurrState: PRIMARYS_CONNECTED PrevState: PRIMARYS_IDLE Flags: 0x0
LocalLabel 524279 OutLabel 0
Incoming IfIndex: ip-10.10.9.6(2)
Refresh interval 5, Send Path refresh in 0 secs, Path Refresh timeout 23 secs
Send Resv refresh in 3 secs
PrevHop: Ctype 1 Addr 10.10.9.4, LIH 3
DnStream, Nbr: Addr-> 0.0.0.0 IfIndex Interface: Local API(-1)
UpStream Nbr: Addr-> 10.10.9.4 IfIndex ip-10.10.9.6(2)
Session Attribute:
  Session Name: 6::6
  HoldPri: 0 SetupPri: 7 Flags: 0x6
  Ctype: 7, IncludeGroup: 0x0 IncludeAllGroup: 0x0 ExcludeGroup: 0x0
ClassType: Absent
TSpec: Flags 0x8000 QOSC 1, PDR (infinity), PBS 0.000 bps, CDR (0.000 bps) MTU: 150
0
PSB RRO : ->
  (1) * Flags : 0x0 : I
  (1) * IPv4 -> 10.10.9.4(0.0.0.0)
  (2) * Flags : 0x0 : I
  (2) * IPv4 -> 10.10.11.3(0.0.0.0)
PSB SENT RRO : ->
NULL RRO
PSB FILTERSPEC RRO : ->
NULL RRO
PSB ERO : ->
  (1) IPv4Prefix 10.10.9.6/32, Strict
SendTempl: Sender:10.20.1.3_41986
Received AdSpec: Flags 0x2
 AdSpec General
  - Service Break bit : 0x0
  - IS Hop Count : 0x0
  - Path Bandwidth Estimate : 0x0
  - Minimum Path latency : 0xffffffff
  - Composed path MTU : 1500
 AdSpec Controlled Load
  - Service Break bit : 0x0
Num Paths Received :16
Num Paths Transmitted:0
Num Resvs Received :0
Num Resvs Transmitted:18
Num Summmary Paths Received :0
Num Summmary Paths Transmitted:0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Num Summmary Resvs Received :0
Num Summmary Resvs Transmitted:0
Created at 1773 (74 secs back)
-------------------------------------------------------------------------------
Total PSB Count : 1
```

20.44 ptp

ptp

Syntax

ptp

Context

[Tree] (show>service>id ptp)

Full Context

show service id ptp

Description

This command displays Precision Timing Protocol (PTP) information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following command shows PTP service information and Table 456: Output fields: service ID PTP describes the output fields.

```
show service id ptp
```

```
-------------------------------------------------------------------------------
PTP Configuration
-------------------------------------------------------------------------------
Admin State       : up                Oper State         : up
Peer Limit        : none
===============================================================================
```

Table 456: Output fields: service ID PTP

Label	Description
Admin State	The administrative state of PTP
Oper State	The operational state of PTP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Peer Limit	The maximum number of PTP peers that the system may create automatically

ptp

Syntax

ptp

Context

[Tree] (show>system ptp)

Full Context

show system ptp

Description

This command displays Precision Time Protocol (PTP) configuration and state information. This information can be displayed for the entire node or per router instance .

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of PTP information, and Table 457: Output fields: system PTP describes the output fields.

Output Example

```
show system ptp
```

```
===============================================================================
IEEE 1588/PTP Clock Information
===============================================================================

-------------------------------------------------------------------------------
Local Clock
-------------------------------------------------------------------------------
Clock Type        : boundary           PTP Profile        : ITU-T G.8275.2
Domain            : 44                 Network Type       : sdh
Admin State       : up                 Oper State         : up
Announce Interval : 1 pkt/2 s          Announce Rx Timeout: 3 intervals
Peer Limit        : none (Base Router) Holdover Spec Time : 600 seconds
G.8275 Priority   : 128                PTSF-unusable      : n/a
Number of Ports   : 1                  SDO ID             : 0
Clock Id          : 20e09cfffed3544f   Clock Class        : 6
Clock Accuracy    : within 100 ns      Clock Variance     : 0x4e5d (1.8E-15)
Clock Priority1   : 128                Clock Priority2    : 128
Steps Removed     : 0                  max Steps Removed  : 256
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Clock Mode        : locked             Elapsed            : 5 seconds
Sync Uncertain    : false
TxWhileSyncUncert : true

-------------------------------------------------------------------------------
Parent Clock
-------------------------------------------------------------------------------
Local Clock is Parent Clock
Parent Clock Id   : 20e09cfffed3544f   Remote PTP Port    : 0
GM Clock Id       : 20e09cfffed3544f   GM Clock Class     : 6
GM Clock Accuracy : within 100 ns      GM Clock Variance  : 0x4e5d (1.8E-15)
GM Clock Priority1: 128                GM Clock Priority2 : 128
Sync Uncertain    : false

-------------------------------------------------------------------------------
Time Properties
-------------------------------------------------------------------------------
Timescale           : PTP
Frequency Traceable : yes
Time Traceable      : yes
Time Source         : GPS
UTC Offset          : +37 seconds
Leap Second         : no leap second pending

-------------------------------------------------------------------------------
Central Frequency Clock
-------------------------------------------------------------------------------
Status                          : locked         Quality  : prs
Reference Selected              : GNSS

-------------------------------------------------------------------------------
PTP Frequency Recovery
-------------------------------------------------------------------------------
Frequency Recovery State        : initial        Changed  : 2024/10/02 11:06:42
Frequency Offset                : -132.531 ppb

-------------------------------------------------------------------------------
PTP Time Recovery
-------------------------------------------------------------------------------
Role              : backup
Clock Source      : 10.0.0.1
Router            : Base
Current Time      : 2024/10/02 15:07:54.9 (UTC)
Time Recovery State             : acquiring      Changed  : 2024/10/02 11:07:49
Last Packet Offset From Master  : -2 ns          Last Calc: 2024/10/02 11:07:55
Last Packet Mean Path Delay     : +20 ns         Last Calc: 2024/10/02 11:07:55
Last Adjustment                 : 0 ns           Last Calc: 2024/10/02 10:59:52
===============================================================================

===============================================================================
IEEE 1588/PTP Clock Information
===============================================================================

-------------------------------------------------------------------------------
Local Clock
-------------------------------------------------------------------------------
Clock Type        : boundary           PTP Profile        : ITU-T G.8275.2
Domain            : 44                 Network Type       : sdh
Admin State       : up                 Oper State         : up
Announce Interval : 1 pkt/2 s          Announce Rx Timeout: 3 intervals
Peer Limit        : none (Base Router)
G.8275 Priority   : 128                PTSF-unusable      : n/a
Number of Ports   : 2                  SDO ID             : 0
Clock Id          : dca120fffe344c56   Clock Class        : 165
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Clock Accuracy    : unknown            Clock Variance     : ffff (not computed)
Clock Priority1   : 128                Clock Priority2    : 128
Steps Removed     : 1
Clock Mode        : acquiring          Elapsed            : 12 seconds
Sync Uncertain    : true               Reason Uncertain   : clock stabilization
TxWhileSyncUncert : true

-------------------------------------------------------------------------------
Parent Clock
-------------------------------------------------------------------------------
Port              : 1/1/2              Remote MAC Address : e4:81:84:1a:bb:87
Parent Clock Id   : 242124fffef3723f   Remote PTP Port    : 1
GM Clock Id       : 242124fffef3723f   GM Clock Class     : 6
GM Clock Accuracy : within 100 ns      GM Clock Variance  : 0x4e5d (1.8E-15)
GM Clock Priority1: 128                GM Clock Priority2 : 128
Sync Uncertain    : false

-------------------------------------------------------------------------------
Time Properties
-------------------------------------------------------------------------------
Timescale           : PTP
Frequency Traceable : yes
Time Traceable      : yes
Time Source         : GPS
UTC Offset          : +37 seconds
Leap Second         : no leap second pending

-------------------------------------------------------------------------------
Central Frequency Clock
-------------------------------------------------------------------------------
Status                          : locked         Quality  : prc
Reference Selected              : ptp

-------------------------------------------------------------------------------
PTP Frequency Recovery
-------------------------------------------------------------------------------
Frequency Recovery State        : locked         Changed  : 2024/10/02 14:25:14
Frequency Offset                : -132.531 ppb

-------------------------------------------------------------------------------
PTP Time Recovery
-------------------------------------------------------------------------------
Role              : time source
Clock Source      : 1/1/2
Remote MAC Address: e4:81:84:1a:bb:87
Current Time      : 2024/10/02 21:14:48.0 (UTC)
Time Recovery State             : locked         Changed  : 2024/10/02 14:21:34
Last Packet Offset From Master  : -2 ns          Last Calc: 2024/10/02 17:14:48
Last Packet Mean Path Delay     : +20 ns         Last Calc: 2024/10/02 17:14:48
Last Adjustment                 : 0 ns           Last Calc: 2024/10/02 17:13:18
===============================================================================
```

Table 457: Output fields: system PTP

Label	Description
Local Clock	
Clock Type	The type of clock of the network element.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• ordinarySlave — The system is always a TimeReceiver clock in the PTP hierarchy. The system derives its timing from one or more TimeTransmitter clocks in the network. • ordinaryMaster — The system is a grandmaster clock in the PTP hierarchy. The system provides timing to multiple TimeReceiver clocks in the network. • boundary — The system is a boundary clock, which may be anywhere in the PTP clock hierarchy. It can obtain timing from a TimeTransmitter clock, and provide timing to multiple Time Receiver clocks.
PTP Profile	The Precision Time Protocol (PTP) profile specifies the standard to which PTP conforms • g8265dot1-2010 — The PTP profile specified in the ITU-T G.8265.1 recommendation • ieee1588-2008 — The default PTP profile specified in the IEEE 1588-2008 standard • g8275dot1-2014 — The PTP profile specified in the ITU-T G.8275.1 recommendation
Domain	The domain in which PTP 1588 runs on the system
Network Type	The SR OS is configured to use PTP clock classes corresponding to either SONET or SDH quality levels
Admin State	The administrative state of PTP
Oper State	The operational state of PTP
Announce Interval	The packet rate requested in REQUEST_UNICAST_TRANSMISSION signaling messages for announce packets
Announce Rx Timeout	The number of announce intervals that have to occur without receiving a PTP announce message before the PTP event ANNOUNCE_RECEIPT_TIMEOUT_EXPIRES occurs
Holdover Spec Time	The configured amount of time to be considered within the holdover specifications, for the purposes of determining the clockClass after the PTP clock has lost reference to GNSS for a GM PTP clock or lost reference to the GM as a Boundary Clock
Peer Limit	The maximum number of PTP peers that may be automatically created by the system on this router instance
G.8275.1 Priority	The priority used in the best TimeTransmitter clock algorithm for the local (internal) PTP port when Clock Profile is g8275dot1-2014
PTSF-unusable	The PTSF unusable administrative state

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Number of Ports	The numberPorts value of the local PTP clock (defaultDS)
SDO ID	The sdoId value of the local PTP clock (defaultDS)
Clock ID	The clock Identity value of the local PTP clock (defaultDS)
Clock Class	The clockClass value of the local PTP clock (defaultDS)
Clock Accuracy	The clockAccuracy value accuracy of the local PTP clock (defaultDS)
Clock Variance	The offsetScaledLogVariance value of the local PTP clock (defaultDS)
Clock Priority1	The priority1 value of the local PTP clock (defaultDS)
Clock Priority2	The priority2 value of the local PTP clock (defaultDS)
max Steps Removed	Any Announce message received with Steps Removed that is equal or greater than the configured maximum steps removed value, are ignored. This is useful to ensure the desired level of PTP performance, as longer paths may degrade the accuracy
Steps Removed	The steps removed value used in Announce messages sent from this PTP clock
Clock Mode	The clockMode value of the local PTP clock (defaultDS), as described in ITU-T G.8275 Appendix VIII • freerun • acquiring • locked • holdover within specification • holdover out of specification
Elapsed	The amount of time that the clock has been in the current clock mode
Sync Uncertain	For the local clock: the value of the synchronization uncertainty that is used in Announce messages transmitted by this node. For the parent clock: the value received in the Announce messages from that clock.
Reason Uncertain	Provides an explanation for a Sync Uncertain true indication. • parent uncertain — Parent clock has syncUncertain true in its Announce messages • parent clock class — Parent clock quality is not clockClass 6 • local clock class — Local clock is the parent clock and the local clock quality is not clockClass 6 • sets not locked — Central frequency clock is not locked to a reference

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• sets quality — Central frequency clock is locked to a reference that is not PRC or PRS • time not locked — PTP time algorithm is not locked • freq not locked — PTP frequency algorithm is not locked
TxWhileSync Uncertain	The value of the **tx-while-sync-uncertain** configuration item
PTP Port State	The PTP port state. Only shown for ordinary clocks which contain only one PTP port
Last Changed	The date and time of the last change of the PTP port state
Parent Clock	
Port	The port that is being used as a backup to a local GNSS time source
Remote MAC Address	The MAC address of the parent clock port sending PTP message to the local PTP clock
Parent Clock ID	The clock Identity of the parent clock
Remote PTP Port	The port number of the PTP port on the parent clock that is used to communicate with the local PTP clock
Local Clock is Parent Clock	Displayed if there is no external parent clock
GM Clock Id	The clockIdentity value of the grandmaster clock advertised by the parent clock
GM Clock Class	The clockClass value of the grandmaster clock advertised by the parent clock
GM Clock Accuracy	The clockAccuracy value of the grandmaster clock advertised by the parent clock
GM Clock Variance	The offsetScaledLogVariance value of the grandmaster clock advertised by the parent clock
GM Clock Priority1	The priority1 value of the grandmaster clock advertised by the parent clock
GM Clock Priority2	The priority2 value of the grandmaster clock advertised by the parent clock
Time Properties	
Timescale	The time scale of the time distributed by PTP
Frequency Traceable	Indicates if the time distributed by PTP is traceable a primary reference

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Time Traceable	Indicates if the time distributed by PTP is traceable to a primary reference
Time Source	The source of time used by the grandmaster clock
UTC Offset	The current offset between the International Atomic Time (TAI) and Universal Coordinated Time (UTC) timescales
Leap Second	Indicates if there is a leap second pending
Central Frequency Clock	
Status	The state of the central frequency clock
Quality	The quality level of the source into the central frequency clock
Reference Selected	The reference currently in use as the source into the central frequency clock
PTP Frequency Recovery	
Frequency Recovery State	The state of the frequency recovery algorithm. • notApplicable — The system is not attempting to recover a clock. • initial — The system is configured to recover a clock, but not enough information has yet been received to adjust the local clock to match a TimeTransmitter clock. • acquiring — The system has enough information to attempt clock recovery, and has started the process of adjusting its local clock frequency to match the TimeTransmitter clock. • phaseTracking — The system has adjusted its local clock to the approximate frequency of the TimeTransmitter clock, and is adjusting the local clock to minimize the phase difference between the two clocks. • holdover — The system has stopped receiving useful information from the chosen TimeTransmitter clock, and is maintaining the last estimated frequency for its local clock. • locked — The system is locked to the chosen TimeTransmitter clock and the phase error between the TimeTransmitter clock and the local clock is relatively small.
Last Changed	The date and time of the last change of the PTP Recovery State
Frequency Offset	The offset computed by the frequency recovery algorithm required to align the local oscillator to the frequency of the parent clock. The value is provided in parts per billion. Positive values indicate that the recovered clock is faster than nominal, and negative values indicate that the recovered clock is slower than nominal.
PTP Time Recovery	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Role	The role of the PTP time recovery clock • backup — The PTP time recovery clock is in a backup clock scenario • time source — The PTP time recovery clock is in a time source clock scenario
Clock Source	The IP address of the clock source
Router	The router used for PTP time recovery
Current Time	The date and time. If the timescale is PTP, then the time is converted to UTC time based on the current offset between UTC and PTP time.
Time Recovery State	The state of the time recovery algorithm. • acquiring — The time recovery is active but it is not in locked or holdover state • locked — The time recovery algorithm is generating time adjustments within the locked performance range • holdover — No adjustment has been made out of the time recovery algorithm for a period of time
Last Packet Offset From Master	The offsetFromMaster calculated from the last packet exchange with the parent clock
Last Calc	The time at which the previous field was calculated
Last Packet Mean Path Delay	The meanPathDelay calculated from the last packet exchange with the parent clock
Last Adjustment	The nanosecond change to the local time scale that last came out of the time recovery algorithm

ptp

Syntax

ptp

Context

[Tree] (clear>service>id ptp)

[Tree] (clear>system ptp)

Full Context

clear service id ptp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

clear system ptp

Description

Commands in this context clear Precision Timing Protocol (PTP) information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.45 ptp-reset

ptp-reset

Syntax

ptp-reset

Context

[Tree] (tools>perform>mda ptp-reset)

Full Context

tools perform mda ptp-reset

Description

This command resets the PTP timing subsystem on the target MDA. When a PTP timeReceiver port indicates abnormal or extreme values for the offsetFromMaster or the meanPathDelay, it may be because of the PTP timing subsystem of the MDA on the timeTransmitter or on the MDA of the timeReceiver. This command can be used to reinitialize the timing subsystem on an MDA without impacting traffic.

Note: While this command can be used to remedy such a situation, Nokia recommends to first capture any relevant debug files, like admin tech-support, for Nokia investigation.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.46 ptsf-unusable

ptsf-unusable

Syntax

ptsf-unusable

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>system>ptp>port>neighbor ptsf-unusable)

Full Context

clear system ptp port neighbor ptsf-unusable

Description

This command clears the PTSF-unusable condition from the neighbor PTP clock.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

20.47 public-static-devices

public-static-devices

Syntax

public-static-devices [**mac** *ieee-address*]

Context

[Tree] (show>subscr-mgmt>vrgw>brg>gateway public-static-devices)

Full Context

show subscriber-mgmt vrgw brg gateway public-static-devices

Description

This command displays public static device mappings.

Parameters

ieee-address

Specifies the MAC address, up to 30 characters.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.48 pw

pw

Syntax

pw

Context

[Tree] (tools>perform>service>id>admin-lock pw)

[Tree] (tools>perform>service>id>loopback pw)

Full Context

tools perform service id admin-lock pw

tools perform service id loopback pw

Description

In the admin-lock context, this command administratively locks the specified spoke SDP by locking the host service. The command must be executed at both ends of the PW or MS-PW represented by the spoke SDP. Test traffic can then be injected using a test SAP.

In the loopback context, this command enters the MPLS-TP PW context for starting or stopping a loopback on a specified spoke SDP. An administrative lock should first be applied to both ends of the PW or MS-PW represented by the spoke SDP prior to configuring the loopback.

Loopback functions for MPLS-TP pseudowire can be specified for either a T-PE or S-PE.

Platforms

All

20.49 pw-port

pw-port

Syntax

pw-port [*pw-port-id*] [**detail**]

pw-port sdp *sdp-id*

pw-port sdp none

pw-port [*pw-port-id*] **statistics**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show pw-port)

Full Context

show pw-port

Description

Displays pseudo-wire port information.

If no optional parameters are specified, the command displays a summary of all defined PW ports. The optional parameters restrict output only to ports matching the specified properties.

Parameters

pw-port-id

Specifies the pseudo-wire port identifier.

Values 1 to 32767

detail

Displays detailed port information that includes all the **pw-port** output fields.

sdp-id

The SDP ID for which to display matching PW port information.

Values 1 to 32767

sdp none

Displays information about FPE-based PW-ports that are not associated with any internal SDPs.

statistics

Displays port statistics information.

Platforms

All

Output

The following output is an example of PW port information, and Table 458: Output fields: PW port describes the output fields.

Output Example

```
#show pw-port
===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP        IfIndex             VC-Id
-------------------------------------------------------------------------------
1         dot1q          1          1526726657          1
2         qinq           1          1526726658          2
3         dot1q          1          1526726659          3
4         qinq           1          1526726660          4
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
#show pw-port 3
===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP        IfIndex            VC-Id
-------------------------------------------------------------------------------
3         dot1q          1          1526726659         3
===============================================================================

#show pw-port sdp none

===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP        IfIndex            VC-Id
-------------------------------------------------------------------------------
5         dot1q                     1526726661
===============================================================================


#show pw-port sdp 1
===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP        IfIndex            VC-Id
-------------------------------------------------------------------------------
1         dot1q          1          1526726657         1
2         qinq           1          1526726658         2
3         dot1q          1          1526726659         3
4         qinq           1          1526726660         4
===============================================================================
```

Table 458: Output fields: PW port

Label	Description
PW Port	The PW port identifier
Encap	The encapsulation type of the PW port
SDP	The SDP identifier
IfIndex	The interface index used for the PW port
VC-Id	The Virtual Circuit identifier

The following output is an example of detailed PW port information, and Table 459: Output fields: PW port detail describes the output fields.

Output Example

```
#show pw-port 10 detail
===============================================================================
PW Port Information
===============================================================================
PW Port                          : 10
Encap                            : dot1q
SDP                              : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IfIndex                          : 1526726666
VC-Id                            : 2
Description                      : PW Port
Dot1Q Ethertype                  : 0x8100
Service ID                       : 20211
Down on Peer Tldp PW Status Faults: No
Oper Up on MH Standby            : No
===============================================================================
===============================================================================
Service Destination Point (Sdp Id 1 Pw-Port 10)
===============================================================================
SDP Binding port     : 1/1/c1/3
VC-Id                : 2                    Admin Status       : up
Encap                : dot1q                Oper Status        : up
VC Type              : ether
Dot1Q Ethertype      : 0x8100
Control Word         : Not Preferred
Entropy Label        : Enabled
Service MTU          : default

Admin Ingress label  : None                 Admin Egress label : None
Oper Flags           : (Not Specified)
Monitor Oper-Group   : (Not Specified)


#show service id 2147483649 sdp 1:2 detail
===============================================================================
Service Destination Point (Sdp Id : 1:2) Details
===============================================================================
-------------------------------------------------------------------------------
 Sdp Id 1:2  -(10.20.1.2)
-------------------------------------------------------------------------------
Description     : Default sdp description
SDP Id              : 1:2                   Type               : Spoke
Spoke Descr     : (Not Specified)
Split Horiz Grp     : (Not Specified)
Etree Root Leaf Tag: Disabled               Etree Leaf AC      : Disabled
VC Type             : Ether                 VC Tag             : n/a
Admin Path MTU      : 0                     Oper Path MTU      : 1514
Delivery            : MPLS
Far End             : 10.20.1.2             Tunnel Far End     :
Oper Tunnel Far End: 10.20.1.2
LSP Types           : LDP
Hash Label          : Disabled              Hash Lbl Sig Cap   : Disabled
Oper Hash Label     : Disabled
Entropy Label       : Enabled

Admin State         : Up                    Oper State         : Up
MinReqd SdpOperMTU : n/a
Acct. Pol           : None                  Collect Stats      : Disabled
Ingress Label       : 524276                Egress Label       : 524281
Ingr Mac Fltr-Id    : n/a                   Egr Mac Fltr-Id    : n/a
Ingr IP Fltr-Id     : n/a                   Egr IP Fltr-Id     : n/a
Ingr IPv6 Fltr-Id   : n/a                   Egr IPv6 Fltr-Id   : n/a
Admin ControlWord   : Not Preferred         Oper ControlWord   : False
BFD Template        : None
BFD-Enabled         : no                    BFD-Encap          : ipv4
BFD Fail Action     : none                  BFD Oper State     : notConfigured
BFD WaitForUpTimer : 0 secs
BFD Time Remain     : 0 secs
Last Status Change : 03/29/2021 14:47:13    Signaling          : TLDP
Last Mgmt Change    : 03/29/2021 14:47:13
Endpoint            : N/A                   Precedence         : 4
PW Status Sig       : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Force Vlan-Vc      : Disabled                 Force Qinq-Vc     : none
Class Fwding State : Down
Local Pw Bits      : None
Peer Pw Bits       : None
Peer Fault Ip      : None

Application Profile: None
Transit Policy     : None
MAC Pinning        : Disabled
Oper Group         : (none)                   Monitor Oper Grp  : (none)
Ingress Qos Policy : (none)                   Egress Qos Policy : (none)
Ingress FP QGrp    : (none)                   Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                   Egr Port QGrp Inst: (none)

KeepAlive Information :
Admin State        : Disabled                 Oper State        : Disabled
Hello Time         : 10                       Hello Msg Len     : 0
Max Drop Count     : 3                        Hold Down Time    : 10

Statistics            :
I. Fwd. Pkts.      : 0                        I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                        I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 0                        E. Fwd. Octets    : 0

-------------------------------------------------------------------------------
LDP Information :
-------------------------------------------------------------------------------
LDP LSP Id         : 65537

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated

-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                 EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn
Multicast LSP      : None
===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings

-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
ISIS               : disabled
OSPF               : disabled
TE-LSP             : disabled
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 459: Output fields: PW port detail

Label	Description
PW Port	The PW port identifier.
Encap	The encapsulation type of the PW port.
SDP	The SDP identifier
IfIndex	The interface index used for the PW port
VC-Id	The virtual circuit identifier
Description	The description of the PW port
Dot1Q Ethertype	The Dot1Q ethernet type
Service Id	The service ID
Down on Peer Tldp PW Status Faults	The down on peer TLDP PW status faults
Oper Up on MH Standby	The operational up status on MH standby
I. Fwd. Pkts	The number of forwarded packets ingressing this PW port
I. Fwd. Octs	The number of forwarded octets ingressing this PW port
E. Fwd. Pkts	The number of forwarded packets egressing this PW port
I. Dro. Pkts	The number of dropped packets on ingress
I. Dro. Octs	The number of dropped octets on ingress
E. Fwd. Octets	The number of forwarded octets egressing this PW port

The following outputs are examples of VSR PW port information.

Output Example
The following output is an example using the L2oGRE tunnel type for the VSR only.

```
show pw-port 10
===============================================================
PW Port Information
===============================================================
PW Port   Encap          SDP:VC-Id  IfIndex             Epipe
---------------------------------------------------------------
10        dot1q          N/A        1526726666          10239
===============================================================
show pw-port 10
===================================================================
PW Port Information
===================================================================
PW Port   Encap          SDP:VC-Id               IfIndex
-------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10        dot1q          1:2                    1526726666
===============================================================================
```

The following output is an example using the MPLS tunnel type for the VSR only.

```
*A:Dut-C# show pw-port 10
===============================================================================
PW Port Information
===============================================================================
PW Port   Encap          SDP:VC-Id              IfIndex
-------------------------------------------------------------------------------
10        dot1q          17281:100010           1526726666
===============================================================================
*A:vSIM# show pw-port 1 statistics
===============================================================================
Pw-Port 1
===============================================================================
Statistics            :
I. Fwd. Pkts.        : 0                    I. Dro. Pkts.      : 0
I. Fwd. Octs.        : 0                    I. Dro. Octs.      : 0
E. Fwd. Pkts.        : 22514728             E. Fwd. Octets     : 22424666292
Grp Enc Stats         :
I. Dro. Inv. Spi.    : 0                    I. Dro. OthEncPkts.: 0
E. Dro. Enc. Pkts.   : 0
```

The following output is an example of the PW port statistics output for the VSR only, and Table 460: Output fields: PW port statisticsdescribes the output fields.

```
*A:Dut-B#  show pw-port 10 statistics
===============================================================================
Pw-Port 10
===============================================================================
Statistics            :
I. Fwd. Pkts.        : 0                    I. Dro. Pkts.      : 0
I. Fwd. Octs.        : 0                    I. Dro. Octs.      : 0
E. Fwd. Pkts.        : 0                    E. Fwd. Octets     : 0
Grp Enc Stats         :
I. Dro. Inv. Spi.    : 0                    I. Dro. OthEncPkts.: 0
E. Dro. Enc. Pkts.   : 0
```

Table 460: Output fields: PW port statistics

Label	Description
PW Port	The PW port identifier
Encap	The encapsulation type of the PW port
SDP:VD-Id	This field is not applicable to the Flex PW port
IfIndex	The interface index used for the PW port
Epipe	The ID of the Epipe service in which this PW port is configured. The tunnel type that is terminated on this PW port can be determined from the Epipe.
Description	The description string for the PW port

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Service Id	The ID of the Epipe service in which this PW port is configured
Admin Status	The Admin status of the SDP
Oper Status	The operational status of the SDP
I. Fwd. Pkts.	The number of forwarded packets ingress in this PW port
I. Fwd. Octs.	The number of forwarded octets ingressing this PW port
E. Fwd. Pkts.	The number of forwarded packets egressing this PW port
I. Dro. Pkts.	The number of dropped packets on ingress
I. Dro. Octs.	The number of dropped octets on ingress
E. Fwd. Octets.	The number of forwarded octets egressing this PW port
Grp Enc Stats	Not applicable to Flex PW port

pw-port

Syntax

pw-port *pw-port-id* **statistics**

Context

[Tree] (clear pw-port)

Full Context

clear pw-port

Description

This command clears PW port statistics for the specified ID.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.50 pw-port-list

pw-port-list

Syntax

pw-port-list

Context

[Tree] (show>service>system pw-port-list)

Full Context

show service system pw-port-list

Description

This command displays system PW port list information.

Platforms

VSR

Output

The following output is an example of system **pw-port-list** information.

Output Example

```
*A:Dut-B>config>service>system# show service system pw-port-list
===============================================================================
  PW Port List
===============================================================================
  Ports
-------------------------------------------------------------------------------
  1/1/1
  1/1/2
  1/1/3
  1/1/4
  1/1/5
  1/1/6
-------------------------------------------------------------------------------
  Number of Entries: 6
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.51 pw-sap-using

pw-sap-using

Syntax

pw-sap-using

Context

[Tree] (show>service pw-sap-using)

Full Context

show service pw-sap-using

Description

This command displays service SAP PW port information.

Platforms

All

Output

The following output is an example of PW SAP port information.

Output Example

```
===============================================================================
Service Access Points
===============================================================================
PortId                          SvcId      Ing.  Ing.    Egr.  Egr.   Adm  Opr
                                           QoS   Fltr    QoS   Fltr
-------------------------------------------------------------------------------
pw-1:0                          1          1     none    1     none   Up   Up
pw-1:1                          1          1     none    1     none   Up   Up
pw-2:2.1                        2          1     none    1     none   Up   Up
pw-2:0.*                        2          1     none    1     none   Up   Up
pw-2:1.*                        2          1     none    1     none   Up   Up
pw-3:3                          3          1     none    1     none   Up   Up
pw-4:4.*                        4          1     none    1     none   Up   Up
-------------------------------------------------------------------------------
Number of SAPs : 7
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.52 pw-template

pw-template

Syntax

pw-template [*policy-id*]

Context

[Tree] (show>service pw-template)

Full Context

show service pw-template

Description

This command displays PW template information.

Platforms

All

Output

The following output is an example of PW template information.

Output Example

```
*A:Dut-B#    show service  pw-template 1
===============================================================================
PW Template Information
===============================================================================
PW Tmpl Id           : 1
Use Provisioned Sdp  : enabled             VcType           : vlan
Acctg Policy         : default             Collect Stats    : disabled
Mac-Learning         : enabled             Mac-Ageing       : enabled
Discard Unkn Src     : disabled            Limit MacMove    : blockable
Mac-Pinning          : disabled            Vlan VcTag       : 4095
MAC Address Limit    : no limit            Rest Prot Src Mac: disabled
Auto Learn Mac Prot  : disabled            RestProtSrcMacAct: disable
Block On Peer Fault  : disabled

SHG
Name                 :
Description          : (Not Specified)
Rest Prot Src Mac    : disabled            Rest Unprot Dst  : disabled
Auto Learn Mac Prot  : disabled            RestProtSrcMacAct: disable

Egress
Mac FilterId         : none                Ip FilterId      : none
Ipv6 FilterId        : none                QoS NetPlcyId    : none
Port RedirectQGrp    : none                Instance Id      : none

Ingress
Mac FilterId         : none                Ip FilterId      : none
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ipv6 FilterId        : none                 QoS NetPlcyId    : none
Fp RedirectQGrp      : none                 Instance Id      : none

IGMP
Fast Leave           : disabled             Import Plcy      : none
Last Memb Intvl      : 10 deci-secs         Max Nbr Grps     : 0
Send Queries         : disabled
Version              : 3

Force VlanVc Fwd     : disabled             Control Word     : disabled
Hash Label           : disabled             Hash Lbl Sig Cap : disabled
Last Changed         : 02/12/2013 22:11:49
-------------------------------------------------------------------------
Included SDP-Groups
-------------------------------------------------------------------------
red
-------------------------------------------------------------------------
```

20.53 pxc

pxc

Syntax

pxc [*pxc-id*]

Context

[Tree] (show>port pxc)

Full Context

show port pxc

Description

This command displays PXC port information.

Parameters

pxc-id

Specifies the PXC ID.

Values 1 to 64

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.54 python

python

Syntax

python

Context

[Tree] (clear python)

Full Context

clear python

Description

Commands in this context clear Python commands.

Platforms

All

python

Syntax

python

Context

[Tree] (show python)

Full Context

show python

Description

Commands in this context display Python information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

python

Syntax

python

Context

[Tree] (tools>dump python)

Full Context

tools dump python

Description

Commands in this context dump Python information.

Platforms

All

20.55 python-policy

python-policy

Syntax

python-policy *name* **cache**

python-policy *name* **cache hex-key** *hex-string*

python-policy *name* **cache string-key** *string-key*

Context

[Tree] (tools>dump>python python-policy)

Full Context

tools dump python python-policy

Description

This command dumps all cached entries or a specified entry of a specified Python policy.

The DDP key in the output is the python cache persistency record key.

Note:
The DDP Key in the output could be used for the **tools>dump>persistence>python** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

name

Specifies the name of the Python policy, up to 32 characters.

string-key

Specifies the key of the entry to be updated in ASCII strong format, up to 512 characters maximum.

hex-key

Specifies the key of the entry to be updated in hex string format.

Values 0x0..0xFFFFFFFF...(988 hex nibbles maximum)

Platforms

All

python-policy

Syntax

python-policy *name* **cache hex-key** *hex-string* **set-lifetime** [*lifetime*]

python-policy *name* **cache** *string-key* [512 chars max] **set-lifetime** [*lifetime*]

Context

[Tree] (tools>perform python-policy)

Full Context

tools perform python-policy

Description

This command set the lifetime of a specified python cache entry.

Parameters

name

Specifies the name of the Python policy, up to 32 characters.

string-key

Specifies the key of the entry to be updated in ASCII strong format.

hex-string

Specifies the key of the entry to be updated in hex string format.

set-lifetime

Specifies the new lifetime of the entry.

Values 1 to 2147483647

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

python-policy

Syntax

python-policy

python-policy *policy-name* [**association**]|

Context

[Tree] (show>python python-policy)

Full Context

show python python-policy

Description

This command displays information about the currently configured Python policy.

The system will display a list of currently configured Python policy names if no parameter is specified.

Parameters

policy-name

Specifies the Python policy name, up to 32 characters, to display.

association

Displays the associations of the specified Python policy.

Platforms

All

Output

The following output is an example of DHCP Python policy information

Output Example

```
show python python-policy "dhcp"
===============================================================================
Python policy "dhcp"
===============================================================================
Description   : (Not Specified)
-------------------------------------------------------------------------------
Messages
-------------------------------------------------------------------------------
Type                                Dir     Script
-------------------------------------------------------------------------------
dhcpDiscover                        egress  dhcpv4
dhcpRequest                         egress  dhcpv4
dhcpAck                             ingress dtc
-------------------------------------------------------------------------------
No. of Messages: 3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
===============================================================================


show python python-policy "dhcp" association
===============================================================================
Python Policy Association
===============================================================================
Location
-------------------------------------------------------------------------------
Service: 500, GrpIf g1, dhcp
-------------------------------------------------------------------------------
No. of Python policy association: 1
===============================================================================
```

python-policy

Syntax

python-policy *name* **cache all**

python-policy *name* **cache hex-key** *hex-string*

python-policy *name* **cache string-key** *string-key*

Context

[Tree] (clear>python python-policy)

Full Context

clear python python-policy

Description

This command clears Python policy data.

Parameters

name

Specifies the name of the Python policy, up to 32 characters.

string-key

Specifies the key of the entry to be updated in ASCII strong format, up to 512 characters maximum.

hex-string

Specifies the key of the entry to be updated in hex string format.

Values 0x0..0xFFFFFFFF...(988 hex nibbles maximum)

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

20.56 python-script

python-script

Syntax

python-script

python-script *script-name* [**association** | **source-in-use**]

Context

[Tree] (show>python python-script)

Full Context

show python python-script

Description

This command displays information about the currently configured Python script.

The system will display a list of currently configured Python script names if no parameter is specified.

Parameters

script-name

Specifies the Python script name, up to 32 characters, to display information.

association

Displays the associations of the specified Python script.

source-in-use

Displays the Python source code in use.

Platforms

All

Output

The following output is an example of Python script information.

Output Example

```
show python python-script "dhcpv4"
===============================================================================
Python script "dhcpv4"
===============================================================================
Description   : (Not Specified)
Admin state   : inService
Oper state    : inService
Action on fail: drop
Protection    : none
Primary URL   : cf1:/dhcpv4.py
Secondary URL : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Tertiary URL  : (Not Specified)
Active URL    : primary
Last changed  : 01/26/2014 05:02:10
===============================================================================


show python python-script "dhcpv4" association
===============================================================================
Python Script Association
===============================================================================
Policy                          Type                                Dir
-------------------------------------------------------------------------------
dhcp                            dhcpDiscover                        egress
dhcp                            dhcpRequest                         egress
-------------------------------------------------------------------------------
No. of Python script association: 2
===============================================================================
```

python-script

Syntax

python-script

Context

[Tree] (tools>perform python-script)

Full Context

tools perform python-script

Description

Commands in this context perform Python script operations.

Platforms

All

python-script

Syntax

python-script *script-name* **nat-group** *nat-group-id* **statistics**

python-script *script-name* **wlan-gw-group** *wlan-gw-group-id* **statistics**

Context

[Tree] (clear>python python-script)

Full Context

clear python python-script

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears Python script statistics.

Parameters

script-name

Specifies the Python script name, up to 32 characters, to display information.

wlan-gw-group-id

Specifies the WLAN-GW group ID.

Values 1 to 4

nat-group-id

Specifies the NAT group ID.

Values 1 to 8 (7750 SR-12)
1 to 4 (all other platforms)

Platforms

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

20.57 python-script protect

python-script protect

Syntax

python-script protect input *file-url* **hmac-sha256 key** *secret-key* **output** *file-url*

Context

[Tree] (tools>perform python-script protect)

Full Context

tools perform python-script protect

Description

This command converts a normal (unprotected) Python script file into an SRPY format with specified key.

Parameters

input *file-url*

Specifies the URL of the input script file, up to 180 characters.

key *secret-key*

Specifies the key used to compute the hash, up to 128 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

output *file-url*

Specifies the URL of the output script file, up to 180 characters.

Platforms

All

20.58 python-script reload

python-script reload

Syntax

python-script reload *name*

Context

[Tree] (tools>perform python-script reload)

Full Context

tools perform python-script reload

Description

This command reloads and recompiles the primary, secondary, and tertiary scripts in the specified Python script, in that order. The system uses the first script that comes up.

Note:
Executing this command may update the last modified time for the system configuration.

Parameters

name

Specifies the name of the Python script to be reloaded, up to 32 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

21 q Commands

21.1 qos

qos

Syntax

qos

Context

[Tree] (clear qos)

Full Context

clear qos

Description

Commands in this context clear QoS statistics.

Platforms

All

qos

Syntax

qos

Context

[Tree] (show qos)

Full Context

show qos

Description

Commands in this context display QoS information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

qos

Syntax

qos

Context

[Tree] (tools>dump qos)

Full Context

tools dump qos

Description

Commands in this context dump QoS information.

Platforms

All

qos

Syntax

qos

Context

[Tree] (monitor qos)

Full Context

monitor qos

Description

Commands in this context configure criteria to monitor QoS scheduler statistics for specific customers and SAPs.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

21.2 querier

querier

Syntax

querier

Context

[Tree] (show>service>id>mld-snooping querier)

Full Context

show service id mld-snooping querier

Description

This command displays information about the current querier.

Platforms

All

Output

The following output is an example of service MLD snooping querier information.

Output Example

```
*A:rbae_C# show service id 1 mld-snooping querier
===============================================================================
MLD Snooping Querier info for service 1
===============================================================================
Sap Id                  : 2/1/5
IP Address              : FE80:db8:12
Expires                 : 11s
Up Time                 : 0d 00:13:35
Version                 : 2

General Query Interval  : 10s
Query Response Interval : 1.0s
Robust Count            : 2
===============================================================================
*A:rbae_C#
```

querier

Syntax

querier

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id>igmp-snooping querier)

Full Context

show service id igmp-snooping querier

Description

This command displays information on the IGMP snooping queriers for the VPLS service.

Platforms

All

Output

Output Example

```
*A:ALA-1>show>service>id>snooping# querier
===============================================================================
IGMP Snooping Querier info for service 10
===============================================================================
Sap Id                  : 1/1/1
IP Address              : 10.10.10.1
Expires                 : 6s
Up Time                 : 0d 00:56:50
Version                 : 3

General Query Interval  : 5s
Query Response Interval : 2.0s
Robust Count            : 2
===============================================================================
*A:ALA-1>show>service>id>snooping#
```

Table 461: Output fields: IGMP snooping queriers describes the show output fields.

Table 461: Output fields: IGMP snooping queriers

Label	Description
SAP Id	Specifies the SAP ID of the service.
IP address	Specifies the IP address of the querier.
Expires	The time left, in seconds, that the query will expire.
Up time	The length of time the query has been enabled.
Version	The configured version of IGMP.
General Query Interval	The frequency at which host-query packets are transmitted.
Query Response Interval	The time to wait to receive a response to the host-query message from the host.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Robust Count	Specifies the value used to calculate several IGMP message intervals.

querier

Syntax

querier

Context

[Tree] (clear>service>id>igmp-snooping querier)

Full Context

clear service id igmp-snooping querier

Description

This command clears the information on the IGMP snooping queriers for the VPLS service.

Platforms

All

querier

Syntax

querier

Context

[Tree] (clear>service>id>mld-snooping querier)

Full Context

clear service id mld-snooping querier

Description

This command clears MLD snooping querier information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

21.3 query-results

query-results

Syntax

query-results id *query-id*

query-results name *query-name*

Context

[Tree] (show>subscr-mgmt>wlan-gw>tunnels query-results)

Full Context

show subscriber-mgmt wlan-gw tunnels query-results

Description

This command shows the results of a query configured under **subscr-mgmt>wlan-gw>ue-query**.

Parameters

query-id

Identifies the query by numeric ID.

Values 1 to 1024

query-name

Identifies the query name, up to 32 characters.

Platforms

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

Output

The following output is an example of the results of a tunnel query.

Output Example

```
WLAN-GW> show subscriber-mgmt wlan-gw tunnels query-results name "min_3_dsm_ue"
===============================================================================
WLAN-GW tunnels
===============================================================================
Router                      : 10
Encapsulation               : gre
Remote IP address           : 10.0.0.2
Local IP address            : 10.0.0.10
ISA group ID                : 1
ISA member ID               : 1
Interface                   : grp-itf
Interface Service ID        : 5
First move time             : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
AP MAC address              : (Unknown)
AP MAC learn failed         : true
No. of UE                   : 3
No. of migrant UE           : 0
No. of DSM UE               : 3
No. of layer-2 wholesale UE : 0
No. of cross-connect UE     : 0
No. of ESM UE               : 0
-------------------------------------------------------------------------------
Router                      : 10
Encapsulation               : gre
Remote IP address           : 10.0.0.4
Local IP address            : 10.0.0.10
ISA group ID                : 1
ISA member ID               : 1
Interface                   : grp-itf
Interface Service ID        : 5
First move time             : N/A
AP MAC address              : (Unknown)
AP MAC learn failed         : true
No. of UE                   : 4
No. of migrant UE           : 0
No. of DSM UE               : 4
No. of layer-2 wholesale UE : 0
No. of cross-connect UE     : 0
No. of ESM UE               : 0
-------------------------------------------------------------------------------
No. of WLAN-GW tunnels: 2
===============================================================================
```

query-results

Syntax

query-results id *query-id*

query-results name *query-name*

Context

[Tree] (show>subscr-mgmt>wlan-gw>ue query-results)

Full Context

show subscriber-mgmt wlan-gw ue query-results

Description

This command shows the results of a query configured under **subscr-mgmt>wlan-gw>ue-query**.

Parameters

query-id

Identifies the query by numeric ID.

Values 1 to 1024

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

query-name

Identifies the query name, up to 32 characters.

Platforms

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

Output

Use the following command to display the results of a UE query.

```
show subscriber-mgmt wlan-gw ue query-results name "all"
```

Output Example

```
===============================================================================
WLAN-GW UE
===============================================================================
Tunnel Router               : 2000
Encapsulation               : gre
Tunnel Remote IP address    : 10.10.2.114
Tunnel Local IP address     : 72.1.0.1
MAC address                 : 00:00:00:07:04:02
IP address                  : 0.0.0.0
State                       : l2-user
ISA group ID                : 2
ISA member ID               : 1
Last move time              : N/A
AP MAC address              : (Unknown)
VLAN tag                    : 41
Service Set ID (SSID)       : (Not Specified)
MPLS label                  : (Not Specified)
Expiry time                 : N/A
Idle timeout (s)            : 600
Session expiry time         : N/A
NAT policy                  : (Not Specified)
HTTP redirect policy        : (Not Specified)
DSM IP filter               : (Not Specified)
Accounting policy           : (Not Specified)
Ingress PIR (kilobps)       : max
Ingress CIR (kilobps)       : max
Egress PIR (kilobps)        : max
Egress CIR (kilobps)        : max
Application profile         : (Not Specified)
IP address family           : not-specified
SLAAC prefix                : ::
SLAAC address 1             : ::
SLAAC address 2             : ::
SLAAC address 3             : ::
SLAAC expiry time           : N/A
DHCP address deprecated     : no
DHCPv6 address              : ::
DHCPv6 address deprecated   : no
Identity Association ID     : (Not Specified)
IA ID valid                 : no
DHCPv6 lease expiry time    : N/A
Bridge ID                   : (Not Specified)
Received packets            : 3
Received bytes              : 870
Transmitted packets         : 0
Transmitted bytes           : 0
Hard quota octets           : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Soft quota octets           : 0
L2 service                  : MyVplsServiceName

-------------------------------------------------------------------------------
No. of WLAN-GW UE: 1
===============================================================================
```

21.4 queue

queue

Syntax

queue queue-group *queue-group-name port-id* { **ingress** | **egress**} [**id** *queue-id*] [**instance** *instance-id*]

queue sap *sap-id* {**ingress** | **egress**} [**id** *queue-id*]

queue subscriber *sub-ident-string* [**sla-profile** *sla-profile-name*] {**ingress** | **egress**} [**id** *queue-id*]

Context

[Tree] (show>qos queue)

Full Context

show qos queue

Description

The **show qos queue** command outputs the Burst Control Group (BCG) name and slowest accurate visitation time for the specified queues.

For each queue specified, the system may find multiple hardware queues. This may be true for ingress queues on multipoint services (VPLS, IES, VPRN) or for queues created on an Ethernet Link Aggregation Group (LAG). When this is true, the show command displays the BCG name for each individual hardware queue.

The BCG name associated with a queue may be specified in the **show bcg** command to display the historical and current visitation time for the BCG managing the burst tolerance of the queue. If the output visitation time is greater (longer time) than the queue returned slowest accurate visitation time, the queue's shaping rate may be negatively impacted.

Parameters

queue-group-name port-id

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues within the specified *queue-group-name* on the specified *port-id*. If the specified *port-id* is not provisioned on the system or the specified *queue-group-name* is not found on the port's specified direction, the show command will fail.

Values port-id: up to 17 characters

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

queue-group-name: up to 32 characters

{ingress | egress}

Specifies the direction to display and are mutually exclusive.

queue-id

Limits the return queues to a single *queue-id*.

Values 1 to 16

instance-id

Specifies which instance of a queue group with template queue-group-name to which this queue should be redirected. This parameter is only valid for queue groups on egress ports where policy-based redirection is required.

Values 1 to 65535

sap-id

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues within the specified *sap-id*. If the specified *sap-id* is not found, the show command will fail.

Values up to 64 characters

sub-ident-string

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues associated with the specified *sub-ident-string*. If the specified *sub-ident-string* does not exist, the show command will fail.

Values up to 32 characters

sla-profile-name

Specifies that the system should find and display the BCG and calculate the slowest accurate visitation time for the queues associated with the specified subscriber and sla-profile sla-profile-name. If the specified sla-profile-name does not exist, the show command will fail.

Platforms

All

21.5 queue-depth

queue-depth

Syntax

queue-depth [**queue** *queue-id*] [**ingress** | **egress**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>service>id>sap queue-depth)

Full Context

clear service id sap queue-depth

Description

This command clears queue depth information for the specified SAP.

Parameters

queue-id

Specifies the queue ID.

Values 1 to 32

ingress

Clears information for the ingress policy.

egress

Clears information for the egress policy.

Platforms

All

21.6 queue-depth-violations

queue-depth-violations

Syntax

queue-depth-violations *mda-id*[*/port*] [**non-zero-counts-only**]

queue-depth-violations *mda-id*[*/port*] **access-egress** [**non-zero-counts-only**]

queue-depth-violations *mda-id*[*/port*] **access-egress** **service** *service-id* [**non-zero-counts-only**]

queue-depth-violations *mda-id*[*/port*] **access-egress** **queue-group** *queue-group-name* [**instance** *instance-id*] [**non-zero-counts-only**]

queue-depth-violations *mda-id*[*/port*] **network-egress** [**non-zero-counts-only**]

queue-depth-violations *mda-id*[*/port*] **network-egress** **queue-group** *queue-group-name* [**instance** *instance-id*] [**non-zero-counts-only**]

Context

[Tree] (show>qos queue-depth-violations)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show qos queue-depth-violations

Description

This command displays queue depth violation information, with the option of requesting only the information with a non-zero violation count.

Parameters

mda-id[/port]

Displays the pool information associated with the specified XMA or MDA and port.

Values slot/mda[/port]

non-zero-counts-only

Displays only non-zero counts.

access-egress

Displays access egress information.

service-id

Specifies that the system should find and display queue depth violation information for the queues associated with the specified *service-id*.

Values 1 to 2147483648, *svc-name*: up to 64 characters

queue-group-name

Specifies that the system should find and display information for the queues within the specified *queue-group-name,* up to 32 characters, on the specified *mda-id*.

instance-id

Specifies which instance of a queue group with template queue-group-name to which this queue should be redirected. This parameter is only valid for queue groups on egress ports where policy-based redirection is required.

Values 1 to 65535

network-egress

Displays network egress information.

Platforms

All

Output

The following output is an example of queue depth violation information, and Table 462: Output fields: QoS queue depth violation describes the output fields.

Output Example

```
*A:PE# show qos queue-depth-violations access-egress service 2147483647
===============================================================================
Queue Depth Violation Information (Egress SAP)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Queue: 2147483647->1/x1/1/c1/1:4096->1   Last seen: Thu Mar 26 12:39:33 PDT 2020
Oper MBS: 1024 KB                        Violation Threshold Percnt: 75.00
Queue Poll Int:   10 ms   HWM Poll Int:     90 ms   Total Violations: 30
-------------------------------------------------------------------------------
Queue: 2147483647->1/x1/1/c1/1:4096->2   Last seen: Thu Mar 26 12:39:33 PDT 2020
Oper MBS: 2048 KB                        Violation Threshold Percnt: 70.00
Queue Poll Int:   10 ms   HWM Poll Int:     90 ms   Total Violations: 0
-------------------------------------------------------------------------------
Queue: 2147483647->1/x1/1/c1/1:4096->3   Last seen: Thu Mar 26 12:39:33 PDT 2020
Oper MBS: 3072 KB                        Violation Threshold Percnt: 85.00
Queue Poll Int:   10 ms   HWM Poll Int:     90 ms   Total Violations: 50
===============================================================================
```

```
*A:PE# show qos queue-depth-violations access-egress service 2147483647 non-zero-counts-only
===============================================================================
Queue Depth Violation Information (Egress SAP)
===============================================================================
-------------------------------------------------------------------------------
Queue: 2147483647->1/x1/1/c1/1:4096->1   Last seen: Thu Mar 26 12:39:33 PDT 2020
Oper MBS: 1024 KB                        Violation Threshold Percnt: 75.00
Queue Poll Int:   10 ms   HWM Poll Int:     90 ms   Total Violations: 30
-------------------------------------------------------------------------------
Queue: 2147483647->1/x1/1/c1/1:4096->3   Last seen: Thu Mar 26 12:39:33 PDT 2020
Oper MBS: 3072 KB                        Violation Threshold Percnt: 85.00
Queue Poll Int:   10 ms   HWM Poll Int:     90 ms   Total Violations: 50
===============================================================================
```

Table 462: Output fields: QoS queue depth violation

Label	Description
Queue	Displays the queue information
Last seen	Displays the date and time of the last seen violation
Oper MBS	Displays the operational MBS size
Violation Threshold Percnt	Displays the violation threshold percentage
Queue Poll Int	Displays the queue polling interval
HWM Poll Int	Displays the HWM polling interval
Total Violations	Displays the total number of violations

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

21.7 queue-group

queue-group

Syntax

queue-group [*queue-group-name*] {**ingress** | **egress**} [{**association** | **detail**}]

queue-group summary

Context

[Tree] (show>qos queue-group)

Full Context

show qos queue-group

Description

This command displays queue-group information.

Parameters

queue-group-name

Specifies the name of an existing queue group template up to 32 characters.

ingress

Specifies whether the queue group name is an ingress policy.

egress

Specifies whether the queue group name is an egress policy.

association

Displays the entities associated with the specified queue group name.

detail

Displays detailed queue group information for the specified queue group name.

summary

Displays the total number of queue-group instances per card (IOM or XCM).

Platforms

All

Output

The following outputs are examples of queue group information.

Output Example

```
*A:PE# show qos queue-group egress
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Queue Group Egress
===============================================================================
Group-Name                      Description
-------------------------------------------------------------------------------
qg1
_tmnx_nat_egr_q_grp             NAT/LNS Egress Queue Group Template
policer-output-queues           Default egress policer output queues.
_tmnx_nat_egr_q_grp_v2          NAT/LNS Egress Queue Group Template for ISAv2
_tmnx_lns_esm_egr_q_grp         LNS ESM Egress Queue Group Template
-------------------------------------------------------------------------------
Egress Queue Groups     : 5
-------------------------------------------------------------------------------
===============================================================================
*A:PE#
*A:PE# show qos queue-group egress "qg1" detail

===============================================================================
QoS Queue-Group Egress
===============================================================================

-------------------------------------------------------------------------------
QoS Queue Group
-------------------------------------------------------------------------------
Group-Name              : qg1
Description             : (Not Specified)
Queues HQoS Managed     : True
HS Attachment Policy    : default

-------------------------------------------------------------------------------
Queue Information
-------------------------------------------------------------------------------
Queue-Id             : 1                Queue-Type           : best-effort
Admin PIR            : 50000            Admin CIR            : 0
PIR Rule             : closest          CIR Rule             : closest
CBS                  : def              MBS                  : 1000 KB
Packet Byte Offset   : add 0
Adv Config Policy    : (Not Specified)
Parent               : s1
PIR Level/Weight     : 1/1              CIR Level/Weight     : 0/1
Burst Limit          : default
Wred Queue Mode      : none             Wred Queue SlopeUsage: not-applicable
Slope Policy         : default
Dynamic MBS          : enabled          Queue Delay          : not-applicable
High-Plus Drop Tail  : def              High Drop Tail       : def
Low Drop Tail        : def              Exceed Drop Tail     : def

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
HS Queue Information
-------------------------------------------------------------------------------
Queue-Id             : 1
Admin PIR            : 50000
PIR Rule             : closest
MBS                  : 1000 KB
Packet Byte Offset   : add 0
Burst Limit          : default
HS Class Weight      : 1                HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False

-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
HS Wrr Group Information
-------------------------------------------------------------------------------
HS Wrr Group Id    : 1                 Class Weight       : 1
Rate               : max               Percent Rate       : 100.00
PIR Adaptation Rule: closest

HS Wrr Group Id    : 2                 Class Weight       : 1
Rate               : max               Percent Rate       : 100.00
PIR Adaptation Rule: closest

-------------------------------------------------------------------------------

===============================================================================
Queue Group FC Mapping
===============================================================================
FC Name                                 Queue-Id
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
Queue Group Ports (access)
===============================================================================
Port      Sched Pol          Acctg Pol Stats Description          QGrp-Instance
-------------------------------------------------------------------------------
5/1/1                        0         No                         1
-------------------------------------------------------------------------------

===============================================================================
Queue Group Ports (network)
===============================================================================
Port     Sched Pol   Policer-Ctrl-Pol Acctg Pol Stats Description QGrp-Instance
-------------------------------------------------------------------------------
No Matching Entries

===============================================================================
Qos Sap-Egress FC Group-Queue References
===============================================================================
Sap Policy     FC Name             Queue Id
-------------------------------------------------------------------------------
No Matching Entries

===============================================================================
Qos Sap-Egress FC Port-Redirect-Group-Queue References
===============================================================================
Sap Policy     FC Name             Queue Id
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
Queue Group Policer
===============================================================================
No Matching Entries

===============================================================================
*A:PE#
*A:PE# show qos queue-group ingress

===============================================================================
Queue Group Ingress
===============================================================================
Group-Name                        Description
-------------------------------------------------------------------------------
qg1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
_tmnx_nat_ing_q_grp              NAT/LNS Ingress Queue Group Template
_tmnx_nat_ing_q_grp_v2           NAT/LNS Ingress Queue Group Template for ISA*
_tmnx_lns_esm_ing_q_grp          LNS ESM Ingress Queue Group Template
-------------------------------------------------------------------------------
Ingress Queue Groups    : 4
-------------------------------------------------------------------------------
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:PE#
*A:PE# show qos queue-group ingress "qg1" detail

===============================================================================
QoS Queue-Group Ingress
===============================================================================
-------------------------------------------------------------------------------
QoS Queue Group
-------------------------------------------------------------------------------
Group-Name     : qg1
Description    : (Not Specified)
-------------------------------------------------------------------------------
Q  Mode    CIR Admin  PIR Admin  CBS                 PIR Lvl/Wt Parent
           CIR Rule   PIR Rule   MBS                 CIR Lvl/Wt BurstLimit(B)
                                 Pkt Bt Ofst         Adv Config Policy Name
           Low Drop Tail
           FIR Admin  FIR Rule   Cir-non-profiling
-------------------------------------------------------------------------------
No Matching Entries


===============================================================================
Queue Group Ports
===============================================================================
Port                Sched Pol           Acctg Pol Stats     Description
-------------------------------------------------------------------------------
No Matching Entries

===============================================================================
Queue Group Sap FC Maps
===============================================================================
Sap Policy     FC Name             Queue (id type)
-------------------------------------------------------------------------------
No Matching Entries

===============================================================================
Queue Group FP Maps
===============================================================================
Card Num       Fp Num              Instance            Type
-------------------------------------------------------------------------------
1              1                   1                   Access
-------------------------------------------------------------------------------
Entries found: 1
-------------------------------------------------------------------------------

===============================================================================
Queue Group Service Maps
===============================================================================
Service Id                          Service Type        Instance
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
Queue Group Policer
===============================================================================
Policer Id     : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description    : (Not Specified)
PIR Adptn      : closest                       CIR Adptn    : closest
Parent         : none                          Level        : 1
Weight         : 1                             Adv. Cfg Plcy: none
Admin PIR      : max                           Admin CIR    : 0
CBS            : def                           MBS          : def
Hi Prio Only   : def                           Pkt Offset   : 0
Profile Capped : Disabled
StatMode       : minimal

===============================================================================
*A:PE#
*A:PE# show qos queue-group summary

===============================================================================
Queue-group instances per card
===============================================================================
card      port-acc-ing  port-acc-egr  port-nw-egr   fp-acc-ing    fp-nw-ing
-------------------------------------------------------------------------------
1         0             0             0             1             0
2         0             1             0             0             0
3         0             0             0             0             0
4         0             0             0             0             0
5         0             3             0             0             0
-------------------------------------------------------------------------------
Total ingress QG templates per system :  4
Total egress  QG templates per system :  5
===============================================================================
*A:PE#
```

```
 CIR Rule   PIR Rule   MBS                 CIR Lvl/Wt BurstLimit(B)
          CIR Prcnt  PIR Prcnt  Low Drop Tail
```

queue-group

Syntax

queue-group *queue-group-name* **egress** *access* [**instance** *instance-id*] [**egress-queue** *egress-queue-id*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

queue-group *queue-group-name* **ingress** *access* **ingress-queue** *ingress-queue-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

queue-group *queue-group-name* **egress** *network* **instance** *instance-id* [**policer** *policer-id*] [**egress-queue** *egress-queue-id*] [**interval** seconds] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>port queue-group)

Full Context

monitor port queue-group

Description

This command enables queue-group monitoring for the specified parameters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

queue-group-name

Specifies the name of the queue-group up to 32 characters.

access

Specifies the access type.

Values access

network

Specifies the network type.

Values network

instance-id

Specifies the identification of a specific instance of the queue group.

Values 1 to 65535

policer-id

The specified policer ID must exist within the queue-group template applied to the ingress context of the forwarding plane.

Values 1 to 8

egress-queue-id

Monitors statistics fir this queue.

Values 1 to 8

ingress-queue-id

Monitors statistics for this queue.

Values 1 to 32

seconds

Configures the interval for each display, in seconds.

Values 11 to 60

Default 11

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

When the absolute keyword is specified, the raw statistics are displayed without processing. No calculations are performed on the delta or rate statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rate

When the rate keyword is specified, the rate-per-second for each statistic is displayed instead of the delta.

Platforms

All

queue-group

Syntax

queue-group [**ingress** | **egress**] [*queue-group-name*] [**access** | **network** [**instance** *instance-id*]

queue-group [**ingress** | **egress**] [*queue-group-name*] [**access** | **network**] **associations** [**instance** *instance-id*]

queue-group [**ingress** | **egress**] *queue-group-name* [**access** | **network**] [**instance** instance-id] **queue-depth** [**queue** *queue-id*]

queue-group [**ingress** | **egress**] [*queue-group-name*] [**access** | **network**] **statistics** [**instance** *instance-id*]

queue-group summary

Context

[Tree] (show>port queue-group)

Full Context

show port queue-group

Description

This command displays queue group information.

Parameters

queue-group-name

Specifies the queue group name, up to 32 characters.

statistics

Displays queue group port statistics.

associations

Displays queue group port associations.

summary

Displays summary information.

instance-id

Specifies the identification of a specific instance of the queue group.

Values 1 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

queue-depth

Displays queue depth information for the specified queue group queue.

queue-id

Specifies the queue ID.

Values 1 to 32

Platforms

All

21.8 queue-group-redirect-list

queue-group-redirect-list

Syntax

queue-group-redirect-list [*policy-name*] [**association** | **detail**]

Context

[Tree] (show>qos queue-group-redirect-list)

Full Context

show qos queue-group-redirect-list

Description

This command displays queue group redirect list information.

Parameters

policy-name

Specifies the name of a queue group redirect list, up to 32 characters.

association

Displays the entities associated with the specified queue group redirect list.

detail

Displays detailed information, including queue group redirect list associations.

Platforms

All

Output

The following output is an example of queue group redirect list information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:PE# show qos queue-group-redirect-list detail
===============================================================================
Queue Group Redirect List Information
===============================================================================
Policy Name        : list1
Match Type         : vxlan-vni
-------------------------------------------------------------------------------
Match               Instance
-------------------------------------------------------------------------------
1                   1
2                   2
3                   3
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Service Associations
-------------------------------------------------------------------------------
Service ID     Service Type             SAP
-------------------------------------------------------------------------------
1              IES                      1/1/1              (Ingress/Egress)
-------------------------------------------------------------------------------
===============================================================================
A:PE#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22 r Commands

22.1 radius

radius

Syntax

radius *server-index* **router-instance** *router-name*

radius *server-index*

radius *server-index* **service-name** *service-name*

Context

[Tree] (clear radius)

Full Context

clear radius

Description

This command clears RADIUS server statistics for servers that are configured for user access with the **configure system security radius server** command (classic CLI **configure system security radius server**).

Parameters

server-index

Specifies the index for the RADIUS server.

Values 1 to 5

service-name

Specifies the service name, up to 64 characters.

router-name

Specifies the router instance, expressed as the router name or the service ID.

Values *router-name* — "Base", "management", "vpls-management"

vprn-svc-id — 1 to 2147483647

Default Base

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

radius

Syntax

radius

Context

[Tree] (clear>li radius)

Full Context

clear li radius

Description

This command clears RADIUS associated entities.

Platforms

All

radius

Syntax

radius [**user** *user-name*] [**policy** *policy-name*] [**server-index** *index*] **statistics**

Context

[Tree] (show radius)

Full Context

show radius

Description

This command displays RADIUS server related information.

Parameters

user-name

Specifies the RADIUS username, up to 32 characters.

policy-name

Specifies the policy name, up to 32 characters.

index

Specifies the server index.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 16

Platforms
All

22.2 radius-accounting

radius-accounting

Syntax
radius-accounting [*policy-name*]

Context
[Tree] (clear>subscriber-mgmt radius-accounting)

Full Context
clear subscriber-mgmt radius-accounting

Description
This command clears RADIUS accounting data for the specified policy.

Parameters
policy-name
The name of the policy. The string is case sensitive and limited to 32 ASCII 7-bit printable characters with no spaces.

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

22.3 radius-accounting-policy

radius-accounting-policy

Syntax
radius-accounting-policy *name* **association**
radius-accounting-policy [*name*]
radius-accounting-policy *name* **statistics**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>subscr-mgmt radius-accounting-policy)

Full Context

show subscriber-mgmt radius-accounting-policy

Description

This command displays RADIUS accounting policy information.

Parameters

name

Specifies the RADIUS accounting policy name.

association

Displays parameters associated with this RADIUS accounting policy.

statistics

Displays statistics associated with this RADIUS accounting policy.

Platforms

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

Output

The following output is an example of subscriber management RADIUS accounting policy information.

Output Example

```
*B:asd-tr0610-dr421# show subscriber-mgmt radius-accounting-policy "ZiggoAcct1813"
statistics
===============================================================================
Radius Accounting Policy ZiggoAcct1813 Statistics
===============================================================================
Tx Requests      : 36035966           Rx Responses  : 36035966
Request Timeouts : 0                  Send Retries  : 2713
Send Failed      : 0
-------------------------------------------------------------------------------
Radius Servers
-------------------------------------------------------------------------------
Index IP Address      Tx Reqs     Rx Resps    Req Timeouts Req Send Failed
-------------------------------------------------------------------------------
1     172.18.129.36   9012635     9011762     873          0
2     172.18.129.37   9004736     9003814     922          0
3     172.18.129.68   9010236     9009925     311          0
4     172.18.129.69   9011115     9010465     650          0
===============================================================================
```

Table 463: Output fields: RADIUS accounting policy describes subscriber management RADIUS accounting policy output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 463: Output fields: RADIUS accounting policy

Label	Description
Tx Requests/TX Reqs	Displays the number of accounting requests transmitted for this policy.
Rx Responses/Rx Resps	Displays the number of accounting responses received for this policy.
Request Timeouts/ Req Timeouts	Displays the number of accounting requests which have timed out for this policy.
Send Retries	Displays the number of retries to a different server for a single accounting request for this policy.
Send Failed Req Send Failed	Displays how many accounting requests failed because the packet could not be sent out for this policy.
Radius Servers	Displays a table in which the statistics associated with this RADIUS accounting policy are broken down by individual RADIUS server. The table columns are: Index—displays the index number assigned to the RADIUS server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index. IP Address—the address of the RADIUS server. TX Reqs—see TX Requests in this table. Rx Resps—see RX Responses in this table. Req Timeouts—see Request Timeouts in this table. Req Send Failed—see Send Failed in this table.

radius-accounting-policy

Syntax

radius-accounting-policy [*rad-acct-plcy-name*]

radius-accounting-policy *rad-acct-plcy-name* **associations**

radius-accounting-policy *rad-acct-plcy-name* **statistics**

Context

[Tree] (show>app-assure radius-accounting-policy)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance radius-accounting-policy

Description

This command displays RADIUS accounting policy information.

Parameters

rad-acct-plcy-name

Specifies the RADIUS accounting policy.

associations

Specifies to show what contexts are associated with this policy.

statistics

Specifies to show statistics related to this policy.

Platforms

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

radius-accounting-policy

Syntax

radius-accounting-policy *rad-acct-plcy-name* [**server** *server-index*] **statistics**

Context

[Tree] (clear>app-assure radius-accounting-policy)

Full Context

clear application-assurance radius-accounting-policy

Description

This command clears application assurance RADIUS accounting statistics for the specified policy.

Parameters

policy-name

The name of the policy. The string is case sensitive and limited to 32 ASCII 7-bit printable characters with no spaces.

server-index

The index for the RADIUS server.

Values 1 to 5 (a maximum of 5 accounting servers)

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

radius-accounting-policy

Syntax

radius-accounting-policy [*name*]

Context

[Tree] (show>ipsec radius-accounting-policy)

Full Context

show ipsec radius-accounting-policy

Description

This command displays RADIUS accounting-policy related information.

Parameters

name

Specifies an existing RADIUS accounting policy.

Platforms

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

Output

The following output is an example of the **show ipsec radius-accounting-policy** command.

Output Example

```
show ipsec radius-accounting-policy
===============================================================================
Radius Accounting Policy
===============================================================================
Policy Name               Server Policy             Include Attribs   Upd Int
                                                                       Jitter
-------------------------------------------------------------------------------
rad-acct-policy-1                                   nasId nasPortId   20
                                                    framedIpAddr
                                                                       10
===============================================================================
Number of entries: 1
===============================================================================


show ipsec radius-accounting-policy "rad-acct-policy-1"
===============================================================================
IPsec Radius Accounting Policy Detail
===============================================================================
Name             : rad-acct-policy-1
Server Policy    : (Not Specified)
Include Attr     : nasId nasPortId framedIpAddr
Update Interval  : 20
Jitter           : 10 sec.
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.4 radius-acct

radius-acct

Syntax

radius-acct

Context

[Tree] (show>service>active-subscribers>hierarchy radius-acct)

Full Context

show service active-subscribers hierarchy radius-acct

Description

This command provides information about subscriber RADIUS accounting sessions including: the accounting policy name, the accounting mode, the interim intervals, the accounting session ID, and the multi-session ID. If there are no RADIUS accounting sessions enabled for subscribers, this command still shows the session ID that can be used by CoA.

PD hosts modeled as routes are not considered hosts, and therefore, are not shown in the output of this command.

This command only shows a numeric RADIUS session ID even if the RADIUS accounting policy is configured using the descriptive format.

Platforms

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

Output

The following output is an example of subscriber RADIUS accounting session information.

Output Example

```
# show service active-subscribers hierarchy radius-acct
===============================================================================
Active Subscribers Hierarchy (accounting information)
===============================================================================
-- sub-01-0501
   (sub-profile-1)
   |   Acct-policy         : acct-policy-1
   |       Mode            : Queue Instance (Interim)
   |                       : Session (Interim-Host)
   |       Cfg. update ivl : 01h00m00s
   |
   +-- sap:[1/1/4:2111.51] - sla:sla-profile-1
       |   |
       |   +-- Queue Instance Acct - acct-policy-1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
       |       session-id          : 0609FF000000175FD249FD
       |       multi-session-id    : 0609FF000000175FD249FD
       |       interim-interval    : 01h00m00s
       |
       +-- IPOE-Session - mac:00:01:01:00:00:51
           |   |
           |   +-- Session Acct - acct-policy-1
           |       session-id      : 0609FF000000155FD249FD
          |       multi-session-id: 0609FF000000175FD249FD
           |       interim-interval: 01h00m00s
           |
           |-- 10.250.13.2
           |   |
           |   +-- no radius acct
           |       session-id      : 0609FF000000185FD74E68
           |
           +-- 2001:db8:1:200::1/128
               |
               +-- no radius acct
               |   session-id      : 0609FF000000165FD249FD
               |
               +-- 2001:db8:d102::/64
                   session-id      : N/A
                   multi-session-id: N/A
-------------------------------------------------------------------------------
Number of active subscribers : 1
===============================================================================
```

22.5 radius-acct-terminate-cause

radius-acct-terminate-cause

Syntax

radius-acct-terminate-cause

Context

[Tree] (tools>dump>aaa radius-acct-terminate-cause)

Full Context

tools dump aaa radius-acct-terminate-cause

Description

This command shows all available termination causes and their respective number values. The TermCause is equivalent to VSA 226 Alc-Error-Code numeric values. The description is equivalent to VSA 227Alc-Error-Message string.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.6 radius-attr-username

radius-attr-username

Syntax

radius-attr-username [*user-name*] [**summary**]

Context

[Tree] (tools>dump>subscr-mgmt radius-attr-username)

Full Context

tools dump subscriber-mgmt radius-attr-username

Description

This command displays a list of subscriber IDs associated to each username and statistics associated to the username.

Parameters

user-name

Specifies the username that matches the RADIUS attribute VSA [1] username. A single username can also be specified to query the list of associated subscriber IDs.

summary

Displays summary RADIUS attribute username information.

Platforms

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

22.7 radius-authentication-policy

radius-authentication-policy

Syntax

radius-authentication-policy [*name*]

Context

[Tree] (show>ipsec radius-authentication-policy)

Full Context

show ipsec radius-authentication-policy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays IPsec RADIUS authentication policy information.

Parameters

name

Specifies an existing RADIUS authentication policy.

Platforms

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

22.8 radius-configuration

radius-configuration

Syntax

radius-configuration

Context

[Tree] (show>aaa radius-configuration)

Full Context

show aaa radius-configuration

Description

This command displays RADIUS configuration information.

Platforms

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

Output

The following output is an example of AAA RADIUS configuration information.

Output Example

```
# show aaa radius-configuration
===============================================================================
RADIUS configuration
===============================================================================
CoA Port                    : 3799
===============================================================================
```

Table 464: Output fields: RADIUS configuration provides a description of the counters in the output of the **show aaa isa-radius-policy** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 464: Output fields: RADIUS configuration

Label	Description
CoA Port	The RADIUS Change of Authorization (CoA) port

22.9 radius-proxy-server

radius-proxy-server

Syntax

radius-proxy-server *server-name*

radius-proxy-server *server-name* **cache**

radius-proxy-server *server-name* **cache hex-key** *hex-string*

radius-proxy-server *server-name* **cache string-key** *string*

radius-proxy-server *server-name* **cache summary**

radius-proxy-server *server-name* **statistics**

radius-proxy-server

Context

[Tree] (show>router radius-proxy-server)

Full Context

show router radius-proxy-server

Description

This command displays RADIUS proxy server information.

Parameters

server-name

Specifies the default RADIUS proxy server name created in the **config>router>radius-proxy** context.

cache

Displays cached information.

hex-string

Displays the hex key string.

Values [0x0 to 0xFFFFFFFF (max 64 hex nibbles)]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

string

Displays the packet type of the RADIUS messages to use to generate the key for the cache of this RADIUS proxy server.

summary

Displays summarized information.

statistics

Displays statistics for the specified RADIUS proxy server.

Platforms

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

Output

The following output is an example of subscriber RADIUS proxy server.

Output Example

```
*B:asd-tr0610-dr421# show router radius-proxy-server "ZiggoRadiusProxyAnyCast" statistics
===============================================================================
RADIUS Proxy server statistics for "ZiggoRadiusProxyAnyCast"
===============================================================================
Rx packet                                                 : 28454097
Rx Access-Request                                         : 24846521
Rx Accounting-Request                                     : 3607576
Rx dropped                                                : 22986
  Retransmit                                              : 22986
  Server admin down                                       : 0
  No RADIUS policy configured                             : 0
  No load-balance-key configured                          : 0
  Invalid length                                          : 0
  Invalid Code field                                      : 0
  Invalid attribute encoding                              : 0
  Invalid User-Name                                       : 0
  Invalid password                                        : 0
  Invalid accounting Authenticator                        : 0
  Invalid Message-Authenticator                           : 0
  No memory                                               : 0
  Accounting-Request with invalid Acct-Status-Type        : 0
  Accounting-Request with no Acct-Status-Type             : 0
  Registered user overload                                : 0
  Dropped by Python                                       : 0

Tx Access-Accept                                          : 1929725
Tx Access-Reject                                          : 302354
Tx Access-Challenge                                       : 22598950
Tx Accounting-Response                                    : 3598730
Tx dropped                                                : 1351
  No key to cache                                         : 0
  Cache key too long                                      : 0
  Cache attributes too long                               : 0
  Reached maximum number of cache entries                 : 0
  No memory                                               : 0
  Server timeout                                          : 1351
  Server authentication failure                           : 0
  Server invalid Code                                     : 0
  Invalid attribute encoding                              : 0
  Registered user overload                                : 0
  No RADIUS server configured                             : 0
  RADIUS server send failure                              : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Dropped by Python                                        : 0
===============================================================================


*B:asd-tr0610-dr421# show router radius-proxy-server "ZiggoRadiusDRPProxyanyCast-LEG"
 statistics
===============================================================================
ISA RADIUS Proxy server statistics for "ZiggoRadiusDRPProxyanyCast-LEG"
===============================================================================
Group 1 member 1
-------------------------------------------------------------------------------
Rx packet                                                : 72250262
Rx Access-Request                                        : 61457394
Rx Accounting-Request                                    : 10792868
Rx dropped                                               : 1525690
  Retransmit                                             : 28470
  Wrong purpose                                          : 0
  No UE MAC to cache                                     : 1497212
  Client context limit reached                           : 0
  No ISA RADIUS policy configured                        : 0
  Invalid attribute encoding                             : 0
  Invalid password                                       : 0
  Accounting-Request with invalid Acct-Status-Type       : 0
  Accounting-Request with no Acct-Status-Type            : 0
  Invalid accounting Authenticator                       : 0
  Invalid Message-Authenticator                          : 8
  Management core overload                               : 0

Tx Access-Accept                                         : 5830313
Tx Access-Reject                                         : 743060
Tx Access-Challenge                                      : 54844862
Tx Accounting-Response                                   : 9294168
Tx dropped                                               : 12226
  Server timeout                                         : 12169
  Invalid response Authenticator                         : 57
  Invalid Message-Authenticator                          : 0
  Invalid attribute encoding                             : 0
  RADIUS server send failure                             : 0
```

Table 465: Output fields: proxy server describes subscriber RADIUS proxy server output fields.

Table 465: Output fields: proxy server

Label	Description
Invalid response Authenticator Rx packet	The number of packets received by this RADIUS proxy server
Rx Access-Request	The number of Access-Request packets received by this RADIUS proxy server
Rx Accounting-Request	The number of Accounting-Request packets received by this RADIUS proxy server
Rx dropped	The number of packets received by this RADIUS proxy server but dropped

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Retransmit	The number of packets received by this RADIUS proxy server that were rejected because they are retransmitted
Wrong purpose	The number of packets received by this RADIUS proxy server that were rejected because the value of tmnxRadProxSrv Purpose is set to a value not matching the type of packet
No UE MAC to cache	The number of packets received by this RADIUS proxy server that were rejected because the UE MAC address was not present in the packet
Client context limit reached	The number of packets received by this RADIUS proxy server that were rejected because the limit of client contexts was reached. For each RADIUS transaction a client context is created, and are deleted once the transaction is finished.
No ISA RADIUS policy configured	The number of packets received by this RADIUS proxy server that were rejected because it has no ISA RADIUS server policy configured for that type of packet
Server admin down	The number of packets received by this RADIUS proxy server that were rejected because it is administratively shut down
No RADIUS policy configured	The number of packets received by this RADIUS proxy server that were rejected because it has no RADIUS server policy configured for that type of packet
No load-balance-key configured	The number of packets received by this RADIUS proxy server that were rejected because the selected RADIUS server policy's algorithm is set to hashBased and no load balance key is configured
Invalid length	The number of packets received by this RADIUS proxy server that were rejected because their length was invalid
Invalid Code field	The number of packets received by this RADIUS proxy server that were rejected because they had an invalid Code field
Invalid attribute encoding	The number of packets received by this RADIUS proxy server that were rejected because one of the attributes was incorrectly encoded
Invalid User-Name	The number of packets received by this RADIUS proxy server that were rejected because they contained an invalid User-Name attribute
Invalid password	The number of packets received by this RADIUS proxy server that were rejected because the User-Password attribute could not be decoded

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Invalid accounting Authenticator	The number of accounting packets received by this RADIUS proxy server that were rejected because they contained an invalid Authenticator field
Invalid Message-Authenticator	The number of packets received by this RADIUS proxy server that were rejected because they contained an invalid Message-Authenticator attribute
Management core overload	The number of packets that were rejected by this RADIUS server because the ISA management core is not able to process any new RADIUS requests because of overload
No memory	The number of packets that were rejected by this RADIUS server because there was not enough memory to store them
Accounting-Request with invalid Acct-Status-Type	The number of accounting packets received by this RADIUS proxy server that were rejected because they contained an invalid Acct-Status-Type attribute
Accounting-Request with no Acct-Status-Type	The number of accounting packets received by this RADIUS proxy server that were rejected because they contained no Acct-Status-Type attribute
Registered user overload	The number of packets that were rejected by this RADIUS server because the registered user indicated to be in overload
Dropped by Python	The number of packets received by this RADIUS proxy server but dropped by Python
Tx Access-Accept	The number of Access-Accept packets transmitted by this RADIUS proxy server
Tx Access-Reject	The number of Access-Reject packets transmitted by this RADIUS proxy server
Tx Access-Challenge	The number of Access-Challenge packets transmitted by this RADIUS proxy server
Tx Accounting-Response	The number of Accounting-Response packets transmitted by this RADIUS proxy server
Tx dropped	The number of packets dropped by this RADIUS proxy server before transmission
No key to cache	The number of packets that could not be cached by this RADIUS proxy server because the key information was not present in the packet
Cache key too long	The number of packets that could not be cached by this RADIUS proxy server because the key information present in the packet was too long

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Cache attributes too long	The number of packets that could not be cached by this RADIUS proxy server because the total length of the attributes is too long
Reached maximum number of cache entries	The number of packets that could not be cached by this RADIUS proxy server because the limit has been reached
No memory	The number of packets that could not be transmitted by this RADIUS proxy server because there was not enough memory
Server timeout	The number of packets that were dropped because the RADIUS servers have timed out
Server authentication failure	The number of packets that were dropped because the RADIUS server replied with a packet which failed authentication (invalid response Authenticator or Message Authenticator attribute)
Server invalid Code	The number of packets that were dropped because the RADIUS server replied with a packet with an invalid Code field
Invalid attribute encoding	The number of packets that were dropped because the RADIUS server replied with a packet with an invalid attribute
Registered user overload	The number of packets that were dropped because the registered user indicated to be in overload
No RADIUS server configured	The number of packets that were dropped by this RADIUS server because the RADIUS server policy has no servers configured
RADIUS server send failure	The number of packets that were dropped by this RADIUS server because the packet could not get transmitted to one of the servers in the RADIUS server policy
Dropped by Python	The number of packets that were dropped by this RADIUS server because the packet was dropped by the Python script
Invalid response Authenticator	The number of packets that were dropped because the RADIUS server replied with a packet which failed authentication

radius-proxy-server

Syntax

radius-proxy-server *server-name* **statistics**

Context

[Tree] (clear>router radius-proxy-server)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear router radius-proxy-server

Description

This command clears RADIUS proxy server data.

Parameters

server-name

Specifies the proxy server name.

statistics

Clears statistics for the specified server.

Platforms

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

22.10 radius-script-policy

radius-script-policy

Syntax

radius-script-policy [*policy-name*]

radius-script-policy *policy-name* **association**

radius-script-policy *policy-name* **script** {**primary** | **secondary**}

Context

[Tree] (show>aaa radius-script-policy)

Full Context

show aaa radius-script-policy

Description

This command displays RADIUS script policy information.

Parameters

policy-name

Specifies the RADIUS script policy name, up to 32 characters.

association

Displays the associations related to the RADIUS script policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

22.11 radius-server

radius-server

Syntax

radius-server *server-name*

radius-server *server-name* **associations**

radius-server

Context

[Tree] (show>router radius-server)

Full Context

show router radius-server

Description

This command displays RADIUS server configuration information.

Parameters

server-name

Specifies the RADIUS server name, up to 32 characters.

associations

Displays the RADIUS server policy associations for the specified server.

Platforms

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

Output

The following outputs are examples of RADIUS server information.

Output Example

```
[/]
A:patrick@pe1# /show router radius-server "radius-1"
===============================================================================
RADIUS server "radius-1"
===============================================================================
Description                : (Not Specified)
Address                    : 172.16.6.2
Port Auth/Acct             : 1812/1813
CoA script policy          : (Not Specified)
Python policy              : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Pending request limit       : 4096
Accept CoA                  : true
Last management change      : 07/05/2022 14:30:02
===============================================================================
[/]
A:patrick@pe1# /show router radius-server "radius-1" associations
===============================================================================
RADIUS server policy associations for "radius-1"
===============================================================================
Name                            Id
-------------------------------------------------------------------------------
aaa-radius-1                    1
-------------------------------------------------------------------------------
No. of policies: 1
===============================================================================
```

22.12 radius-server-policy

radius-server-policy

Syntax

radius-server-policy *policy-name* [**acct-on-off**]

radius-server-policy *policy-name* **associations**

radius-server-policy *policy-name* **msg-buffer-stats**

radius-server-policy *policy-name* **statistics**

radius-server-policy [**acct-on-off**]

Context

[Tree] (show>aaa radius-server-policy)

Full Context

show aaa radius-server-policy

Description

This command displays RADIUS server policy configuration information.

Parameters

policy-name

Displays information for the specified RADIUS server policy.

association

Displays the information configured with the RADIUS server policy.

msg-buffer-stats

Displays statistics related to the RADIUS messages that are buffered for each specified RADIUS server policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Displays statistics for the specified RADIUS server policy.

act-on-off

Displays the admin state of the acct-on-off feature.

Platforms

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

Output

The following output is an example of AAA RADIUS server policy information.

Output Example

```
*B:asd-tr0610-dr421# show aaa radius-server-policy "ZiggoAAA_anycast" statistics
===============================================================================
RADIUS server policy "ZiggoAAA_anycast" statistics
===============================================================================
Tx transaction requests                          : 24818681
Rx transaction responses                         : 24817329
Transaction requests timed out                   : 1351
Transaction requests send failed                 : 0
Packet retries                                   : 12410
Transaction requests send rejected               : 0
Authentication requests failed                   : 303530
Accounting requests failed                       : 0
Ratio of access-reject over auth responses       : 13%
Transaction success ratio                        : 99%
Transaction failure ratio                        : 1%
Statistics last reset at                         : 05/21/2015 01:11:39
```

Table 466: Output fields: RADIUS server policy statistics describes RADIUS server policy statistics output fields.

Table 466: Output fields: RADIUS server policy statistics

Label	Description
Tx transaction requests	The number of RADIUS transaction requests transmitted
Rx transaction responses	The number of RADIUS transaction responses received
Transaction requests timed out	The number of RADIUS transaction requests that have timed out
Transaction requests send failed	The number of RADIUS transaction requests that could not be transmitted
Packet retries	The number of times a RADIUS request packet was retransmitted to a server
Transaction requests send rejected	The number of RADIUS transaction requests that were not transmitted due to unacceptable configuration

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Authentication requests failed	The number of authentication failures for this policy
Accounting requests failed	The number of accounting failures for this policy
Ratio of access-reject over auth responses	The ratio of access-rejects in the auth responses for this policy
Transaction success ratio	The transaction success ratio for this policy
Transaction failure ratio	The transaction failure ratio for this policy
Statistics last reset at	Indicated the date and time at which the statistics for this policy were last reset

radius-server-policy

Syntax

radius-server-policy *policy-name* **msg-buffer** [**session-id** *acct-session-id*]

Context

[Tree] (tools>dump>aaa radius-server-policy)

Full Context

tools dump aaa radius-server-policy

Description

This command dumps the RADIUS message buffer content for the specified radius-server-policy:

- message-type (acct-interim or acct-stop)
- Acct-Session-Id
- Remaining lifetime

When specifying the session-id, the message details are displayed.

Parameters

policy-name

Specifies the **radius-server-policy** for which the message buffer content should be displayed.

acct-session-id

Displays the RADIUS message details for the message with specified session-id that is stored in the RADIUS message buffer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

radius-server-policy

Syntax

radius-server-policy *policy-name* **msg-buffer** [**acct-session-id** *acct-session-id*]

radius-server-policy *policy-name* **statistics** [**msg-buffer-only**]

radius-server-policy *policy-name* **server** *server-index* **statistics**

Context

[Tree] (clear>aaa radius-server-policy)

Full Context

clear aaa radius-server-policy

Description

This command dumps the RADIUS message buffer content for the specified radius-server-policy:

- message-type (acct-interim or acct-stop)
- Acct-Session-Id
- Remaining lifetime

When specifying the session-id, the message details are displayed.

Parameters

policy-name

Specifies the radius-server-policy for which the information should be cleared.

acct-session-id

Deletes all RADIUS messages or the RADIUS message with specified session-id from the RADIUS message buffer.

msg-buffer-only

Clears all statistics for the specified radius-server-policy: radius-server-policy statistics, RADIUS server statistics and RADIUS message buffer statistics. With the optional keyword **msg-buffer-only**, only the RADIUS message buffer statistics are cleared.

server-index

Clears the RADIUS server statistics for the specified server-index in the specified radius-server-policy.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.13 range

range

Syntax

range [*area-id*]

Context

[Tree] (show>router>ospf range)

[Tree] (show>router>ospf3 range)

Full Context

show router ospf range

show router ospf3 range

Description

This command displays ranges of addresses on an Area Border Router (ABR) for the purpose of route summarization or suppression.

Parameters

area-id

Displays the configured ranges for the specified area.

Values ip-address — a.b.c.d

area — 0 to 4294967295

Platforms

All

Output

OSPF Range Output

Table 467: Output fields: OSPF range describes the OSPF range output fields.

Table 467: Output fields: OSPF range

Label	Description
Area Id	A 32-bit integer uniquely identifying an area. Area ID 0.0.0.0 is used for the OSPF backbone.
Address/Mask	The mask for the range expressed as a decimal integer mask length or in dotted decimal notation.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Advertise	False — The specified address/mask is not advertised outside the area. True — The specified address/mask is advertised outside the area.
LSDB Type	NSSA — This range was specified in the NSSA context, and specifies that the range applies to external routes (via type-7 LSAs) learned within the NSSA when the routes are advertised to other areas as type-5 LSAs. Summary — This range was not specified in the NSSA context, the range applies to summary LSAs even if the area is an NSSA.

Output Example

```
A:ALA-A# show router ospf 1 range
===============================================================
Rtr Base OSPFv2 Instance 1 Ranges
===============================================================
Area Id         Address/Mask       Advertise   LSDB Type
---------------------------------------------------------------
No. of Ranges: 0
===============================================================
A:ALA-A#

A:ALA-A# show router ospf range 180.0.7.9
===============================================================
Rtr Base OSPFv2 Instance 0 Ranges for Area-Id 180.0.7.9
===============================================================
Area Id         Address/Mask       Advertise   LSDB Type
---------------------------------------------------------------
No. of Ranges: 0
===============================================================
A:ALA-A#
```

22.14 reassembly-statistics

reassembly-statistics

Syntax

reassembly-statistics group *nat-group-id* **member** [*member*]

Context

[Tree] (clear reassembly-statistics)

Full Context

clear reassembly-statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears IP reassembly statistics.

Parameters

nat-group-id

Specifies the NAT group ID.

Values 1 to 8 (7750 SR-12)
1 to 15 (VSR)
1 to 4 (all other platforms)

member

Specifies the member ID.

Values 1 to 255

Platforms

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

22.15 reboot-required

reboot-required

Syntax

reboot-required

Context

[Tree] (clear>system reboot-required)

Full Context

clear system reboot-required

Description

This command clears the reboot required information. Use this command after a configuration triggers the reboot required state, but the configuration is removed.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.16 recover-l2aw-bypass

recover-l2aw-bypass

Syntax

recover-l2aw-bypass *mda*

Context

[Tree] (tools>perform>nat recover-l2aw-bypass)

Full Context

tools perform nat recover-l2aw-bypass

Description

This command restores NAT resources to the recovered MS-ISA and resumes forwarding subscriber traffic.

Platforms

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

22.17 redirect

redirect

Syntax

redirect statistics

Context

[Tree] (tools>dump>system>cpm-http-redirect redirect)

Full Context

tools dump system cpm-http-redirect redirect

Description

This command displays system level statistics for all redirected TCP sessions in **optimized- mode**. These include the following:

- Close requests to TCP: TCP layer requested to send a FIN
- Abort requests to TCP: error in the received packet and the TCP layer needs to send a RST

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Data requests to TCP: number of redirects sent to the TCP layer
- Connections deleted: number of connections closed without a successful redirect performed
- HTTP GET parse errors: formatting error in the HTTP request
- HTTP GET process errors: HTTP GET is formatted properly but the redirect still fails. Example: system unable to find a corresponding host
- HTTP Response dropped: communication error; the redirect failed to be sent to the TCP layer

Parameters

statistics

Specifies system level statistics for all redirected TCP sessions.

Platforms

All

Output

The following output is an example of the **statistics** command information.

Output Example

```
A# tools dump system cpm-http-redirect redirect statistics
===============================================================================
CPM HTTP Redirect statistics
===============================================================================
Close requests to TCP                                 : 2
Abort requests to TCP                                 : 0
Data requests to TCP                                  : 2
Requests rejected - out of memory                     : 0
Connections deleted                                   : 0
HTTP GET parse errors                                 : 0
HTTP GET process errors                               : 0
HTTP Response dropped                                 : 0
```

22.18 redirect-policy

redirect-policy

Syntax

redirect-policy [*redirect-policy-name* {**dest** *ip-address* | **associations**}]

Context

[Tree] (show>filter redirect-policy)

Full Context

show filter redirect-policy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command shows redirect filter information.

Parameters

redirect-policy-name

Displays information for the specified redirect policy, up to 32 characters.

dest *ip-address*

Directs the router to use a specified IP address for communication.

Values	ipv4-address:	a.b.c.d.
	ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D

associations

Appends association information.

Platforms

All

Output

Redirect Policy Output — The following output is an example of redirect policy information, and Table 468: Output fields: redirect policy describes the fields.

Output Example

```
A:ALA-A>config>filter# show filter redirect-policy
===============================================================================
Redirect Policies
===============================================================================
Redirect Policy                 Applied Description
-------------------------------------------------------------------------------
wccp                            Yes
redirect1                       Yes     New redirect info
redirect2                       Yes     Test test test test
===============================================================================
ALA-A>config>filter#


ALA-A>config>filter# show filter redirect-policy redirect1
===============================================================================
Redirect Policy
===============================================================================
Redirect Policy: redirect1                      Applied      : Yes
Description    : New redirect info
Active Dest    : 10.10.10.105
-------------------------------------------------------------------------------
Destination    : 10.10.10.105
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Description    : another test
Admin Priority : 95                                Oper Priority: 105
Admin State    : Up                                Oper State   : Down

Ping Test
Source Address : None
Interval       : 1                                 Timeout      : 30
Drop Count     : 5
Hold Down      : 0                                 Hold Remain  : 0
Last Action at : 03/19/2007 00:46:55               Action Taken : Disable
===============================================================================
A:ALA-A>config>filter#
```

Table 468: Output fields: redirect policy

Label	Description
Redirect Policy	Specifies a specific redirect policy
Applied	Specifies whether the redirect policy is applied to a filter policy entry
Description	Displays the user-provided description for this redirect policy
Active Destination	IP address — specifies the IP address of the active destination
	none — indicates that there is currently no active destination
Destination	Specifies the destination IP address
Oper Priority	Specifies the operational value of the priority for this destination; the highest operational priority across multiple destinations is used as the preferred destination
Admin Priority	Specifies the configured base priority for the destination
Admin State	Specifies the configured state of the destination
	Out of Service — tests for this destination will not be conducted
Oper State	Specifies the operational state of the destination
Ping Test	Specifies the name of the ping test
Source Address	Specifies the source address of the ping test (if any)
Timeout	Specifies the amount of time in seconds that is allowed for receiving a response from the far-end host; if a reply is not received within this time the far-end host is considered unresponsive
Interval	Specifies the amount of time in seconds between consecutive requests sent to the far end host

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Drop Count	Specifies the number of consecutive requests that must fail for the destination to declared unreachable
Hold Down	Specifies the amount of time in seconds that the system should be held down if any of the test has marked it unreachable
Hold Remain	Specifies the amount of time in seconds that the system will remain in a hold down state before being used again
Last Action at	Displays a time stamp of when this test received a response for a probe that was sent out

redirect-policy

Syntax

redirect-policy *redirect-policy-name*

Context

[Tree] (tools>perform>filter redirect-policy)

Full Context

tools perform filter redirect-policy

Description

Commands in this context perform redirect policy operations.

Parameters

redirect-policy-name

Specifies a particular redirect policy name, up to 32 characters.

Platforms

All

22.19 redirect-policy-binding

redirect-policy-binding

Syntax

redirect-policy-binding [*name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>filter redirect-policy-binding)

Full Context

show filter redirect-policy-binding

Description

This command shows configured redirect-policy bindings information.

Parameters

name

Displays information for the specified redirect policy binding, up to 32 characters.

Platforms

All

Output

Redirect Policy Output — The following output is an example of redirect policy binding information, and Table 469: Output fields: redirect policy bindings describes the fields.

Output Example

```
A:ALA-A>config>filter# show filter redirect-policy-binding
===============================================================================
Redirect Policy Bindings
===============================================================================
Name                            Binding Operator Oper State
-------------------------------------------------------------
TestBinding                     And              Up
===============================================================================
ALA-A#
```

Table 469: Output fields: redirect policy bindings

Label	Description
Test Binding	Specifies a specific test binding field

22.20 redundancy

redundancy

Syntax

redundancy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context
[Tree] (tools>dump redundancy)

Full Context
tools dump redundancy

Description
Commands in this context dump redundancy parameters.

Platforms
All

redundancy

Syntax
redundancy

Context
[Tree] (show redundancy)

Full Context
show redundancy

Description
Commands in this context show redundancy information.

Platforms
All

redundancy

Syntax
redundancy

Context
[Tree] (tools>perform redundancy)

Full Context
tools perform redundancy

Description
Commands in this context display redundancy information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

redundancy

Syntax

redundancy

Context

[Tree] (clear redundancy)

Full Context

clear redundancy

Description

Commands in this context clear redundancy parameters.

Platforms

All

22.21 reflectors

reflectors

Syntax

reflectors

Context

[Tree] (show>test-oam>twamp>twamp-light reflectors)

Full Context

show test-oam twamp twamp-light reflectors

Description

This command displays TWAMP-Light reflector information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of TWAMP Light reflector information, and Table 470: Output fields: TWAMP Light reflectors describes the output fields.

Output Example

```
show test-oam twamp twamp-light reflectors
===============================================================================
TWAMP-Light Reflectors
===============================================================================
Router/VPRN   Admin  Type uS UDP Port Prefix    Frames Rx    Frames Tx IPv6Udp0
-------------------------------------------------------------------------------
Base             Up STAMP  Y      862      1      2425283      2425283       No
500              Up STAMP         862      2         6340         6340       No
-------------------------------------------------------------------------------
No. of TWAMP-Light Reflectors: 2
uS = Y: LAG micro-session delay and loss measurement enabled
===============================================================================
```

Table 470: Output fields: TWAMP Light reflectors

Label	Description
Router/VPRN	Displays the routing instance
Admin	Displays the administrative state of the reflector
Type	Displays the configured packet processing of the reflector STAMP – supports STAMP formatted packets and optional STAMP TLVs, as well as processing TWAMP Light formatted packets TWL – supports TWAMP Light formatted packets, but not the decoding of STAMP options. STAMP packets are processed using TWAMP Light logic and additional STAMP-specific fields are treated as padding.
uS	Displays if LAG micro session delay and loss measurement is enabled Y – Yes Blank – No
UDP Port	Displays the listening UDP port on the Session-Reflector
Prefix	Displays the IP source-allowed prefixes configured
Frames Rx	Displays the number of packets received on the Session-Reflector
Frames Tx	Displays the number of packets transmitted by the Session-Reflector
IPv6Udp0	Allow for the processing of IPv6 packets that arrive with a UDP port of zero

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.22 refresh-lsas

refresh-lsas

Syntax

refresh-lsas [*lsa-type*] [*area-id*]

Context

[Tree] (tools>perform>router>ospf refresh-lsas)

[Tree] (tools>perform>router>ospf3 refresh-lsas)

Full Context

tools perform router ospf refresh-lsas

tools perform router ospf3 refresh-lsas

Description

This command refreshes LSAs for OSPF.

Platforms

All

22.23 release-hold-down

release-hold-down

Syntax

release-hold-down interface *interface-name* [**protocol** *protocol*] [**static-policer** *name*]

release-hold-down sap *sap-id* [**protocol** *protocol*] [**static-policer** *name*]

Context

[Tree] (tools>perform>security>dist-cpu-protection release-hold-down)

Full Context

tools perform security dist-cpu-protection release-hold-down

Description

This command releases a Distributed CPU Protection (DCP) policer from a hold-down countdown (or indefinite hold-down if configured as such).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

interface *interface-name*

Specifies Router interface name.

sap *sap-id*

Specifies sap identifier.

protocol *protocol*

Specifies DCP protocol name (for example, arp, dhcp).

static-policer *name*

Specifies DCP static policer name as defined in the DCP policy.

Platforms

All

22.24 remap-lease-state

remap-lease-state

Syntax

remap-lease-state old-mac *ieee-address* **mac** *ieee-address*

remap-lease-state sap *sap-id* [**mac** *ieee-address*]

Context

[Tree] (tools>perform>subscr-mgmt remap-lease-state)

Full Context

tools perform subscriber-mgmt remap-lease-state

Description

This command allows the remapping of all existing hosts if network card on CMTS/WAC side is changed is required.

When this command is executed, the following restrictions apply:

- When **sap** is taken, all leases associated with the SAP are re-written.
  - For a SAP with a configured MAC in **lease-populate** command, this MAC is taken.
  - For a SAP without a configured MAC the MAC from tools command is taken.
  - For a SAP without a configured MAC and no MAC in tools command no action is performed.
- When using the **old-mac** option, providing a new MAC *ieee-address* is mandatory.

This command is applicable only when dealing with DHCP lease states which were instantiated using l2header mode of DHCP operation.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

old-mac ***ieee-address***

Specifies the old MAC address to remap.

mac ***ieee-address***

Specifies that the provisioned MAC address is used in the anti-spoofing entries for this SAP when l2-header is enabled. The parameter may be changed mid-session. Existing sessions will not be re-programmed unless a **tools perform** command is issued for the lease.

sap-id

Specifies the physical port identifier portion of the SAP definition.

When configured, the SAP parameter remaps all MAC addresses of DHCP lease states on the specified SAP. When no optional MAC parameter is specified, the **sap** *sap-id* command remaps all MAC addresses of lease states towards the MAC address specified in the l2-header configuration.

Platforms

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

22.25 remote-bfd-discrim

remote-bfd-discrim

Syntax

remote-bfd-discrim *bfd-discriminator*

Context

[Tree] (tools>dump>router>lsp-bfd remote-bfd-discrim)

Full Context

tools dump router lsp-bfd remote-bfd-discrim

Description

This command displays information the BFD-on-LSP sessions with a specified remote discriminator.

Parameters

bfd-discriminator

Specifies the BFD discriminator.

Values to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

22.26 remote-management

remote-management

Syntax

remote-management

Context

[Tree] (clear>system>management-interface remote-management)

Full Context

clear system management-interface remote-management

Description

This command clears the remote management service.

Platforms

All

remote-management

Syntax

remote-management [**detail**]

remote-management manager [*manager-name*]

Context

[Tree] (show>system>management-interface remote-management)

Full Context

show system management-interface remote-management

Description

This command displays a summarized status of the Remote Management service.

Parameters

detail

Displays detailed remote management service information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

manager-name

Displays remote management service information for the specified manager.

Platforms

All

Output

The following outputs are examples of the **show system management-interface remote- management** command and parameters, and the tables describe the fields.

- Output Example: remote-management; output fields Table 471: Output fields: remote management
- Output Example: remote-management detail; output fields Table 472: Output fields: remote management detail and Table 471: Output fields: remote management for fields that are common to all the remote management output commands
- Output Example: remote-management manager; output fields Table 473: Output fields: remote management manager and Table 471: Output fields: remote management for fields that are common to all the remote management output commands

Output Example: remote-management

```
#show system management-interface remote-management
===============================================================================
Remote-management service
===============================================================================
Administrative State      : Enabled
Operational State         : Up
Operational down Reason   : N/A
-------------------------------------------------------------------------------
Number of configured managers         : 2
Number of operational managers        : 1
===============================================================================
```

Table 471: Output fields: remote management

Label	Description
Administrative State	Displays the administrative state of the management service
Operational State	Displays the operational state of the management service
Operational Down Reason	Displays the reason for the last operationally down state change
Number of configured managers	Displays the total number of configured managers
Number of operational managers	Displays the total number of managers whose operational state is Up

Output Example: remote-management detail

```
# show system management-interface remote-management detail
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Remote-management service
===============================================================================
Administrative state           : Enabled
Operational state              : Up
Operational down reason        : N/A
Last hello time                : 2020/10/06 10:24:29
Last Registration Time         : 2020/10/06 10:24:29
Last Registration Status       : Succeeded
Sent registration messages     : 83
Failed registration messages   : 0
Cancelled registrations        : 0
-------------------------------------------------------------------------------
Number of configured managers  : 1
Number of operational managers : 1
-------------------------------------------------------------------------------
Manager Name                                                    Adm  Opr  TLS
  Manager IP
-------------------------------------------------------------------------------
nish-manager                                                     Up   Up   No
  192.168.65.3
===============================================================================
```

Table 472: Output fields: remote management detail

Label	Description
Last hello Time	Displays the time of the last hello
Last Registration Time	Displays the time of the last registration
Last Registration Status	Displays the time of the last registration status
Sent registration messages	Displays the number of sent registration messages
Failed registration messages	Displays the number of failed registration messages
Canceled registration messages	Displays the number of canceled registration messages
Manager name	Displays the name of the manager
Manager IP	Displays the IP address of the manager
Adm	Displays the administrative state of the manager
Opr	Displays the operational state of the manager
TLS	Displays whether TLS is configured for the manager

Output Example: remote-management manager

```
# show system management-interface remote-management manager nish-manager1
===============================================================================
Remote manager
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Manager Name                 : nish-manager1
Manager Address              : 192.168.65.3
Description                  : My remote manager
-------------------------------------------------------------------------------
Administrative State         : Enabled
Operational State            : Up
Operational down reason      : N/A
Router instance              : Management
Device name                  : Dut-C
Device label                 :
TLS secured                  : No
TLS profile                  : Not Set
Source Address               : 192.168.66.166
Source TCP port              : 57400
Manager TCP port             : 57400
Last registration status     : Succeeded
Last registration time       : 2020/10/06 10:34:29
Last hello time              : 2020/10/06 10:34:29
Time until next hello        : 315s
Sent registration messages   : 80
Failed registration messages : 0
Canceled registrations       : 0
===============================================================================
```

Table 473: Output fields: remote management manager

Label	Description
Manager name	Displays the name of this manager
Manager Address	Displays IP address of this manager
Description	Displays the configured description for this manager
Router instance	Displays the router instance used by this manager
Device name	Displays the device name that is configured for this manager
Device label	Displays the device label that is configured for this manager
TLS secured	Displays the configured TLS status
TLS profile	Displays TLS profile, if configured
Source address	Displays the configured source address
Source TCP port	Displays the TCP source port
Manager TCP port	Displays the manager TCP port
Last registration status	Displays the status of the last registration attempt for this manager
Last registration time	Displays the time of the last registration for this manager
Last hello time	Displays the time of the last hello for this manager

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Time until next hello	Displays the time until the next hello for this manager
Sent registration messages	Displays the number of registration messages sent for this manager
Failed registration messages	Displays the number of failed registration messages for this manager
Cancelled registrations	Displays the number of canceled registration messages for this manager

22.27 remove-key

remove-key

Syntax

remove-key all-users all-hosts

remove-key host *ip-address*|*dns-name* **all-users**

remove-key user *user-name* **all-hosts**

remove-key user *user-name* **host** *ip-address*|*dns-name*

Context

[Tree] (tools>perform>system>ssh>client-known-hosts remove-key)

Full Context

tools perform system ssh client-known-hosts remove-key

Description

This command removes dynamically learned SSH host public keys for a specified user or for all users.

Use this command to delete a dynamic known-host entry when an SSH server presents a new host key for a host that is already in the known-host list. SR OS drops the SSH connection until the existing dynamic entry is removed.

This command does not remove statically configured known-host keys.

Note: Nokia recommends restricting this command to administrative users by using user profiles.

Parameters

all-users

Keyword that removes dynamically learned host keys for all users.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

all-hosts

Keyword that removes dynamically learned host keys for all hosts.

user-name

Specifies the user whose dynamically learned host keys are removed.

Values 32 chars max

ip-address*|*dns-name

Specifies the IP address or DNS name of the SSH host whose dynamically learned key is removed.

Values 128 chars max

Platforms

All

22.28 remove-my-key

remove-my-key

Syntax

remove-my-key all-hosts

remove-my-key *ip-address*|*dns-name*

Context

[Tree] (tools>perform>system>ssh>client-known-hosts remove-my-key)

Full Context

tools perform system ssh client-known-hosts remove-my-key

Description

This command removes dynamically learned SSH host public keys for the user who executes the command.

Use this command to delete a dynamic known-host entry when an SSH server presents a new host key for a host that is already in the known-host list. SR OS drops the SSH connection until the existing dynamic entry is removed.

This command does not remove statically configured known-host keys.

Parameters

all-hosts

Keyword that removes all dynamically learned host keys for the user who executes the command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address*|*dns-name

Specifies the IP address or DNS name of the SSH host whose dynamically learned key is removed for the user who executes the command.

Values 128 chars max

Platforms

All

22.29 replication-segment

replication-segment

Syntax

replication-segment [**root-address** *ip-address*] [**tree-id** *tree-id*] [**inst-id** *instance-id*] [**origin** {**Static** | **PCEP** | **SR-Policy**}] [**detail**] [**downstream-nodes** *id*]

Context

[Tree] (show>router>p2mp-sr-tree>database replication-segment)

Full Context

show router p2mp-sr-tree database replication-segment

Description

This command displays information for the replication segments in the P2MP SR tree database.

Parameters

ip-address

Displays replication segment information for the root with the specified IPv4 address.

tree-id

Displays replication segment information for the P2MP SR tree with the specified ID.

Values 8193 to 16286

instance-id

Displays replication segment information for the instance ID of a candidate path.

Values 0 to 4294967295

origin

Displays information for policies created using the specified method.

Static

Displays static policies.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

PCEP

Displays PCEP policies.

SR-Policy

Displays SR policies.

detail

Displays detailed information.

downstream-nodes

Displays next hop information.

id

Displays information for the next hop with the specified ID.

Platforms

All

Output

The following output is an example of P2MP SR tree database replication segment information.

Output example

```
A:node-2>show>router>p2mp-sr-tree# database replication-segment
===============================================================================
Replication Segments
===============================================================================
Policy-name
RootAddr                                TreeId     NumNHLFEs   Instance
Down-Reason                             Tunnel     Origin      State
SID-action                              InLabel    LTN/Local   Update-ID
  Nexthop
  Interface
  Down-Reason                           REP-SID    DwnStrNode  State
   Nexthop
   Interface
   Down-Reason                          REP-SID    ProtectNhId State
-------------------------------------------------------------------------------
rs_8193_10.20.1.3_inst_1
10.20.1.3                               8193       2           1
none                                    73728      Static      inService
push                                    N/A        True/False  0
  10.180.3.2
  ip-10.180.3.3
  none                                  78432      1           inService
    ---
    ---
    N/A                                 N/A        ---         ---

-------------------------------------------------------------------------------
Total replication segments : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

replication-segment

Syntax

replication-segment [*segment-name*] [**inst-id** *instance-id*] [**incoming-sid** *static-label*] [**origin** { **Static** | **PCEP** | **SR-Policy**}] [**oper** { **up** | **down**}] [**tree-id** *root-tree-id*] [**root-addr** *ip-address*] [**sr-mpls** | **srv6**]

Context

[Tree] (show>router>p2mp-sr-tree replication-segment)

Full Context

show router p2mp-sr-tree replication-segment

Description

This command displays information for the specified replication segment of the P2MP SR tree.

Parameters

segment-name

Specifies the nameof the replication segment, up to 32 characters.

instance-id

Specifies the instance ID.

Values 0 to 4294967295

static-label

Specifies the static label ID.

Values 0 to 4294967295

origin

Displays policies created using the specified method.

Static

Displays static policies.

PCEP

Displays PCEP policies.

SR-Policy

Displays SR policies.

oper up

Displays replication segments with operational status up.

oper down

Displays replication segments with operational status down.

root-tree-id

Specifies the P2MP SR tree ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 8193 to 16286

ip-address

Specifies the root IPv4 address.

sr-mpls

Displays SR MPLS replication segments.

srv6

Displays SRv6 replication segments.

Platforms

All

Output

The following outputs show examples of P2MP SR tree replication-segment information and Table 474: Output fields: P2MP SR tree replication segment describes the output fields.

- Output example: Replication segment
- Output example: SR MPLS replication segments
- Output example: SRv6 replication segments

Output example: Replication segment

```
show router p2mp-sr-tree replication-segment
===============================================================================
SR-MPLS Replication Segments
===============================================================================
Name                              Origin InstId        NumNhIds  Adm/Opr
RootAddr                                 TreeId        InSID     Action
-------------------------------------------------------------------------------
ipmsi_TX_101                      Static 1             2         Up/Up
10.20.1.3                                8194          --        Push

ipmsi_TX_102                      Static 1             2         Up/Up
10.20.1.3                                8195          --        Push

ipmsi_RXA_101                     Static 1             --        Up/Up
10.20.1.1                                8194          50113     Pop

ipmsi_RXA_102                     Static 1             --        Up/Up
10.20.1.1                                8195          50213     Pop

ipmsi_RXF_101                     Static 1             --        Up/Up
10.20.1.6                                8194          50153     Pop

ipmsi_RXF_102                     Static 1             --        Up/Up
10.20.1.6                                8195          50253     Pop

spmsi__TX_101                     Static 2             2         Up/Up
10.20.1.3                                9001          --        Push

spmsi__TX_102                     Static 2             2         Up/Up
10.20.1.3                                9002          --        Push

spmsi__RXA_101                    Static 2             --        Up/Up
10.20.1.1                                9001          100113    Pop
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
spmsi__RXA_102                      Static 2            --        Up/Up
10.20.1.1                                  9002         100213    Pop

spmsi__RXF_101                      Static 2            --        Up/Up
10.20.1.6                                  9001         100153    Pop

spmsi__RXF_102                      Static 2            --        Up/Up
10.20.1.6                                  9002         100253    Pop

-------------------------------------------------------------------------------
Total SR-MPLS Replication Segments : 12
===============================================================================

===============================================================================
SRv6 Replication Segments
===============================================================================
Name                                Origin InstId       NumNhIds  Adm/Opr
RootAddr                                   TreeId                 Role
Incoming SID                                                      Function
Locator
-------------------------------------------------------------------------------
ipmsi_TX_105                        Static 1            2         Up/Up
10.20.1.3                                  8198                   Root
--                                                    --
--

ipmsi_TX_106                        Static 1            2         Up/Up
10.20.1.3                                  8199                   Root
--                                                    --
--

ipmsi_TX_109                        Static 1            2         Up/Up
10.20.1.3                                  8202                   Root
--                                                    --
--

ipmsi_TX_110                        Static 1            2         Up/Up
10.20.1.3                                  8203                   Root
--                                                    --
--

ipmsi_RXA_105                       Static 1            --        Up/Up
10.20.1.1                                  8198                   Leaf
2001:0:0:3::1                                         1
locatorSRv6

ipmsi_RXA_106                       Static 1            --        Up/Up
10.20.1.1                                  8199                   Leaf
2001:0:0:3::4                                         4
locatorSRv6

ipmsi_RXA_109                       Static 1            --        Up/Up
10.20.1.1                                  8202                   Leaf
2001:0:0:3::7                                         7
locatorSRv6

ipmsi_RXA_110                       Static 1            --        Up/Up
10.20.1.1                                  8203                   Leaf
2001:0:0:3::a                                         10
locatorSRv6

ipmsi_RXF_105                       Static 1            --        Up/Up
10.20.1.6                                  8198                   Leaf
2001:0:0:3::3                                         3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
locatorSRv6

ipmsi_RXF_106                     Static 1            --        Up/Up
10.20.1.6                                8199                 Leaf
2001:0:0:3::6                                        6
locatorSRv6

ipmsi_RXF_109                     Static 1            --        Up/Up
10.20.1.6                                8202                 Leaf
2001:0:0:3::9                                        9
locatorSRv6

ipmsi_RXF_110                     Static 1            --        Up/Up
10.20.1.6                                8203                 Leaf
2001:0:0:3::c                                        12
locatorSRv6

spmsi__TX_105                     Static 2            2         Up/Up
10.20.1.3                                9005                 Root
--                                                   --
--

spmsi__TX_106                     Static 2            2         Up/Up
10.20.1.3                                9006                 Root
--                                                   --
--

spmsi__TX_109                     Static 2            2         Up/Up
10.20.1.3                                9009                 Root
--                                                   --
--

spmsi__TX_110                     Static 2            2         Up/Up
10.20.1.3                                9010                 Root
--                                                   --
--

spmsi__RXA_105                    Static 2            --        Up/Up
10.20.1.1                                9005                 Leaf
2001:0:0:3::3e8                                      1000
locatorSRv6

spmsi__RXA_106                    Static 2            --        Up/Up
10.20.1.1                                9006                 Leaf
2001:0:0:3::3eb                                      1003
locatorSRv6

spmsi__RXA_109                    Static 2            --        Up/Up
10.20.1.1                                9009                 Leaf
2001:0:0:3::3ee                                      1006
locatorSRv6

spmsi__RXA_110                    Static 2            --        Up/Up
10.20.1.1                                9010                 Leaf
2001:0:0:3::3f1                                      1009
locatorSRv6

spmsi__RXF_105                    Static 2            --        Up/Up
10.20.1.6                                9005                 Leaf
2001:0:0:3::3ea                                      1002
locatorSRv6

spmsi__RXF_106                    Static 2            --        Up/Up
10.20.1.6                                9006                 Leaf
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2001:0:0:3::3ed                                      1005
locatorSRv6

spmsi__RXF_109                     Static 2          --        Up/Up
10.20.1.6                                 9009                 Leaf
2001:0:0:3::3f0                                      1008
locatorSRv6

spmsi__RXF_110                     Static 2          --        Up/Up
10.20.1.6                                 9010                 Leaf
2001:0:0:3::3f3                                      1011
locatorSRv6

-------------------------------------------------------------------------------
Total SRv6 Replication Segments : 24
===============================================================================
```

Output Example: SR MPLS replication segments

```
show router p2mp-sr-tree replication-segment sr-mpls
===============================================================================
SR-MPLS Replication Segments
===============================================================================
Name                               Origin InstId        NumNhIds  Adm/Opr
RootAddr                                  TreeId        InSID     Action
-------------------------------------------------------------------------------
ipmsi_TX_101                       Static 1             2         Up/Up
10.20.1.3                                 8194          --        Push

ipmsi_TX_102                       Static 1             2         Up/Up
10.20.1.3                                 8195          --        Push

ipmsi_RXA_101                      Static 1             --        Up/Up
10.20.1.1                                 8194          50113     Pop

ipmsi_RXA_102                      Static 1             --        Up/Up
10.20.1.1                                 8195          50213     Pop

ipmsi_RXF_101                      Static 1             --        Up/Up
10.20.1.6                                 8194          50153     Pop

ipmsi_RXF_102                      Static 1             --        Up/Up
10.20.1.6                                 8195          50253     Pop

spmsi__TX_101                      Static 2             2         Up/Up
10.20.1.3                                 9001          --        Push

spmsi__TX_102                      Static 2             2         Up/Up
10.20.1.3                                 9002          --        Push

spmsi__RXA_101                     Static 2             --        Up/Up
10.20.1.1                                 9001          100113    Pop

spmsi__RXA_102                     Static 2             --        Up/Up
10.20.1.1                                 9002          100213    Pop

spmsi__RXF_101                     Static 2             --        Up/Up
10.20.1.6                                 9001          100153    Pop

spmsi__RXF_102                     Static 2             --        Up/Up
10.20.1.6                                 9002          100253    Pop

-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Total SR-MPLS Replication Segments : 12
===============================================================================
```

Output example: SRv6 replication segments

```
show router p2mp-sr-tree replication-segment srv6
===============================================================================
SRv6 Replication Segments
===============================================================================
Name                              Origin InstId        NumNhIds  Adm/Opr
RootAddr                                 TreeId                  Role
Incoming SID                                          Function
Locator
-------------------------------------------------------------------------------
ipmsi_TX_105                      Static 1             2         Up/Up
10.20.1.3                                8198                    Root
--                                                    --
--

ipmsi_TX_106                      Static 1             2         Up/Up
10.20.1.3                                8199                    Root
--                                                    --
--

ipmsi_TX_109                      Static 1             2         Up/Up
10.20.1.3                                8202                    Root
--                                                    --
--

ipmsi_TX_110                      Static 1             2         Up/Up
10.20.1.3                                8203                    Root
--                                                    --
--

ipmsi_RXA_105                     Static 1             --        Up/Up
10.20.1.1                                8198                    Leaf
2001:0:0:3::1                                         1
locatorSRv6

ipmsi_RXA_106                     Static 1             --        Up/Up
10.20.1.1                                8199                    Leaf
2001:0:0:3::4                                         4
locatorSRv6

ipmsi_RXA_109                     Static 1             --        Up/Up
10.20.1.1                                8202                    Leaf
2001:0:0:3::7                                         7
locatorSRv6

ipmsi_RXA_110                     Static 1             --        Up/Up
10.20.1.1                                8203                    Leaf
2001:0:0:3::a                                         10
locatorSRv6

ipmsi_RXF_105                     Static 1             --        Up/Up
10.20.1.6                                8198                    Leaf
2001:0:0:3::3                                         3
locatorSRv6

ipmsi_RXF_106                     Static 1             --        Up/Up
10.20.1.6                                8199                    Leaf
2001:0:0:3::6                                         6
locatorSRv6
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ipmsi_RXF_109                    Static 1            --        Up/Up
10.20.1.6                               8202                  Leaf
2001:0:0:3::9                                       9
locatorSRv6

ipmsi_RXF_110                    Static 1            --        Up/Up
10.20.1.6                               8203                  Leaf
2001:0:0:3::c                                       12
locatorSRv6

spmsi__TX_105                    Static 2            2         Up/Up
10.20.1.3                               9005                  Root
--                                                  --
--

spmsi__TX_106                    Static 2            2         Up/Up
10.20.1.3                               9006                  Root
--                                                  --
--

spmsi__TX_109                    Static 2            2         Up/Up
10.20.1.3                               9009                  Root
--                                                  --
--

spmsi__TX_110                    Static 2            2         Up/Up
10.20.1.3                               9010                  Root
--                                                  --
--

spmsi__RXA_105                   Static 2            --        Up/Up
10.20.1.1                               9005                  Leaf
2001:0:0:3::3e8                                     1000
locatorSRv6

spmsi__RXA_106                   Static 2            --        Up/Up
10.20.1.1                               9006                  Leaf
2001:0:0:3::3eb                                     1003
locatorSRv6

spmsi__RXA_109                   Static 2            --        Up/Up
10.20.1.1                               9009                  Leaf
2001:0:0:3::3ee                                     1006
locatorSRv6

spmsi__RXA_110                   Static 2            --        Up/Up
10.20.1.1                               9010                  Leaf
2001:0:0:3::3f1                                     1009
locatorSRv6

spmsi__RXF_105                   Static 2            --        Up/Up
10.20.1.6                               9005                  Leaf
2001:0:0:3::3ea                                     1002
locatorSRv6

spmsi__RXF_106                   Static 2            --        Up/Up
10.20.1.6                               9006                  Leaf
2001:0:0:3::3ed                                     1005
locatorSRv6

spmsi__RXF_109                   Static 2            --        Up/Up
10.20.1.6                               9009                  Leaf
2001:0:0:3::3f0                                     1008
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
locatorSRv6

spmsi__RXF_110                      Static 2            --        Up/Up
10.20.1.6                                  9010                  Leaf
2001:0:0:3::3f3                                        1011
locatorSRv6

-------------------------------------------------------------------------------
Total SRv6 Replication Segments : 24
===============================================================================
```

Table 474: Output fields: P2MP SR tree replication segment

Label	Description
Action	Displays the SR MPLS replication segment action (pop, push, swap)
Adm/Opr	Displays the administrative or operational state of the segment (up, down)
Function	Displays the incoming SID locator function (end-replicate) for the SRv6 segment
InSID	Displays the SR MPLS incoming replication SID IP address used to find the replication state
Incoming SID	Displays the SRv6 incoming replication SID used to find the replication state
InstId	Displays the Instance ID represented by the replication SID. Each candidate path has two instances IDs. The instance ID is unique within a P2MP policy.
Locator	Displays the SRv6 incoming SID locator
Name	Displays the name of the segment
NumNhIds	Displays the number of the next hop IDs
Origin	Displays policies created using the configured method (static, PCEP)
Role	Displays the role the SRv6 replication segment performs in handling the packets (leaf, root, transit)
RootAddr	Displays the root IP address of the segment
TreeId	Displays the tree ID of the segment

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.30 request

request

Syntax

request *aps-id* {**protect** | **working**}

Context

[Tree] (tools>perform>aps request)

Full Context

tools perform aps request

Description

This command requests a manual switch to protection or working circuit.

Parameters

aps-id

Specifies the APS ID.

Values

aps-id	aps-*group-id*	
	aps	keyword
	group-id	1 to 128

protect

This command requests a manual switch to a port that is acting as the protection circuit for the APS group.

working

This command requests a manual switch to a port that is acting as the working circuit for this APS group.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.31 requirements

requirements

Syntax

requirements [**detail**]

Context

[Tree] (show>chassis>power-management requirements)

Full Context

show chassis power-management requirements

Description

This command displays maximum power requirements for the installed devices.

Parameters

detail

Displays detailed information.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

Output

The following output is an example of power management requirements information, and Table 475: Output fields: chassis power management requirements describes the output fields.

Output Example: show chassis power-management requirements

```
*A:Dut-A# show chassis power-management requirements
===============================================================================
Chassis Power Zone 1 Requirements
===============================================================================
              SUPPLY                                REQUIREMENTS
Power Capacity   : 88000.00 Watts        Chassis/Fan   :  8600.00 Watts ( 10%)
                                         IO Module     :  2028.00 Watts (  2%)
                                         CPM Module    :   450.00 Watts (  1%)
                                         Fabric Module :  2120.00 Watts (  2%)
                                         MDA Module    : 11810.00 Watts ( 13%)
                                         XIOM Module   :  1926.00 Watts (  2%)
Mode             :    basic              Total Required: 26934.00 Watts ( 31%)
Reserved Power   :  4400.00 Watts        Safety Level  : 26934.00 Watts (100%)
Reqd. + Reserve  : 31334.00 Watts ( 36%) Safety Alert  :      N/A
Remaining Power  : 56666.00 Watts        Alert Level   :      N/A
===============================================================================

*A:Dut-A# show chassis power-management requirements detail
===============================================================================
Chassis Power Zone 1 Requirements (detail)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
             SUPPLY                              REQUIREMENTS
Power Capacity   : 88000.00 Watts        Chassis/Fan
Power Module 1/1 :  4400.00 Watts          1/1         :  1075.00 Watts (  1%)
Power Module 1/2 :  4400.00 Watts          1/2         :  1075.00 Watts (  1%)
Power Module 1/3 :  4400.00 Watts          1/3         :  1075.00 Watts (  1%)
Power Module 1/4 :  4400.00 Watts          1/4         :  1075.00 Watts (  1%)
Power Module 1/5 :  4400.00 Watts          1/5         :  1075.00 Watts (  1%)
Power Module 1/6 :  4400.00 Watts          1/6         :  1075.00 Watts (  1%)
Power Module 1/7 :  4400.00 Watts          1/7         :  1075.00 Watts (  1%)
Power Module 1/8 :  4400.00 Watts          1/8         :  1075.00 Watts (  1%)
Power Module 1/9 :  4400.00 Watts        IO Module
Power Module 1/10:  4400.00 Watts          Slot 1      :   551.00 Watts (  1%)
Power Module 2/1 :  4400.00 Watts          Slot 2      :   373.00 Watts (  0%)
Power Module 2/2 :  4400.00 Watts          Slot 3      :   609.00 Watts (  1%)
Power Module 2/3 :  4400.00 Watts          Slot 4      :   270.00 Watts (  0%)
Power Module 2/4 :  4400.00 Watts          Slot 5      :   225.00 Watts (  0%)
Power Module 2/5 :  4400.00 Watts        CPM Module
Power Module 2/6 :  4400.00 Watts          Slot A      :   225.00 Watts (  0%)
Power Module 2/7 :  4400.00 Watts          Slot B      :   225.00 Watts (  0%)
Power Module 2/8 :  4400.00 Watts        Fabric Module
Power Module 2/9 :  4400.00 Watts          Sfm 1       :   265.00 Watts (  0%)
Power Module 2/10:  4400.00 Watts          Sfm 2       :   265.00 Watts (  0%)
                                           Sfm 3       :   265.00 Watts (  0%)
                                           Sfm 4       :   265.00 Watts (  0%)
                                           Sfm 5       :   265.00 Watts (  0%)
                                           Sfm 6       :   265.00 Watts (  0%)
                                           Sfm 7       :   265.00 Watts (  0%)
                                           Sfm 8       :   265.00 Watts (  0%)
                                         MDA Module
                                           MDA 1/1     :  1555.00 Watts (  2%)
                                           MDA 1/2     :  1555.00 Watts (  2%)
                                           MDA 2/1     :  1200.00 Watts (  1%)
                                           MDA 2/2     :  1200.00 Watts (  1%)
                                           MDA 3/1     :  2400.00 Watts (  3%)
                                           MDA 3/2     :  2400.00 Watts (  3%)
                                           MDA 4/1     :   600.00 Watts (  1%)
                                           MDA 4/x2/1  :   150.00 Watts (  0%)
                                           MDA 4/x2/2  :   150.00 Watts (  0%)
                                           MDA 5/x1/1  :   150.00 Watts (  0%)
                                           MDA 5/x1/2  :   150.00 Watts (  0%)
                                           MDA 5/x2/1  :   150.00 Watts (  0%)
                                           MDA 5/x2/2  :   150.00 Watts (  0%)
                                         XIOM Module
                                           XIOM 4/x2   :   642.00 Watts (  1%)
                                           XIOM 5/x1   :   642.00 Watts (  1%)
                                           XIOM 5/x2   :   642.00 Watts (  1%)
Mode             :    basic              Total Required: 26934.00 Watts ( 31%)
Reserved Power   :  4400.00 Watts        Safety Level  : 26934.00 Watts (100%)
Reqd. + Reserve  : 31334.00 Watts ( 36%) Safety Alert  :      N/A
Remaining Power  : 56666.00 Watts        Alert Level   :      N/A
===============================================================================
```

Table 475: Output fields: chassis power management requirements

Label	Description
SUPPLY	
Power Capacity	Specifies the total amount of power available to the chassis.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Safety Level	Specifies the configured Power Safety Level, which is a percentage of the worst case power consumption level.
Alert Level	Specifies the configured power level in Watts, which causes the system to raise an alarm if the available power level drops below a set level.
Mode	Specifies the configured mode: none, basic, advanced.
Reserved Power	Signifies the amount of power in reserve. For basic and advanced modes, the system keeps an additional margin of reserve power capacity. This margin is the provisioned capacity of the highest-rated power module. In advanced mode, the system will shed load to always keep this amount of power in reserve. In basic mode, it won't shed load to maintain the reserve, but it only allows cards or MDAs to load as long as the reserve power margin can be maintained.
Reqd. + Reserve	Specifies the Safety Level (Watts) + Reserved Power.
Remaining Power	Specifies the excess capacity. It is equal to ("Power Capacity" - "Reqd + Reserve").
REQUIREMENTS	
Fan	Specifies the amount of power required for each fan tray.
IO Module	Specifies the amount of power required for each IO Module.
CPM Module	Specifies the amount of power required for each CPM.
Fabric Module	Specifies the amount of power required for each SFM.
MDA Module	Specifies the amount of power required for each line card.
Total Required	Specifies the total amount of power required for all system elements.
Safety Level	Specifies the percentage configured with **configure system power-management power-safety-level** *percent*. This is a percentage of the total system requirement (Total Required). The corresponding value in Watts is also shown for information.
Safety Alert	Specifies the output of **configure system power-management power-safety-alert** *wattage*. A non-zero value indicates that the user wants to receive a warning when the system power capacity drops to within this number of Watts of the system level. If the power safety is 0, "N/A" is displayed in the output since no alert will be produced.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Alert Level	Specifies the value when the safety alert will be issued (= safety-level + safety alert). If the power safety alert is 0, "N/A" is displayed in the output since no alert will be produced.

22.32 resignal

resignal

Syntax

resignal {**lsp** *lsp-name* **path** *path-name* | **delay** *minutes*}

resignal {**p2mp-lsp** *p2mp-lsp-name* **p2mp-instance** *p2mp-instance-name* | **p2mp-delay** *p2mp-minutes*}

resignal {**sr-te-lsp** *sr-te-lsp-name* **path** *path-name* | **sr-te-delay** *sr-te-minutes*}

Context

[Tree] (tools>perform>router>mpls resignal)

Full Context

tools perform router mpls resignal

Description

This command resignals a specific path of a RSVP-TE P2P LSP, a RSVP P2MP LSP tree, or a SR-TE LSP. When an **lsp-name** and **path-name** are provided, a manual resignal is performed for the named path of the named LSP only. In this case, the new path is always programmed in data path regardless of the metric comparison between the new path and the current path.

The **delay**, **p2mp-delay**, or the **sr-te-delay** parameters override the global resignal timer value of all LSPs of the corresponding type for resignal. At the expiry of this override timer, the procedures of the timer based resignal are applied to all LSPs of the corresponding type. The resignal timer is then reset to its configured value in MPLS configuration. In this case, the new path is programmed in data path only if the metric of the new path is different from one of the current path.

Parameters

lsp lsp-name

Specifies an existing LSP name, up to 64 characters in length, to resignal.

path path-name

Specifies an existing path name to resignal.

delay ***minutes***

Configures an override of the global resignal timer or all RSVP-TE P2P LSPs.

Values 0 to 30

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

p2mp-lsp ***p2mp-lsp-name***

Specifies an existing point-to-multipoint RSVP-TE LSP name, up to 64 characters, to resignal.

p2mp-instance ***p2mp-instance-name***

Specifies a name, up to 32 characters, that identifies the P2MP LSP instance.

p2mp-delay ***p2mp-minutes***

Configures an override of the global resignal timer or all RSVP-TE P2MP LSPs.

Values 0 to 60

sr-te-delay ***sr-te-minutes***

Configures an override of the global resignal timer or all SR-TE LSPs.

Values 0 to 30

sr-te-lsp ***sr-te-lsp-name***

Specifies the name of a SR-TE LSP to resignal. The name must be 64 characters maximum.

Platforms

All

22.33 resignal-bypass

resignal-bypass

Syntax

resignal-bypass {**lsp** *bypass-lsp-name* [**force**] | **delay** *minutes*}

Context

[Tree] (tools>perform>router>mpls resignal-bypass)

Full Context

tools perform router mpls resignal-bypass

Description

This command performs a manual re-optimization of a specific dynamic or manual bypass LSP, or of all dynamic bypass LSPs.

The name of a manual bypass LSP is the one provided by the user at configuration time. The name of a dynamic bypass LSP is shown in the output of **show>router>mpls>bypass-tunnel dynamic detail**.

The **delay** option triggers the global re-optimization of all dynamic bypass LSPs at the expiry of the specified delay. Effectively, this option forces the global bypass resignal timer to expire after an amount of time equal to the value of the **delay** parameter. This option has no effect on a manual bypass LSP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

However, when *bypass-lsp-name* is specified, the named dynamic or manual bypass LSP is signaled and the associations are moved only if the new bypass LSP path has a lower cost than the current one. This behavior is different from that of the similar command for the primary or secondary active path of an LSP, which signals and switches to the new path regardless of the cost comparison. This handling is required because a bypass LSP may have a large number of PSB associations and the processing churn is much higher.

In the specific case where the name corresponds to a manual bypass LSP, the LSP is torn down and resignaled using the new path provided by CSPF if no PSB associations exist. If one or more PSB associations exist but no PLR is active, the command fails and the user is required to explicitly enter the **force** option. In this case, the manual bypass LSP is torn down and resignaled, leaving temporarily the associated LSP primary paths unprotected. If one or more PLRs associated with the manual bypass LSP is active, the command fails.

Finally, and as with the timer based resignal, the PSB associations are checked for the SRLG and admin group constraints using the updated information provided by CSPF for the current path and new path of the bypass LSP.

Parameters

lsp bypass-lsp-name [force]

Specifies the name of the dynamic or manual bypass LSP. The force option is required when the name corresponds to a manual bypass LSP and the LSP has PSB associations.

delay *minutes*

Specifies the time, in minutes, MPLS waits before attempting to re-signal dynamic bypass LSP paths originated on the system.

Values 0 to 30

Platforms

All

22.34 resource-failures

resource-failures

Syntax

resource-failures

Context

[Tree] (clear>router>ldp resource-failures)

Full Context

clear router ldp resource-failures

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears resource overload status in the LDP instance.

Platforms

All

22.35 resource-usage

resource-usage

Syntax

resource-usage

Context

[Tree] (tools>dump resource-usage)

Full Context

tools dump resource-usage

Description

Commands in this context display system resource information, such as policers, including data for total, available, and free numbers for each resource.

Platforms

All

22.36 resources

resources

Syntax

resources

Context

[Tree] (tools>dump>filter resources)

Full Context

tools dump filter resources

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display filter resources utilization.

Platforms

All

resources

Syntax

resources esa-vm *vapp-id*

resources mda *mda-id*

resources nat-group *nat-group-id* **member** *member-id*

resources redundancy-utilization

Context

[Tree] (tools>dump>nat>isa resources)

Full Context

tools dump nat isa resources

Description

This command dumps ISA resources for an MDA, ESA VM, NAT group, or redundancy utilization.

Parameters

mda-id

Specifies the card and slot identifying a provisioned ISA.

Values

mda-id:	*slot* [*xiom*/]*mda*	
	slot	1 to 2 (7750 SR-2s)
		1 to 5 (7750 SR-7)
		1 to 6 (7750 SR-14s)
		1 to 10 (7450 ESS, 7750 SR-12)
		1 to 14 (VSR)
		1 to 20 (VSR)
	xiom	x1 to x2
	mda	1 to 2 (7450 ESS, 7750 SR-1, SR-2s, SR-7, SR-12, SR-14s)
		1 to 4 (VSR)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

nat-group-id

Specifies the NAT group ID.

Values 1 to 4 (7450 ESS, 7750 SR-1, SR-2s, SR-7, SR-12, SR-14s, VSR)
1 to 8 (7750 SR-12)
1 to 15 (VSR)

vapp-id

Specifies the ID of the configured ESA and ESA VM.

Values

vapp-id:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

member-id

Specifies the member ID.

Values 1 to 255

redundancy-utilization

Keyword that specifies redundancy utilization.

Platforms

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

Output

The following output is an example of ISA NAT ESA-VM system resources.

Output Example

```
# tools dump nat isa resources esa-vm 1/1
===============================================================================
ISA NAT ESA-VM 1/1 resources
===============================================================================
Name                              Maximum         Limit
                                   Actual          Peak       Peak Timestamp
-------------------------------------------------------------------------------
Flows                              131072           N/A
                                        0             0
Policies                             4096           N/A
                                        0             0
Port-ranges configured             524288          100%
                                        0             0
Port-ranges used                        0          100%
                                        0             0
Port-ranges retained                    0          100%
                                        0             0
Ports                         1006632960          100%
                                        0             0
IP-addresses                         65536          100%
                                        0             0
Large-scale hosts                     8192          100%
                                        0             0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Subscriber-cache entries                8192           N/A
                                           0             0
L2-aware subscribers                    2048          100%
                                           0             0
L2-aware hosts                          4096          100%
                                           0             0
Delayed ICMP's                           200           N/A
                                           0             0
ALG session                            24576           N/A
                                           0             0
Upstream fragment lists                 2048           N/A
                                           0             0
Downstream fragment lists               1024           N/A
                                           0             0
Upstream fragment bufs                  2048           N/A
                                           0             0
Downstream fragment bufs                1024           N/A
                                           0             0
Dormant subscribers                        0           N/A
                                           0             0
UPnP mappings                           1024           N/A
                                           0             0
UPnP sessions                            100           N/A
                                           0             0
One-to-one IP-addresses                 8192          100%
                                           0             0
Flowlog destinations set 0                 2           N/A
                                           0             0
Flowlog destinations set 1                 2           N/A
                                           0             0
Flowlog destinations set 2                 1           N/A
                                           0             0
Flowlog packets set 0                    256           N/A
                                           0             0
Flowlog packets set 1                    256           N/A
                                           0             0
Flowlog packets set 2                    256           N/A
                                           0             0
PPPoE sessions                          2048           N/A
                                           0             0
Flexible-port IP-addresses               128          100%
                                           0             0
LI entries                               255           N/A
                                           0             0
===============================================================================
```

resources

Syntax

resources esa-vm *vapp-id*

resources mda *mda-id*

Context

[Tree] (tools>dump>wlan-gw>isa resources)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump wlan-gw isa resources

Description

This command dumps ISA resources for an MDA or ESA VM.

Parameters

mda-id

Specifies the card and slot identifying a provisioned ISA.

Values

mda-id:	*slot* [*xiom*/]*mda*	
	slot	1 to 2 (7750 SR-2s)
		1 to 5 (7750 SR-7)
		1 to 6 (7750 SR-14s)
		1 to 10 (7450 ESS, 7750 SR-12)
		1 to 14 (VSR)
		1 to 20 (VSR)
	xiom	x1 to x2
	mda	1 to 2 (7450 ESS, 7750 SR-1, SR-2s, SR-7, SR-12, SR-14s)
		1 to 4 (VSR)

vapp-id

Specifies the ID of the configured ESA and ESA VM.

Values

vapp-id:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

Output

The following output is an example of ISA WLAN gateway system resources.

Output Example

```
# tools dump wlan-gw isa resources mda 3/1
===============================================================================
ISA WLAN Gateway Group 1 Member 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Name                                Maximum
                                     Actual          Peak       Peak Timestamp
-------------------------------------------------------------------------------
Destinations                             64
                                          1             1  2025/01/02 15:15:11
Vlan-ranges                             128
                                          0             0
Hosts                                  1024
                                          0             0
Redirect-policies                        16
                                          0             0
DSM IP-filters                           16
                                          0             0
DSM policers                            128
                                          0             0
Mirror-destinations                     255
                                          0             0
SLAAC subnets                            32
                                          0             0
DHCPv6 subnets                           32
                                          0             0
DHCP subnets                             32
                                          1             1  2025/01/02 15:15:11
Remotes                                   8
                                          0             0
Bridge domains                          128
                                          0             0
VNIs                                    128
                                          0             0
Bridge domain filters                    16
                                          0             0
RADIUS-proxy servers                     64
                                          0             0
RADIUS-proxy contexts                  2048
                                          0             0
AA app-profiles                         256
                                          0             0
AA hosts                                  0
                                          0             0
Fragment lists                         2048
                                          0             0
Fragment bufs                          2048
                                          0             0
AA app-service-options                  320
                                          0             0
Services                                128
                                          0             0
Host groups                             256
                                          0             0
GTP uplink endpoints                      0
                                          0             0
GTP SNAPTRs                               0
                                          0             0
GTP peers                                 0
                                          0             0
GTP sessions                              0
                                          0             0
Configured LI entries                    64
                                          0             0
RADIUS LI entries                        32
                                          0             0
===============================================================================
Peak values last reset at : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

resources

Syntax

resources

Context

[Tree] (show>router>bfd resources)

Full Context

show router bfd resources

Description

This command displays information about BFD resource usage.

Platforms

All

resources

Syntax

resources

Context

[Tree] (tools>dump>app-assure>group resources)

Full Context

tools dump application-assurance group resources

Description

This command dumps application-assurance resource usage information within a group.

Platforms

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

Output

The following output is an example of group resource usage information.

Output Example

```
*A:Dut-C# tools dump application-assurance group 1 resources
===============================================================================================
=========
Application-Assurance Group 1 Resource Usage and Limits
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================================
=========
Partitioned             :  No
AA-Sub-Scale            :  residential
Minimum-ISA-Generation  :  1
-----------------------------------------------------------------------------------------------
---------
mda  mda-type  Status  aa-subs  aa-sub  flow-records  ip    transit-prefix-entries   capacity
 quarantined
                               stats   current limit addresses ipv4 v4-rm ipv6 v6-rm cost
 aa-subs
-----------------------------------------------------------------------------------------------
---------
5/1  isa2-aa   up/active  9     162     0       20480  0         0   0     0    0     9       1
Mda Limit                 1024  32768   n/a     n/a    16384     0   0     0    0     n/a
 100
-----------------------------------------------------------------------------------------------
---------
Resource                                                  Current          Limit
-----------------------------------------------------------------------------------------------
-------
Control     Certificate Profiles                        : 0                20
Control     DNS IP Cache                                : 0                128
Control     DNS IP Cache Domain Entries                 : 0                4096
Control     DNS IP Cache Entries                        : 0                65536
Control     Event Logs                                  : 0                1
Control     Event Log Entries                           : 0                100000
Control     GTP Filter                                  : 0                128
Control     HTTP Enrichment                             : 0                128
Control     HTTP Error Redirect                         : 0                1
Control     HTTP Notification                           : 0                8
Control     HTTP Redirect                               : 0                128
Control     IP Prefix Lists                             : 0                1000
Control     IP Prefix Lists Entries                     : 0                24000
Control     SCTP Filter                                 : 0                128
Control     Session Filter                              : 0                300
Control     Session Filter Entries                      : 0                6000
Control     URL Filter                                  : 0                4
Control     URL List                                    : 0                3
Control     URL List Entries (standard)                 : 0                450
Control     URL List Entries (extended)                 : 0                2000
Control     IP Port Lists                               : 0                100
Control     IP Port Lists Entries                       : 0                3200
Control     TCP Validate                                : 0                128
Control     TCP Optimizer                               : 0                128
Control     Multi-path TCP Proxies                      : 0                4
-----------------------------------------------------------------------------------------------
-------
Policer     System Level Single Bucket BW Policers      : 0                128
Policer     System Level Flow Count Limit Policers      : 0                128
Policer     System Level Flow Rate Limit Policers       : 0                128
Policer     Subscriber Level Single Bucket BW Policers  : 0                5000
Policer     Subscriber Level Dual Bucket BW Policers    : 0                5000
Policer     Subscriber Level Flow Count Limit           : 0                5000
Policer     Subscriber Level Flow Rate Limit            : 0                5000
Policer     All Policer Types For Group                 : 0                5000
Policer     Time-Of-Day Overrides For Group             : 0                384
-----------------------------------------------------------------------------------------------
-------
Policy      Protocols                                   : 247              -
Policy      Custom Protocols                            : 0                10
Policy      Custom Protocol Expressions                 : 0                10
Policy      Charging Groups                             : 0                32
Policy      Application Groups                          : 1                32
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Policy      Applications                              : 1               500
Policy      Application Filters                       : 0               2500
Policy      Application Filter Expressions            : 0               2500
Policy      Application Service Options Characteristics  : 0               32
Policy      Application Service Options Values        : 0               256
Policy      Application Profiles                      : 0               100
Policy      Application QoS Policies                  : 0               1000
Policy      AQP ASO Matches                           : 0               2000
Policy      AQP Subscriber Matches                    : 0               100
Policy      Subscriber HTTP URL Parameters            : 0               -
-------------------------------------------------------------------------------------------
--------
Statistics  Subscriber Statistics                     : 0               512
Statistics  Subscriber Statistics Exported by RADIUS  : 0               64
Statistics  Special Study Protocol Subscribers        : 0               100
Statistics  Special Study Application Subscribers     : 0               100
-------------------------------------------------------------------------------------------
--------
```

22.37 restart

restart

Syntax

restart brg-id *brg-ident*

Context

[Tree] (tools>perform>subscr-mgmt>pppoe-client restart)

Full Context

tools perform subscriber-mgmt vrgw brg pppoe-client restart

Description

This command forcibly restarts the PPPoE client linked to the BRG instance. The restart does not remove BRG or related session state, however, forwarding is impacted.

Parameters

brg-ident

The string identifying the BRG.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.38 restart-position-survey

restart-position-survey

Syntax

restart-position-survey

Context

[Tree] (tools>perform>port>gnss restart-position-survey)

Full Context

tools perform port gnss restart-position-survey

Description

This command enables a restart of the GNSS position survey.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se

22.39 retailers

retailers

Syntax

retailers

Context

[Tree] (show>service>id retailers)

Full Context

show service id retailers

Description

This command displays service retailer information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of service retailer information.

Output Example

```
*A:ALA-48>config# show service id 101 retailers
===============================================================================
Retailers for service 101
===============================================================================
Retailer Svc ID              Num Static Hosts         Num Dynamic Hosts
-------------------------------------------------------------------------------
102                          3                        1
105                          0                        1
-------------------------------------------------------------------------------
Number of retailers : 2
===============================================================================
*A:ALA-48>config#
```

22.40 revert

revert

Syntax

revert [**lsp** *lsp-name*]

Context

[Tree] (tools>perform>router>mpls revert)

Full Context

tools perform router mpls revert

Description

Use this command to cause a named LSP, which is currently using a secondary path and for which the revert-timer has been configured, to switch back to using the primary path. Any outstanding revert-timer is canceled.

The primary path must be up for this command to be successful.

Parameters

lsp-name

Specifies an existing LSP name, up to 64 characters in length.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.41 rib-api

rib-api

Syntax

rib-api

Context

[Tree] (show>router rib-api)

Full Context

show router rib-api

Description

This command displays RIB-API protocol entities information.

Platforms

All

rib-api

Syntax

rib-api

Context

[Tree] (clear>router rib-api)

Full Context

clear router rib-api

Description

This command clears RIB-API protocol entities information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rib-api

Syntax

rib-api

Context

[Tree] (tools>dump>router rib-api)

Full Context

tools dump router rib-api

Description

This command configures the dump tools for RIB-API protocol instance.

Platforms

All

rib-api

Syntax

rib-api

Context

[Tree] (monitor>router rib-api)

Full Context

monitor router rib-api

Description

This command monitors the RIB-API protocol entities information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.42 ring

ring

Syntax

ring peer *ip-address* **ring** *sync-tag*

Context

[Tree] (clear>redundancy>multi-chassis>mcr>statistics ring)

Full Context

clear redundancy multi-chassis mc-ring statistics ring

Description

This command clears multi-chassis ring statistics.

Parameters

ip-address

Clears ring statistics for the specified IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

sync-tag

Clears ring statistics for the specified sync tag. 32 characters maximum.

Platforms

All

22.43 ring-node

ring-node

Syntax

ring-node peer *ip-address* **ring** *sync-tag* **node** *ring-node-name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>redundancy>multi-chassis>mcr>statistics ring-node)

Full Context

clear redundancy multi-chassis mc-ring statistics ring-node

Description

This command clears multi-chassis ring statistics.

Parameters

ip-address

Clears ring-node peer statistics for the specified IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

sync-tag

Clears ring-node peer statistics for the specified synchronization tag. The tag can be up to 32 characters.

ring-node-name

Clears ring-node peer statistics for the specified ring node name. The ring node name can be up to 32 characters.

Platforms

All

22.44 ring-nodes

ring-nodes

Syntax

ring-nodes peer *ip-address* **ring** *sync-tag*

Context

[Tree] (clear>redundancy>multi-chassis>mcr ring-nodes)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear redundancy multi-chassis mc-ring ring-nodes

Description

This command clears multi-chassis ring unreferenced ring nodes.

Parameters

ip-address

Clears ring statistics for the specified IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

sync-tag

Clears ring statistics for the specified sync tag.

Platforms

All

22.45 rip

rip

Syntax

rip

Context

[Tree] (clear>router rip)

Full Context

clear router rip

Description

Commands in this context clear and reset RIP protocol entities.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rip

Syntax

rip

Context

[Tree] (show>router rip)

Full Context

show router rip

Description

Displays RIP information.

Platforms

All

rip

Syntax

rip

Context

[Tree] (monitor>router rip)

Full Context

monitor router rip

Description

This command monitors commands for the RIP instance.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.46 rip-policy

rip-policy

Syntax

rip-policy

rip-policy *rip-policy-name* [**association**]

Context

[Tree] (show>subscr-mgmt rip-policy)

Full Context

show subscriber-mgmt rip-policy

Description

This command displays RIP policy information.

Parameters

rip-policy-name

Specifies the RIP policy name, up to 32 characters.

association

Displays information associated with the RIP policy.

Platforms

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

22.47 ripng

ripng

Syntax

ripng

Context

[Tree] (clear>router ripng)

Full Context

clear router ripng

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context clear and reset RIP-NG protocol entities.

Platforms

All

ripng

Syntax

ripng

Context

[Tree] (show>router ripng)

Full Context

show router ripng

Description

Commands in this context display RIP-NG related information.

Platforms

All

ripng

Syntax

ripng

Context

[Tree] (monitor>router ripng)

Full Context

monitor router ripng

Description

This command monitors commands for the RIP instance.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.48 rollback

rollback

Syntax

rollback [**rescue**]

Context

[Tree] (show>system rollback)

Full Context

show system rollback

Description

This command displays rollback configuration and state.

Parameters

rescue

Specifies the rescue configuration.

Platforms

All

Output

This command displays classic CLI rollback file and checkpoint information.

Note:
This command is not available in the MD-CLI. Use the MD-CLI **show system management-interface commit-history** command.

Output Example

```
A:dut-a_a># show system rollback
===============================================================================
Rollback Information
===============================================================================
Rollback Location               : cf1:/Rollback
Save
  Last Rollback Save Result     : In Progress, Successful or Failed
  Last Save Completion Time     : 10/15/2010 21:24:06
Revert
  In Progress                   : Yes, No
  Last Revert Initiated Time    : 10/15/2010 21:26:23
  Last Revert Initiated User    : xyz
  Last Initiated Checkpoint     : cf1:/Rollback.rb.3
  Last Completed Revert Result  : Successful or Failed
  Last Revert Completion  Time  : 10/15/2010 21:27:19
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rollback Files
===============================================================================
Idx      Suffix   Creation time        Release  User
           Comment
-------------------------------------------------------------------------------
latest   .rb      2010/10/15 21:24:02  9.0.R4   fred
           This checkpoint was saved after the 3 VPLS services were created
1        .rb.1    2010/10/15 21:23:58  9.0.R4   John
           John's checkpoint on Sunday
2        .rb.2    2010/10/15 21:23:52  9.0.R4   admin
           A long checkpoint comment that an operator is using to summarize
           various some of the changes that were made.   They may even have so
           much to say that they use the maximum comment size.   Notice that
           words are not chopped.
…
9        .rb.9    2010/10/14 22:00:01  9.0.R4   admin
           VPLS services 1000-2000 created
…
53       .rb.53   2010/10/14 22:10:10  9.0.R4   admin
-------------------------------------------------------------------------------
No. of Rollback Files: 10
===============================================================================
```

22.49 root-objects

root-objects

Syntax

root-objects

Context

[Tree] (show>service>dynsvc root-objects)

Full Context

show service dynamic-services root-objects

Description

This command displays the root objects created by dynamic data services.

Note:
This command is not available in the MD-CLI.

Platforms

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

Output

The following output is an example of dynamic services root object information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
# show service dynamic-services root-objects
===============================================================================
Dynamic Service Root Objects
===============================================================================
OID prefix                  : svcRowStatus
OID index                   : .100000
Snippet name                : vprn
Snippet instance            : VRF-1
Orphan time                 : N/A
-------------------------------------------------------------------------------
No. of Root Objects: 1
===============================================================================
```

Table 476: Output fields: root objects describes the Root Objects fields.

Table 476: Output fields: root objects

Output field	Description
OID prefix	The corresponding SNMP OID prefix for this root object.
OID index	The corresponding SNMP OID index for this root object.
Snippet name	The name of the python function that created this root object. The name is set to N/A when the root-object is orphaned.
Snippet instance	The instance for which the python function with "Snippet name" created this root object. If the snippet is a result from a dynamic reference, then the snippet instance is the reference-id string passed in the dyn.reference(). If the snippet is not the result from a dynamic reference, then the snippet instance is the dynamic data service SAP-ID. The instance is set to N/A when the root object is orphaned.
Orphan time	The timestamp when the root-object became orphaned (root-object not deleted when corresponding teardown function is called) or N/A if the root-object is not orphaned.

22.50 route

route

Syntax

route [**family**] [*ip-prefix/prefix-length*] [**detail**]

route next-hop {*ip-address* | *ipv6-address*} [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>rib-api route)

Full Context

show router rib-api route

Description

This command displays RIB-API route information.

Parameters

family

Specifies the IPv4 or IPv6 address route family.

Values ipv4, ipv6

ip-prefix/prefix-length

Displays RIB-API route entries only matching the specified IP prefix and length.

Values

ipv4-prefix:	a.b.c.d (host bits must be 0)	
ipv4-prefix-length	0 to 32	
ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
	ipv6-prefix-length:	0 to 128

detail

Displays detailed RIB-API route information.

ip-address

Specifies the next-hop IPv4 address of the RIB-API route.

Values

ipv4-address:	a.b.c.d

ipv6-address

Specifies the next-hop IPv6 address of the RIB-API route.

Values

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

d: [0 to 255]D

Platforms

All

Output

The following output is an example of RIB-API route information.

Output Example

```
*A:Dut-A# /show router rib-api route
===============================================================================
RibApi Route Table (Router: Base)  Family: IPv4
===============================================================================
Prefix                                    Rib-Api   Client IP        Act
   Next Hop                               Pref
-------------------------------------------------------------------------------
100.0.0.0/8                               182       10.254.135.92    N
   10.20.1.3
101.0.0.0/8                               182       10.254.135.92    Y
   10.21.1.3
-------------------------------------------------------------------------------
No. of Rib-Api Routes: 2
===============================================================================
```

```
*A:Dut-A# /show router rib-api route detail
===============================================================================
RibApi Route Table (Router: Base)  Family: IPv4
===============================================================================
Prefix           : 100.0.0.0/8
Client IP        : 10.254.135.92
Client Tag       : 4                              Stale client      : N
Metric           : 61130                          RTM Preference    : 171
Rib-Api Pref     : 182
Last Updated     : 02/07/2020 23:44:17

Nexthop          : 10.20.1.3
Active In RTM    : N
Inactive Reason  : Next-hop not resolved or no usable tunnels
-------------------------------------------------------------------------------
Prefix           : 101.0.0.0/8
Client IP        : 10.254.135.92
Client Tag       : 4                              Stale client      : N
Metric           : 61130                          RTM Preference    : 171
Rib-Api Pref     : 182
Last Updated     : 02/07/2020 23:44:44

Nexthop          : 10.21.1.3
Active In RTM    : Y
Inactive Reason  : Not Applicable
-------------------------------------------------------------------------------
No. of Rib-Api Routes: 2
===============================================================================
*A:Dut-A#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 477: Output fields: RIB-API route

Label	Description
Family	The route family: • ipv4 • ipv6
Prefix	The IP prefix for the route RTM entry
Rib-Api Pref	The RIB-API preference opposing to the routes from different clients with the same prefix
Client IP	The IP address of the gRPC client that configured the RIB-API route entry
Act	The boolean (YES or NO) that indicates whether the status of the RIB-API route in RTM is active or not
Next Hop	The next-hop IP address of the RIB-API route entry
No. of Rib-Api Routes	The total number of the displayed RIB-API routes
Client Tag	The client tag unique identifier assigned to each gRPC connection by the gRPC server
Stale client	The stale client (Y or N) that indicates if the route is from a disconnected gRPC client
Metric	The metric of the route
RTM Preference	The RTM preference opposing to the routes having the same prefix from different protocols (BGP, OSPF)
Last Updated	The time stamp of when the route was added or modified from a gRPC client
Nexthop	The next-hop IP address of the RIB-API route entry
Active In RTM	The boolean (Y or N) that indicates whether the status of the RIB-API route is active or not in RTM
Inactive Reason	The inactive reason or the route not active in RTM

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.51 route-downloader

route-downloader

Syntax

route-downloader *route-downloader-name* [**router** *router-instance* | **service-name** *service-name*] [**family** *family*]

Context

[Tree] (clear>aaa route-downloader)

Full Context

clear aaa route-downloader

Description

This command clears all the radius-downloaded routes from the internal downloader cache (or protocol RIB/db) (and thus eventually from the RTM itself). The parameters **vprn** and/or **family** allow to restrict the deletion of those routes learned in a particular address family (IPv4 or IPv6) and/or a particular VPRN.

By default, all VPRNs and both IPv4 and IPv6 families are affected.

Note:
Clearing the internal protocol DB means the corresponding prefixes that were deleted should be removed from the RTM (and from any other exports) as well.

Parameters

route-downloader-name

Specifies the route downloader name, up to 32 characters.

router-instance

Specifies the router instance name (Base) or service ID.

service-name

Specifies the configured service name for the routing instance, up to 64 characters

family

Specifies to limit he removal or prefixes only belonging to the address family IPv4 or IPv6. Only these two values are accepted.

Values ipv4, ipv6

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

route-downloader

Syntax

route-downloader

Context

[Tree] (tools>perform>aaa route-downloader)

Full Context

tools perform aaa route-downloader

Description

Commands in this context configure route downloader parameters.

Platforms

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

route-downloader

Syntax

route-downloader [*route-downloader-name*]

route-downloader *route-downloader-name* **statistics**

Context

[Tree] (show>aaa route-downloader)

Full Context

show aaa route-downloader

Description

This command displays RADIUS route downloader information.

Parameters

route-downloader-name

Specifies the route downloader name, up to 32 characters.

statistics

Displays RADIUS route downloader information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.52 route-next-hop-policy

route-next-hop-policy

Syntax

route-next-hop-policy

Context

[Tree] (show>router route-next-hop-policy)

Full Context

show router route-next-hop-policy

Description

This command displays route next-hop policies related information.

Platforms

All

22.53 route-table

route-table

Syntax

route-table [*family*] [*ip-prefix*[/*prefix-length*] [**longer** | **exact** | **protocol** *protocol-name*] [**instance** *instance-id*] [**all**] [**next-hop-type** *type*] [**qos**] [**alternative**] [**accounting-class**]

route-table [*family*] [**summary**]

route-table *tunnel-endpoints* [*ip-prefix* [*/prefix-length*] [**longer** | **exact**] [**detail**]

route-table [*family*] [*ip-prefix[/prefix-length*] [**longer** | **exact** | **protocol** *protocol-name*] [**instance** *instance-id*] [**extensive** [**all**]

Context

[Tree] (show>router route-table)

Full Context

show router route-table

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the active routes in the routing table.

If no command line arguments are specified, all routes are displayed, sorted by prefix.

Parameters

family

Displays the specified family.

Values ipv4, ipv6, mcast-ipv4, mcast-ipv6

ip-prefix[/prefix-length]

Displays routes only matching the specified *ip-prefix* and optional *mask*.

Values ipv4-prefix: a.b.c.d (host bits must be 0)

ipv4-prefix-le: 0 to 32

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

ipv6-prefix-le: 0 to 128

longer

Displays routes matching the *ip-prefix/mask* and routes with longer masks.

exact

Displays the exact route matching the ip-prefix/mask.

protocol-name

Displays routes learned from the specified protocol.

Values aggregate, arp-nd, bgp, bgp-label, bgp-vpn, dhcpv6-na, dhcpv6-pd, dhcpv6-pd-exc, dhcpv6-ta, evpn-iff, evpn-ifl, host, ipsec, isis, ldp, local, managed, nat, nd-ra, ospf, ospf3, periodic, rib-api, rip, ripng, srv6, srv6-policy, static, sub-mgmt, video, vpn-leak

Note:
It is possible that a specific platform only supports a subset of the above protocol values.

instance-id

Specifies the IGP instance of the route table.

Values For isis — 0 to 127

For ospf — 0 to 31

For ospfv3 —

- 0 to 31 (when ospfv3 is used for IPv6)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- 64 to 95 (when ospfv3 is used for IPv4)

Note:
It is possible that a specific platform only supports a subset of the above values.

all

Displays all routes, including inactive routes.

type

Displays only the tunneled next-hops. For each route entry, the tunnel owner and tunnel ID is shown.

Values tunneled

qos

Displays QoS active routes in the routing table.

alternative

Displays LFS and backup route details.

accounting-class

Displays accounting class information.

Note:
Not all platforms support this parameter.

summary

Displays route table summary information.

tunnel-endpoints

Displays tunnel endpoint information.

extensive

Displays detailed information.

Platforms

All

Output

The following output are examples of route table information, and Table 478: Output fields: route table describes the output fields.

Output Example Standard Route Table Information
The following output shows standard route table information.

```
*A:ALA-12# show router 3 route-table 10.10.0.4
===============================================================================
Route Table
===============================================================================
Dest Address       Next Hop        Type    Protocol    Age       Metric  Pref
-------------------------------------------------------------------------------
10.10.0.4/32       10.10.34.4      Remote  OSPF        3523      1001    10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------


*A:ALA-12# show router 3 route-table 10.10.0.4/32 longer
===============================================================================
Route Table
===============================================================================
Dest Address       Next Hop        Type    Protocol    Age       Metric  Pref
-------------------------------------------------------------------------------
10.10.0.4/32       10.10.34.4      Remote  OSPF        3523      1001    10
-------------------------------------------------------------------------------
No. of Routes: 1
===============================================================================
+ : indicates that the route matches on a longer prefix


*A:ALA-12# show router 3 route-table protocol ospf
===============================================================================
Route Table
===============================================================================
Dest Address       Next Hop        Type    Protocol    Age       Metric  Pref
-------------------------------------------------------------------------------
10.10.0.1/32       10.10.13.1      Remote  OSPF        65844     1001    10
10.10.0.2/32       10.10.13.1      Remote  OSPF        65844     2001    10
10.10.0.4/32       10.10.34.4      Remote  OSPF        3523      1001    10
10.10.0.5/32       10.10.35.5      Remote  OSPF        1084022   1001    10
10.10.12.0/24      10.10.13.1      Remote  OSPF        65844     2000    10
10.10.15.0/24      10.10.13.1      Remote  OSPF        58836     2000    10
10.10.24.0/24      10.10.34.4      Remote  OSPF        3523      2000    10
10.10.25.0/24      10.10.35.5      Remote  OSPF        399059    2000    10
10.10.45.0/24      10.10.34.4      Remote  OSPF        3523      2000    10
-------------------------------------------------------------------------------


*A:ALA-12# show router 3 route-table summary
===============================================================================
Route Table Summary
===============================================================================
                            Active                  Available
-------------------------------------------------------------------------------
Static                      1                       1
Direct                      6                       6
BGP                         0                       0
OSPF                        9                       9
ISIS                        0                       0
RIP                         0                       0
Aggregate                   0                       0
-------------------------------------------------------------------------------
Total                       15                      15
===============================================================================
```

Table 478: Output fields: route table

Label	Description
Dest Address	The route destination address and mask

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Next Hop [Interface Name]	The next hop interface name
Next Hop	The next hop IP address for the route destination
Type	Local — The route is a local route Remote — The route is a remote route
Protocol	The protocol through which the route was learned
Age	The route age in seconds for the route
Metric	The route metric value for the route
Pref	The route preference value for the route
No. of Routes	The number of routes displayed in the list

Output Example NAT

The following output is an example showing that NAT routes are visible in the routing table.

```
*A:Dut-C# /show router 101 route-table
===============================================================================
Route Table (Service: 101)
===============================================================================
Dest Prefix[Flags]                            Type    Proto     Age        Pref
      Next Hop[Interface Name]                                    Metric
-------------------------------------------------------------------------------
11.11.11.0/24                                 Local   Local     00h22m33s  0
       toIxia2.101                                                 0
160.0.0.0/16                                  Remote  Static    00h22m30s  5
       11.11.11.8                                                  1
200.0.0.0/16                                  Remote  NAT       00h02m20s  0
       NAT inside                                                  0
200.1.0.0/16                                  Remote  NAT       00h02m20s  0
       NAT inside                                                  0
210.0.1.0/24                                  Remote  NAT       00h02m20s  0
       NAT inside                                                  0
210.1.1.0/24                                  Remote  NAT       00h02m20s  0
       NAT inside                                                  0
210.6.1.0/24                                  Remote  NAT       00h02m20s  0
       NAT inside                                                  0
210.7.1.0/24                                  Remote  NAT       00h02m20s  0
       NAT inside                                                  0
-------------------------------------------------------------------------------
No. of Routes: 8
Flags: n = Number of times nexthop is repeated
       B = BGP backup route available
       L = LFA nexthop available
       S = Sticky ECMP requested
===============================================================================
*A:Dut-C#
```

Output Example VPRN

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following output is an example of a VPRN on the standby PE for prefix 10.13.1.0/24.

```
*A:ALA-12# show router 1 route-table 10.13.1.0/24 all
===============================================================================
Route Table (Service: 1)
===============================================================================
Dest Prefix[Flags]                            Type    Proto     Age        Pref
      Next Hop[Interface Name]                Active     Metric
-------------------------------------------------------------------------------
10.13.1.0/24 [E]                              Remote  BGP       00h01m44s  170
       10.3.1.1                               N            0
10.13.1.0/24                                  Remote  BGP VPN   00h01m19s  170
       10.15.1.100 (tunneled)                 Y            0
===============================================================================
```

Output Example IP Address

The following are output examples for an IP address.

```
*A:ALA-12# show router 1 route-table 4.4.1.4/32
===============================================================================
Route Table (Service: 1)
===============================================================================
Dest Prefix[Flags]                            Type    Proto     Age        Pref
      Next Hop[Interface Name]                                    Metric
-------------------------------------------------------------------------------
4.4.1.4/32                                    Remote  BGP VPN   00h00m03s  170
       3ffe::a14:102 (tunneled:SR-Policy:917546)                       0
-------------------------------------------------------------------------------


*A:ALA-12# show router 1 route-table 3FFE::404:104/128
===============================================================================
IPv6 Route Table (Service: 1)
===============================================================================
Dest Prefix[Flags]                            Type    Proto     Age        Pref
      Next Hop[Interface Name]                                    Metric
-------------------------------------------------------------------------------
3ffe::404:104/128                             Remote  BGP VPN   00h00m07s  170
       3ffe::a14:102 (tunneled:SR-Policy:917546)                       0
-------------------------------------------------------------------------------
No. of Routes: 1
Flags: n = Number of times nexthop is repeated
       B = BGP backup route available
       L = LFA nexthop available
       S = Sticky ECMP requested
===============================================================================


*A:ALA-12# show router route-table 180.10.0.1/32
===============================================================================
Route Table (Router: Base)
===============================================================================
Dest Prefix[Flags]                            Type    Proto     Age        Pref
      Next Hop[Interface Name]                                    Metric
-------------------------------------------------------------------------------
180.10.0.1/32 [B][S]                          Remote  BGP       00h00m49s  170
       10.10.10.1                                                      0
180.10.0.1/32 [B][S]                          Remote  BGP       00h00m49s  170
       10.10.10.5                                                      0
180.10.0.1/32 [B][S]                          Remote  BGP       00h00m49s  170
       10.10.10.10                                                     0
-------------------------------------------------------------------------------
No. of Routes: 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Flags: n = Number of times nexthop is repeated
       B = BGP backup route available
       L = LFA nexthop available
       S = sticky ECMP requested
===============================================================================
```

Output Example Extensive

The following output is an example of the extensive output with unequal-cost ECMP BGP routes.

```
*A:PE-3# show router 1 route-table extensive

===============================================================================
Route Table (Service: 1)
===============================================================================
Dest Prefix             : 10.10.10.0/24
  Protocol              : EVPN-IFL
  Age                   : 06d03h05m
  Preference            : 170
  Indirect Next-Hop     : 192.168.0.2
    VNI                 : 100
    MAC-NH              : 00:aa:aa:01:00:01
    VPN Next-Hop Index  : 65
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : N/A
    Resolving Next-Hop  : 192.0.2.1 (VXLAN tunnel)
      Metric            : 5
      ECMP-Weight       : N/A
-------------------------------------------------------------------------------
Dest Prefix             : 40.40.40.0/24
  Protocol              : EVPN-IFL
  Age                   : 06d03h05m
  Preference            : 170
  Indirect Next-Hop     : 192.168.0.2
    VNI                 : 200
    MAC-NH              : 00:bb:bb:01:00:01
    VPN Next-Hop Index  : 65
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : N/A
    Resolving Next-Hop  : 192.0.2.2 (VXLAN tunnel)
      Metric            : 5
      ECMP-Weight       : N/A
-------------------------------------------------------------------------------
Dest Prefix             : 50.50.50.0/24
  Protocol              : EVPN-IFL
  Age                   : 06d03h05m
  Preference            : 170
  Indirect Next-Hop     : 2001:db8::5
    SRV6 SID            : cafe:3:5:4008::
    VPN Next-Hop Index  : 14
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : N/A
    Resolving Next-Hop  : cafe:3:5:4008:: (SRV6 tunnel)
      Metric            : 10
      ECMP-Weight       : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
```

```
*A:vRR>config>router# show router route-table extensive 200.200.200.200/32
===============================================================================
Route Table (Router: Base)
===============================================================================
Dest Prefix             : 200.200.200.200/32
  Protocol              : BGP
  Age                   : 01h20m41s
  Preference            : 170
  Indirect Next-Hop     : 10.0.0.2
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 9
    Resolving Next-Hop  : 10.0.0.2
      Interface         : to_bridge_br2
      Metric            : 0
      ECMP-Weight       : N/A
  Indirect Next-Hop     : 192.0.2.2
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 5
    Resolving Next-Hop  : 192.0.2.2
      Interface         : to_bridge_br3
      Metric            : 0
      ECMP-Weight       : N/A
-------------------------------------------------------------------------------
No. of Destinations: 1
===============================================================================

*A:vRR>config>router# show router route-table 5.3.0.1/32 extensive
===============================================================================
Route Table (Router: Base)
===============================================================================
Dest Prefix             : 5.3.0.1/32
  Protocol              : BGP
  Age                   : 00h00m59s
  Preference            : 170
  Indirect Next-Hop     : 10.0.0.1
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 1
    Resolving Next-Hop  : 1.0.0.2 (RSVP tunnel:115)
      Metric            : 10
      ECMP-Weight       : 1
    Resolving Next-Hop  : 1.0.0.2 (RSVP tunnel:61443)
      Metric            : 10
      ECMP-Weight       : 1
  Indirect Next-Hop     : 10.0.0.2
    QoS                 : Priority=n/c, FC=n/c
    Source-Class        : 0
    Dest-Class          : 0
    ECMP-Weight         : 30
    Resolving Next-Hop  : 1.0.0.3 (RSVP tunnel:94)
      Metric            : 10
      ECMP-Weight       : 20
    Resolving Next-Hop  : 1.0.0.3 (RSVP tunnel:61442)
      Metric            : 10
      ECMP-Weight       : 1
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of Destinations: 1
===============================================================================
```

22.54 route-target

route-target

Syntax

route-target [**source-as** *as-number*] [**brief**] [**aspath-regex** *reg-exp*] [**community** *comm-id*]

route-target [**rtc-prefix** *rtc-prefix*] [**hunt**] [**brief**] [**aspath-regex** *reg-exp] [* **community** *comm-id*]

route-target rtc-prefix *rtc-prefix* [**aspath-regex** *reg-exp*] [**community** *comm-id*]

route-target [**rtc-prefix** *rtc-prefix*] [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*]

Context

[Tree] (show>router>bgp>routes route-target)

Full Context

show router bgp routes route-target

Description

This command displays BGP route target routes.

Parameters

as-number

Specifies the source AS number.

Values 0 to 4294967295

rtc-prefix

Filters the route-target constraint routes to include only those routes matching a specific NLRI string.

Values *source-as*:{*ip-addr*:*comm-val* | *2byte-asnumber*:*ext-comm-val* | *4byte-asnumber*:*comm-val*}/*prefix-length*

ip-addr: a.b.c.d

comm-val: 0 to 65535

2byte-asnumber: 0 to 65535

ext-comm-val: 0 to 4294967295

4byte-asnumber: 0 to 4294967295

prefix-length: 0 to 96

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

detail

Displays detailed information.

longer

Displays the specified route and subsets of the route.

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

Platforms

All

22.55 router

router

Syntax

router [*router-instance*]

router service-name *service-name*

Context

[Tree] (show router)

Full Context

show router

Description

Commands in this context display various types of information for the specified router instance.

Parameters

router-instance

specifies the router name, CPM router instance, or VPRN service ID.

Values *router-instance* : *router name* | *vprn-svc-id*

router-name	Base | management | *cpm-vr-name* | vpls-management
cpm-vr-name	[32 characters maximum]
vprn-svc-id	[1..2147483647]

Default Base

service-name

specifies the service name, up to 64 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of router information.

Output Example: show router with PIM and S-PMSI

```
*A:Dut-D# \show router 100 pim s-pmsi
===============================================================================
PIM RSVP Spmsi tunnels
===============================================================================
===============================================================================
P2mp ID   Tunnel ID   Ext Tunnel Adrs       SPMSI Index   Num VPN   State
                                                          SGs
-------------------------------------------------------------------------------
100       61442       10.20.1.4             73919         8         UP
===============================================================================
PIM RSVP Spmsi Interfaces : 1
===============================================================================
*A:Dut-D# \show router 100 pim s-pmsi detail
===============================================================================
PIM RSVP Spmsi tunnels
===============================================================================
P2MP ID            : 100                Tunnel ID          : 61442
Ext Tunnel Addrs  : 10.20.1.4          Spmsi IfIndex      : 73919
Number of VPN SGs  : 8                  Up Time            : 0d 00:01:04
VPN Group Address  : 203.0.113.0
VPN Source Address : 10.114.1.2
Up Time            : 0d 00:01:04        Multistream-Id     : 10
State              : TX Joined          Mdt Threshold      : N/A
Join Timer         : N/A                Holddown Timer     : 0d 00:00:54
VPN Group Address  : 203.0.113.1
VPN Source Address : 10.114.1.2
Up Time            : 0d 00:01:04        Multistream-Id     : 10
State              : TX Joined          Mdt Threshold      : N/A
Join Timer         : N/A                Holddown Timer     : 0d 00:00:55
VPN Group Address  : 203.0.113.2
VPN Source Address : 10.114.1.2
Up Time            : 0d 00:01:04        Multistream-Id     : 5
State              : TX Joined          Mdt Threshold      : N/A
Join Timer         : N/A                Holddown Timer     : 0d 00:00:53
```

Output Example: show router with allow-sr-over-sr-te configuration

The **allow-sr-over-sr-te** flag indicates that the SR-TE LSP is eligible as IGP shortcut in SR-MPLS.

```
*A:Dut-C>...mpls>lsp# show router tunnel-table protocol sr-te detail
===============================================================================
 Tunnel Table (Router: Base)
===============================================================================
 Destination : 10.20.1.6/32
 NextHop : 1.0.13.1 (524291, ospf (0))
 Tunnel Flags : is-over-tunnel entropy-label-capable allow-sr-over-sr-te
 Age : 00h01m12s
 CBF Classes : (Not Specified)
 Owner : sr-te                      Encap : MPLS Tunnel
 ID : 655366                        Preference : 8
 Tunnel Label : 524287              Tunnel Metric : 200
 Tunnel MTU : 1548                  Max Label Stack : 4
 LSP Weight : 0
 -------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Number of tunnel-table entries : 1
Number of tunnel-table entries with LFA : 0
===============================================================================
```

router

Syntax

router [*router-instance*]

router service-name *service-name*

Context

[Tree] (tools>dump router)

Full Context

tools dump router

Description

This command dumps tools for the router instance.

Parameters

router-instance

Specifies the router name or service ID used to identify the router instance.

Values

router-name | vprn-svc-id	
router-name	Base | Management | *cpm-vr-name* | vpls-management Default: Base
vprn-svc-id	1 to 2147483647
cpm-vr-name	32 chars max

service-name

Specifies the service name used to identify the router instance. 64 characters maximum.

Platforms

All

router

Syntax

router [*router-instance*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

router service-name *service-name*

Context

[Tree] (clear router)

Full Context

clear router

Description

Clear router commands affect the router instance in which they are entered.

Parameters

router-instance

Specifies the router name or service ID used to identify the router instance.

Values

router-name | vprn-svc-id	
router-name	Base | Management | *cpm-vr-name* | vpls-management Default: Base
vprn-svc-id	1 to 2147483647
cpm-vr-name	32 chars max

service-name

Specifies the service name used to identify the router instance. 64 characters maximum.

Platforms

All

router

Syntax

router

Context

[Tree] (tools>perform router)

Full Context

tools perform router

Description

This command enables the tools for the router instance.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

router

Syntax

router [*router-instance*]

router service-name *service name*

Context

[Tree] (monitor router)

Full Context

monitor router

Description

Commands in this context configure criteria to monitor statistical information for a variety of routing protocols.

Parameters

router-instance

Specifies the router name or service ID.

Values

router-name:	Base, management, *cpm-vr-name*, vpls-management
vprn-service-id:	1 to 2147483647
cpm-vr-name	up to 32 characters

Default Base

service-name

Specifies the service name used to identify the router instance. The name can be up to 64 characters long.

Platforms

All

router

Syntax

router [**Base**] [**security-policy-id** *security-policy-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>ipsec>security-policy router)

Full Context

show ipsec security-policy router

Description

This command displays IPsec security policy information for the router.

Parameters

security-policy-id

Specifies the security policy ID.

Values 1 to 32768

Platforms

VSR

22.56 router-advertisement

router-advertisement

Syntax

router-advertisement

Context

[Tree] (clear>router>autoconfigure router-advertisement)

Full Context

clear router autoconfigure router-advertisement

Description

Commands in this context clear router advertisement information.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

router-advertisement

Syntax

router-advertisement all

router-advertisement interface *interface-name*

Context

[Tree] (clear>router router-advertisement)

Full Context

clear router router-advertisement

Description

This command clears all router advertisement counters.

Parameters

all

Clears all router advertisement counters for all interfaces.

interface-name

Clears router advertisement counters for the specified interface.

Platforms

All

router-advertisement

Syntax

router-advertisement

router-advertisement routes

Context

[Tree] (show>router>autoconfigure router-advertisement)

Full Context

show router autoconfigure router-advertisement

Description

This command displays router advertisement information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

routes

Displays routes received from router advertisements.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

22.57 router-advertisement-policy

router-advertisement-policy

Syntax

router-advertisement-policy [*name*]

Context

[Tree] (show>subscr-mgmt router-advertisement-policy)

Full Context

show subscriber-mgmt router-advertisement-policy

Description

This command displays IPv6 router advertisement policy information.

Parameters

name

Specifies the router advertisement policy name, up to 32 characters.

Platforms

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

22.58 routes

routes

Syntax

routes

Context

[Tree] (show>service>id>spb routes)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id spb routes

Description

This command displays SPB route information.

Platforms

All

Output

The following output is an example of service SPB route information.

Output Example

```
*A:Dut-A# show service id 100001 spb routes
===============================================================
MAC Route Table
===============================================================
Fid  MAC                                       Ver.   Metric
      NextHop If                   SysID
---------------------------------------------------------------

Fwd Tree: unicast
---------------------------------------------------------------
1    00:10:00:01:00:02                        10     10
      sap:1/2/2:1.1                Dut-B
1    00:10:00:01:00:03                        10     10
      sap:1/2/3:1.1                Dut-C
1    00:10:00:01:00:04                        10     20
      sap:1/2/2:1.1                Dut-B
100  00:10:00:02:00:02                        10     10
      sap:1/2/2:1.1                Dut-B
100  00:10:00:02:00:03                        10     10
      sap:1/2/3:1.1                Dut-C
100  00:10:00:02:00:04                        10     20
      sap:1/2/3:1.1                Dut-C

Fwd Tree: multicast
---------------------------------------------------------------
1    00:10:00:01:00:02                        10     10
      sap:1/2/2:1.1                Dut-B
1    00:10:00:01:00:03                        10     10
      sap:1/2/3:1.1                Dut-C
1    00:10:00:01:00:04                        10     20
      sap:1/2/2:1.1                Dut-B
100  00:10:00:02:00:02                        10     10
      sap:1/2/2:1.1                Dut-B
100  00:10:00:02:00:03                        10     10
      sap:1/2/3:1.1                Dut-C
100  00:10:00:02:00:04                        10     20
      sap:1/2/3:1.1                Dut-C
---------------------------------------------------------------
No. of MAC Routes: 12
===============================================================

===============================================================
ISID Route Table
===============================================================
Fid  ISID                                     Ver.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      NextHop If                    SysID
-------------------------------------------------------------
1    10001                                    10
      sap:1/2/2:1.1                Dut-B
      sap:1/2/3:1.1                Dut-C
100  10002                                    10
      sap:1/2/2:1.1                Dut-B
      sap:1/2/3:1.1                Dut-C
-------------------------------------------------------------
No. of ISID Routes: 2
=============================================================
A:Dut-A#  show service id spb fate-sharing
================================================================================
User service fate-shared sap/sdp-bind information
================================================================================
Control   Control Sap/             FID       User      User Sap/
SvcId     SdpBind                            SvcId     SdpBind
--------------------------------------------------------------------------------
500       1/1/20:500               502       502       1/1/20:502
================================================================================
```

routes

Syntax

routes [*ip-prefix*] [**detail** | **longer** | **hunt** [**brief**]] [**as-path-regex** *reg-exp*] [**community** *comm-id* [**hunt**]]

routes brief

routes [*ip-prefix*] **bgp-ls** [**ipv4-prefix** | **link** | **node**] [**hunt**]

routes [*ip-prefix*] **evpn auto-disc** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**esi** *esi*] [**next-hop** *ip-address*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **evpn eth-seg** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**esi** *esi*] [**next-hop** *ip-address*] [**originator-ip** *ip-address*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **evpn incl-mcast** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**next-hop** *ip-address*] [**originator-ip** *ip-address*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **evpn ip-prefix** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**next-hop** *ip-address*] [**prefix** *ipv4-prefix*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **evpn ipv6-prefix** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**next-hop** *ip-address*] [**prefix** *ipv6-prefix*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **evpn mac** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**mac-address** *mac-address*] [**next-hop** *ip-address*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **evpn mcast-join-synch** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**next-hop** *ip-address*] [**originator-ip** *ip-address*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **evpn mcast-leave-synch** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**next-hop** *ip-address*] [**originator-ip** *ip-address*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **smet** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**next-hop** *ip-address*] [**originator-ip** *ip-address*] [**rd** *rd*] [**tag** *tag*] [**detail** | **hunt**]

routes [*ip-prefix*] **flow-ipv4** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**hunt**]

routes [*ip-prefix*] **flow-ipv6** [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**hunt**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

routes [*ip-prefix*] **ipv4** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**all**] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**leakable**] [**leaked**] [**origin-val** *origin-val*]

routes [*ip-prefix*] **ipv6** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**all**] [**as-path-regex** *reg-exp*] [**all**] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**leakable**] [**leaked**] [**origin-val** *origin-val*]

routes [*ip-prefix*] **l2-vpn** [**as-path-regex** *reg-exp*] [**brief**] [**community** *comm-id*] [**hunt**] [**offset** *vpls-base-offset*] [**rd** *rd*] [**siteid** *site-id*] [**veid** *veid*]

routes [*ip-prefix*] **l2-vpn** *l2vpn-type* [**as-path-regex** *reg-exp*] [**brief**] [**community** *comm-id*] [**offset** *vpls-base-offset*] [**rd** *rd*] [**siteid** *site-id*] [**veid** *veid*]

routes [*ip-prefix*] **label-ipv4** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**leakable**] [**leaked**] [**origin-val** *origin-val*]

routes [*ip-prefix*] **label-ipv6** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**leakable**] [**leaked**] [**origin-val** *origin-val*]

routes [*ip-prefix*] **mcast-ipv4** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**all**] [**as-path-regex** *reg-exp*] [**community** *comm-id*]

routes [*ip-prefix*] **mcast-ipv6** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**all**] [**as-path-regex** *reg-exp*] [**community** *comm-id*]

routes [*ip-prefix*] **mcast-vpn-ipv4** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**all**] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*]

routes [*ip-prefix*] **mcast-vpn-ipv6** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**all**] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*]

routes [*ip-prefix*] **mdt-safi** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**grp-address** *mcast-grp-address*] [**rd** *rd*] [**source-ip** *ip-address*]

routes [*ip-prefix*] **ms-pw** [**brief**] [**hunt**] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**aii-type2** *aii-type2*] [**rd** *rd*]

routes [*ip-prefix*] **mvpn-ipv4** [**brief** | **detail** | **longer** | **hunt**] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**group-ip** *ip-address*] [**originator-ip** *ip-address*] [**rd** *rd*] [**source-as** *as-number*] [**source-ip** *ip-address*] [**type** *mvn-type*]

routes [*ip-prefix*] **mvpn-ipv6** [**brief** | **detail** | **longer** | **hunt**] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**group-ip** *ip-address*] [**originator-ip** *ip-address*] [**rd** *rd*] [**source-as** *as-number*] [**source-ip** *ip-address*] [**type** *mvn-type*]

routes [*ip-prefix*] **route-target** [**brief**] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**source-as** *as-number*]

routes [*ip-prefix*] **route-target** [**rtc-prefix** *rtc-prefix*] [**detail** | **longer** | **hunt** [**brief**]] [**as-path-regex** *reg-exp*] [**community** *comm-id*]

routes [*ip-prefix*] **sr-policy-ipv4** [**hunt**] [**rd** *rd*] [**color** *number*] [**endpoint** *ipv4-address*]

routes [*ip-prefix*] **sr-policy-ipv6** [**hunt**] [**rd** *rd*] [**color** *number*] [**endpoint** *ipv6-address*]

routes [*ip-prefix*] **vpn-ipv4** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*]

routes [*ip-prefix*] **vpn-ipv6** [**brief** | **detail** | **longer** | **hunt** [**brief**]] [**as-path-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*]

Context

[Tree] (show>router>bgp routes)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bgp routes

Description

This command displays routes in the BGP Routing Information Base (RIB). When this command is issued without any command options, the output displays all learned BGP routes belonging to the IPv4 address family. When this command is issued with other parameters, the output can display a narrower or wider set of routes, including routes belonging to other address families.

Parameters

bgp-ls

Displays BGP-LS routes.

bgp-ls ipv4-prefix

Displays BGP-LS IPv4-prefix NLRI routes.

bgp-ls link

Displays BGP-LS link NLRI routes.

bgp-ls node

Displays BGP-LS node NLRI routes.

evpn auto-disc

Displays EVPN autodiscovery routes.

evpn eth-seg

Displays EVPN Ethernet Segment (ES) routes.

evpn incl-mcast

Displays EVPN IMET routes.

evpn ip-prefix

Displays EVPN IP prefix routes (type 5).

evpn ipv6-prefix

Displays EVPN IPv6 prefix routes (type 5).

evpn mac

Displays EVPN MAC routes (type 2).

evpn mcast-join-synch

Displays EVPN multicast join sync routes.

evpn mcast-join-leave

Displays EVPN multicast join leave routes.

evpn smet

Displays EVPN SMET routes.

flow-ipv4

Displays IPv4 flow-spec routes.

flow-ipv6

Displays IPv6 flow-spec routes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv4

Displays unlabeled unicast IPv4 routes.

ipv6

Displays unlabeled unicast IPv6 routes.

l2-vpn

Displays BGP-VPLS, BGP-VPWS, BGP multihoming and BGP-AD routes (or some subset).

label-ipv4

Displays labeled unicast IPv4 routes (AFI1, SAFI4).

label-ipv6

Displays labeled unicast IPv6 routes (AFI2, SAFI4).

mcast-ipv4

Displays multicast IPv4 routes (AFI1, SAFI2).

mcast-ipv6

Displays multicast IPv6 routes (AFI2, SAFI2).

mcast-vpn-ipv4

Displays multicast VPN IPv4 routes.

mcast-vpn-ipv6

Displays multicast VPN IPv6 routes.

mdt-safi

Displays MVPN MDT SAFI routes.

ms-pw

Displays multisegment pseudowire routes.

mvpn-ipv4

Displays MVPN IPv4 routes.

mvpn-ipv6

Displays MVPN IPv6 routes.

route-target

Displays RT constraint routes.

sr-policy-ipv4

Displays BGP segment routing policy routes (IPv4 endpoint).

sr-policy-ipv6

Displays BGP segment routing policy routes (IPv6 endpoint).

vpn-ipv4

Displays unicast IPv4 VPN routes (AFI1, SAFI128).

vpn-ipv6

Displays unicast IPv6 VPN routes (AFI2, SAFI128).

brief

Displays summary information about the BGP routes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

detail

Displays detailed information about the BGP routes, including information about the original path attribute values.

hunt

Displays detailed information about the BGP routes, including information about the advertised routes (RIB-OUT).

longer

When used within a command that also provides a specific IP prefix value, this filters the output to include all routes that match the prefix with the same or a longer prefix length.

as-path-regex

Filters the BGP routes to include only those routes with an AS path matching the specified regular expression.

community

Filters the BGP routes to include only those routes with a community value matching the specified value.

all

Includes active routes of other (non-BGP) protocols that BGP has imported into its RIB.

leakable

Filters the BGP routes to include only those routes that have been marked as leakable to other BGP instances (by means of a BGP import policy).

leaked

Filters the BGP routes to include only those routes that have been leaked from other BGP instances (by means of a leak-import policy).

original-val

Filters the BGP routes to include only those routes that have a specific RPKI route origin validation state (Not-Found, Valid, Invalid).

esi

Filters the BGP EVPN routes to include only those routes with a specific Ethernet Segment identifier value.

next-hop

Filters the BGP EVPN routes to include only those routes with a specific BGP next-hop address.

rd

Filters the BGP routes to include only those routes with a specific route distinguisher value.

tag

Filters the BGP EVPN routes to include only those routes with a specific administrative tag value.

originator-ip

Filters the BGP EVPN or MVPN routes to include only those routes with a specific originator IP address (in the NLRI).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

prefix

Filters the BGP type 5 EVPN routes to include only those routes with a specific IPv4 or IPv6 prefix.

mac-address

Filters the BGP type 2 EVPN routes to include only those routes that have a specific MAC address.

grp-address

Filters the MDT-SAFI routes to include only those routes matching a specific multicast group address.

source-as

Filters the MVPN or RT-constraint routes to include only those routes matching a specific source AS number (in the NLRI).

source-ip

Filters the multicast routes to include only those routes matching a specific source address.

group-ip

Filters the MVPN routes to include only those routes matching a specific group address.

type

Filters the MVPN routes based on type (intra-ad, inter-ad, spmsi-ad, leaf-ad, source-ad, shared-join, source-join).

aii-type2

Filters the MS-PW routes based on AII type 2 value.

offset

Filters BGP-VPLS routes based on offset value.

siteid

Filters BGP multihoming routes based on the site ID value.

veid

Filters BGP-VPLS routes based on VEID value.

rtc-prefix

Filters the RT-constraint routes to include only those routes matching a specific NLRI string (formatted as *source-as*:*route-target*/*prefix-length*).

color

Filters the SR policy routes to include only those routes matching a specific color value.

endpoint

Filters the SR policy routes to include only those routes matching a specific endpoint address.

mvpn-type

Specifies the MVPN type.

Values intra-ad, inter-ad, spmsi-ad, leaf-ad, source-ad, shared-join, and source-join.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-prefix

Specifies an IP prefix to match. For some address families this parameter has no meaning and should be omitted.

Values ip-address: a.b.c.d

ipv4-prefix: a.b.c.d

ipv4-prefix-length: [0 to 32]

ipv6-prefix [/pref* ipv6-prefix]:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

prefix-length: [0 to 128]

reg-exp

An AS path regular expression to match routes based on their AS path attribute *reg-exp*, up to 80 characters.

comm-id

Specifies a community value, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ex \t**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *val-in-mbps* — 0 to 16777215
- **ext** — extended
- **ext:4300** — origin verification
- *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
- *value1* — 0000 to FFFF
- *value2* — 0 to FFFFFFFFFFFF
- **flowspec-set —** flow-spec set
- *group-id* — 0 to 16383

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**

rd

Specifies a route distinguisher value.

Values ip-addr:comm-va
2byte-asnumber:ext-comm-val
4byte-asnumber:comm-val}

veid

Specifies a two-byte identifier that represents the local bridging instance in a VPLS and is advertised through the BGP NLRI. This value must be lower than or equal to the max-ve-id.

Values 0 to 4294967295

vpls-base-offset

Specifies a two-byte identifier advertised through the NLRI that is used to indicate which VE-ID should use the advertised NLRI at the receiving PE according to the following rule: if the offset<= local VE-ID <= offset+VBS-1 (VBS = virtual block size = 8 in our implementation), then the NLRI is processed. Otherwise, it is ignored. The NLRI with this offset is generated as soon as the first VE-ID value between (offset, offset + VBS-1) is advertised in the network.

Values 0 to 4294967295

site-id

Specifies a two-byte identifier usually employed for the BGP multihoming solution. It identifies the BGP multihoming site associated with one or a set of objects (SAPs, pseudowires or combination). The site-id must be identical between the two PEs carrying the connection to the access device multihomed to the PEs.

Values 0 to 4294967295

l2vpn-type

Specifies a 12-byte Virtual Switch Instance identifier (VSI-ID) type.

Values bgp-ad, bgp-vpls, bgp-vpws, and multi-homing

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rtc-prefix

source-as:{*ip-addr*:*comm-val* | *2byte-asnumber*:*ext-comm-val* | *4byte-asnumber*:*comm-val*}/*prefix-length*

Values *ip-addr*: a.b.c.d

comm-val: 0 to 65535

2byte-asnumber: 0 to 65535

ext-comm-val: 0 to 4294967295

4byte-asnumber: 0 to 4294967295

prefix-length: 0 to 96

origin-val

Filters the BGP routes displayed by the command to those routes with a particular RPKI route origin validation state.

Values valid — Displays valid validation state information.

invalid — Displays invalid validation state information.

notfound — Displays state information for not found origin values.

Platforms

All

Output

The following outputs are examples of BGP route information, and Table 479: Output fields: BGP routes describes the output fields:

- Output example: BGP SR IPv6 policy routes
- Output example: BGP SR IPv6 policy routes with advertised routes (RIB-OUT)
- Output example: BGP routes that match a specific address
- Output example: BGP-VPLS, BGP-VPWS, BGP multihoming, and BGP-AD routes (detailed)
- Output example: BGP-VPLS, BGP-VPWS, BGP multihoming, and BGP-AD routes (with advertised routes) that match a specific address and route distinguisher (RD) value (detailed)
- Output example: unicast IPv4 VPN routes (with advertised routes) that match a specific RD value and address (detailed)
- Output example: unicast IPv4 VPN routes (with advertised routes) that match a specific address (detailed)
- Output example: unicast IPv6 VPN routes (with advertised routes) that match a specific address (detailed)
- Output example: unicast IPv6 VPN routes (with advertised routes) that match a specific RD value and address (detailed)
- Output example: BGP routes (with advertised routes) that match a specific address (detailed)
- Output example: unlabeled unicast IPv4 routes
- Output example: BGP routes that match a specific address (detailed)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output example: MVPN IPv4 routes
- Output example: MVPN IPv4 route information summary
- Output example: source-join type MVPN IPv4 routes that match a specific source AS number, source IP address, and group IP address (detailed)
- Output example: spmsi-ad type MVPN IPv4 routes (detailed)
- Output example: spmsi-ad type MVPN IPv6 routes (detailed)
- Output example: multi-segment pseudowire routes
- Output example: IPv4 routes (detailed)
- Output example: BGP-LS link NLRI routes with advertised routes (detailed)
- Output example: learned BGP routes that belong to the IPv4 address family
- Output example: EVPN MAC routes (with advertised routes) that match a specific address (detailed)
- Output example: EVPN IP prefix routes that match a specific prefix (detailed)
- Output example: EVPN IP prefix routes (with advertised routes) that match a specific prefix (detailed)
- Output example: BGP-LS routes
- Output example: EVPN multicast join sync routes with advertised routes (detailed)
- Output example: IPv4 VPN routes (with advertised routes) with attached attribute set (ATTR_SET) (detailed)
- Output example: IPv4 VPN routes with attached attribute set (ATTR_SET) (detailed)

Output example: BGP SR IPv6 policy routes

```
A:node-2# show router bgp routes sr-policy-ipv6
===============================================================================
 BGP Router ID:10.20.1.1        AS:2           Local AS:2
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP SR-POLICY-v6 Routes
===============================================================================
Flag  RD/Color/End Point                                LocalPref   MED
      Nexthop (Router)                                  Path-Id     IGP Cost
      As-Path                                                       Label
-------------------------------------------------------------------------------
u*>i  2/20/3ffe::a14:102                                100         None
      ::a14:102                                         None        N/A
      No As-Path
u*>i  3/30/::                                           100         None
      ::a14:102                                         None        N/A
      No As-Path
-------------------------------------------------------------------------------
Routes : 2
===============================================================================
```

Output example: BGP SR IPv6 policy routes with advertised routes (RIB-OUT)

```
A:node-2# show router bgp routes sr-policy-ipv6 hunt
===============================================================================
 BGP Router ID:10.20.1.1        AS:2           Local AS:2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP SR-POLICY-v6 Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
RD/Color/End Pt: 2/20/3ffe::a14:102
BSID/Pref/TunnType: 100001/10/sr-policy
Nexthop        : ::a14:102
From           : 10.20.1.3
Res. Nexthop   : ::
Local Pref.    : 100                   Interface Name : NotAvailable
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None                  IGP Cost       : n/a
Connector      : None
Community      : color:01:10 target:10.20.1.1:0
Cluster        : 10.20.1.3
Originator Id  : 10.20.1.2             Peer Router Id : 10.20.1.3
Flags          : Used  Valid  Best  IGP
Route Source   : Internal
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                   Final Orig Val : N/A
Source Class   : 0                     Dest Class     : 0
Add Paths Send : Default
Last Modified  : 00h22m45s

RD/Color/End Pt: 3/30/::
BSID/Pref/TunnType: 100002/10/sr-policy
Nexthop        : ::a14:102
From           : 10.20.1.3
Res. Nexthop   : ::
Local Pref.    : 100                   Interface Name : NotAvailable
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None                  IGP Cost       : n/a
Connector      : None
Community      : color:01:10 target:10.20.1.1:0
Cluster        : 10.20.1.3
Originator Id  : 10.20.1.2             Peer Router Id : 10.20.1.3
Flags          : Used  Valid  Best  IGP
Route Source   : Internal
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                   Final Orig Val : N/A
Source Class   : 0                     Dest Class     : 0
Add Paths Send : Default
Last Modified  : 00h22m42s

-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: BGP routes that match a specific address

```
A:node-2# show router bgp routes 10.10.10.5
===============================================================================
 BGP Router ID:10.20.1.3        AS:100         Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network                                           LocalPref   MED
      Nexthop (Router)                                  Path-Id     Label
      As-Path
-------------------------------------------------------------------------------
u*>?  10.10.10.0/24                                     None        None
      10.20.1.4                                         None        -
      200 300
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: BGP-VPLS, BGP-VPWS, BGP multihoming, and BGP-AD routes (detailed)

```
A:node-2# show router bgp routes l2-vpn detail
===============================================================================
BGP Router ID:10.20.1.3        AS:1000        Local AS:1000
===============================================================================
Legend -
Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP L2VPN Routes
===============================================================================
Route Type     : AutoDiscovery
Route Dist.    : 10.20.1.1:1
Prefix         : 10.20.1.1
Nexthop        : 10.20.1.1
From           : 10.20.1.1
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : NotAvailable
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : 0
AIGP Metric    : Not Atomic
Community      : target:4455:4455  target:1.20.30.40:6543
                 l2-vpn/vrf-imp:100.1.200.1:65535
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.1
Flags          : Used  Valid  Best  IGP
Route Source   : Internal
AS-Path        : No As-Path
-------------------------------------------------------------------------------
PMSI Tunnel Attribute :
Tunnel-type    : RSVP-TE P2MP LSP       Flags          : Leaf not required
MPLS Label     : 0
P2MP-ID        : 1001                   Tunnel-ID      : 61440
Extended-Tunne*: 10.20.1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: BGP-VPLS, BGP-VPWS, BGP multihoming, and BGP-AD routes (with advertised routes) that match a specific address and route distinguisher (RD) value (detailed)

```
A:node-2# show router bgp routes l2-vpn 10.20.1.1 rd 10.20.1.1:1 hunt
===============================================================================
 BGP Router ID:10.20.1.3        AS:None        Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP L2VPN-AD Routes
===============================================================================
Route Type     : AutoDiscovery
Route Dist.    : 10.20.1.1:1
Prefix         : 10.20.1.1
Nexthop        : 10.20.1.1
From           : 10.20.1.2
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : NotAvailable
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : 0
AIGP Metric    : None
Connector      : None
Community      : target:1.20.30.40:6543
                 l2-vpn/vrf-imp:100.1.200.1:65535
Cluster        : 1.1.1.1
Originator Id  : 10.20.1.1              Peer Router Id : 10.20.1.2
Flags          : Used  Valid  Best  IGP
Route Source   : Internal
AS-Path        : No As-Path
-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: unicast IPv4 VPN routes (with advertised routes) that match a specific RD value and address (detailed)

```
A:node-2# show router bgp routes vpn-ipv4 6.6.6.6/32 rd 10.20.1.4:1 hunt
===============================================================================
 BGP Router ID:10.20.1.3        AS:None        Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP VPN-IPv4 Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : 6.6.6.6/32
Nexthop        : 10.20.1.4
Route Dist.    : 10.20.1.4:1            VPN Label      : 131070
Path Id        : None
From           : 10.20.1.4
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : int_to_D
Aggregator AS  : None                   Aggregator     : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : target:100:100
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.4
Fwd Class      : None                   Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : Internal
AS-Path        : 106
VPRN Imported  :  1
-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: unicast IPv4 VPN routes (with advertised routes) that match a specific address (detailed)

```
A:node-2# show router bgp routes vpn-ipv4 6.6.6.6/32 hunt
===============================================================================
 BGP Router ID:10.20.1.3        AS:None        Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP VPN-IPv4 Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : 6.6.6.6/32
Nexthop        : 10.20.1.4
Route Dist.    : 10.20.1.4:1            VPN Label      : 131070
Path Id        : None
From           : 10.20.1.4
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : int_to_D
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : target:100:100
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.4
Fwd Class      : None                   Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : Internal
AS-Path        : 106
VPRN Imported  :  1
-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: unicast IPv6 VPN routes (with advertised routes) that match a specific address (detailed)

```
A:node-2# show router bgp routes 3FFE::606:609/128 vpn-ipv6 hunt
===============================================================================
 BGP Router ID:10.20.1.3        AS:None        Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP VPN-IPv6 Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : 3FFE::606:609/128
Nexthop        : ::FFFF:A14:104
Route Dist.    : 10.20.1.4:1            VPN Label      : 131070
Path Id        : None
From           : 10.20.1.4
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : int_to_D
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : target:100:100
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.4
Fwd Class      : None                   Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : Internal
AS-Path        : 106
VPRN Imported  :  1
-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: unicast IPv6 VPN routes (with advertised routes) that match a specific RD value and address (detailed)

```
A:node-2# show router bgp routes vpn-ipv6 3FFE::606:607/128 rd 10.20.1.4:1 hunt
===============================================================================
 BGP Router ID:10.20.1.3        AS:None        Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP VPN-IPv6 Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : 3FFE::606:607/128
Nexthop        : ::FFFF:A14:104
Route Dist.    : 10.20.1.4:1            VPN Label      : 131070
Path Id        : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
From           : 10.20.1.4
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : int_to_D
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : target:100:100
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.4
Fwd Class      : None                   Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : Internal
AS-Path        : 106
VPRN Imported  :  1
-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: BGP routes (with advertised routes) that match a specific address (detailed)

```
A:node-2# show router bgp routes 1.1.4.0/22 hunt
===============================================================================
BGP Router ID:10.20.1.3        AS:100         Local AS:100
===============================================================================
Legend -
Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                l - leaked, x - stale, > - best, b - backup, p - purge
Origin codes  : i - IGP, e - EGP, ? - incomplete

===============================================================================
BGP IPv4 Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : 1.1.4.0/22
Nexthop        : 1.1.3.1
Path Id        : None
From           : 1.1.3.1
Res. Protocol  : LOCAL                  Res. Metric    : 0
Res. Nexthop   : 1.1.3.1
Local Pref.    : None                   Interface Name : to_Dut-A
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None                   IGP Cost       : 0
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.1
Fwd Class      : None                   Priority       : None
Flags          : Used Valid Best Incomplete In-RTM
Route Source   : External
AS-Path        : 65533
Route Tag      : 0
Neighbor-AS    : 65533
DB Orig Val    : Invalid                Final Orig Val : Invalid
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
RIB Priority   : Normal
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Last Modified  : 00h03m17s
```

Output example: unlabeled unicast IPv4 routes

```
A:node-2# show router bgp routes ipv4
===============================================================================
 BGP Router ID : 10.10.10.103      AS : 200     Local AS : 200
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best
===============================================================================
BGP Routes
===============================================================================
Flag  Network                           Nexthop         LocalPref  MED
      VPN Label                         As-Path
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
```

Output example: BGP routes that match a specific address (detailed)

```
A:node-2# show router bgp routes 1.1.4.0/22 detail
===============================================================================
BGP Router ID:10.20.1.3        AS:100         Local AS:100
===============================================================================
Legend -
Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                l - leaked, x - stale, > - best, b - backup, p - purge
Origin codes  : i - IGP, e - EGP, ? - incomplete

===============================================================================
BGP IPv4 Routes
===============================================================================
Original Attributes

Network        : 1.1.4.0/22
Nexthop        : 1.1.3.1
Path Id        : None
From           : 1.1.3.1
Res. Protocol  : LOCAL                 Res. Metric    : 0
Res. Nexthop   : 1.1.3.1
Local Pref.    : n/a                   Interface Name : to_Dut-A
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None                  IGP Cost       : 0
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 10.20.1.1
Fwd Class      : None                  Priority       : None
Flags          : Used Valid Best Incomplete In-RTM
Route Source   : External
AS-Path        : 65533
Route Tag      : 0
Neighbor-AS    : 65533
DB Orig Val    : Invalid               Final Orig Val : N/A
Source Class   : 0                     Dest Class     : 0
Add Paths Send : Default
RIB Priority   : Normal
Last Modified  : 00h03m35s

Modified Attributes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Network        : 1.1.4.0/22
Nexthop        : 1.1.3.1
Path Id        : None
From           : 1.1.3.1
Res. Protocol  : LOCAL                 Res. Metric    : 0
Res. Nexthop   : 1.1.3.1
Local Pref.    : None                  Interface Name : to_Dut-A
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None                  IGP Cost       : 0
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 10.20.1.1
Fwd Class      : None                  Priority       : None
Flags          : Used Valid Best Incomplete In-RTM
Route Source   : External
AS-Path        : 65533
Route Tag      : 0
Neighbor-AS    : 65533
DB Orig Val    : Invalid               Final Orig Val : Invalid
Source Class   : 0                     Dest Class     : 0
Add Paths Send : Default
RIB Priority   : Normal
Last Modified  : 00h03m41s
```

Output example: MVPN IPv4 routes

```
A:node-2# show router bgp routes mvpn-ipv4
===============================================================================
 BGP Router ID:10.20.1.3        AS:200         Local AS:200
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best
===============================================================================
BGP MVPN-IPv4 Routes
===============================================================================
Flag  RouteType                    OriginatorIP           LocalPref   MED
          RD                           SourceAS                          VPNLabel
          Nexthop                      SourceIP
          As-Path                      GroupIP
-------------------------------------------------------------------------------
u*>i  Intra-Ad                     10.20.1.4              100         0
          1:1                          -                                 -
          10.20.1.4                    -
          No As-Path                   -
u*>i  Source-Ad                    -                      100         0
          1:1                          -                                 -
          10.20.1.4                    130.100.1.2
          No As-Path                   227.0.0.0
u*>i  Source-Join                  -                      100         0
          1:1                          200                               -
          10.20.1.4                    150.100.1.2
          No As-Path                   226.0.0.0
-------------------------------------------------------------------------------
Routes : 3
===============================================================================
```

Output example: MVPN IPv4 route information summary

```
A:node-2# show router bgp routes mvpn-ipv4 brief
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
 BGP Router ID:10.20.1.3        AS:200         Local AS:200
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best
===============================================================================
BGP MVPN-IPv4 Routes
===============================================================================
Flag  RouteType                  OriginatorIP          SourceIP
          RD                         SourceAS              GroupIP
-------------------------------------------------------------------------------
u*>i  Intra-Ad                   10.20.1.4             -
          1:1                        -                     -
u*>i  Source-Ad                  -                     130.100.1.2
          1:1                        -                       227.0.0.0
u* >i  Source-Join                -                     150.100.1.2
          1:1                        200                   226.0.0.0
-------------------------------------------------------------------------------
Routes : 3
===============================================================================
```

Output example: source-join type MVPN IPv4 routes that match a specific source AS number, source IP address, and group IP address (detailed)

```
A:node-2# show router bgp routes mvpn-ipv4 type source-join source-as 200 source-ip 150.100.1.2
 group-ip 226.0.0.0 detail
===============================================================================
 BGP Router ID:10.20.1.3        AS:200         Local AS:200
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best
===============================================================================
BGP MVPN-IPv4 Routes
===============================================================================
Route Type     : Source-Join
Route Dist.    : 1:1
Source AS      : 200
Source IP      : 150.100.1.2
Group IP       : 226.0.0.0
Nexthop        : 10.20.1.4
From           : 10.20.1.4
Res. Nexthop   : 0.0.0.0
Local Pref.    : 100                    Interface Name : NotAvailable
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : 0
Community      : target:10.20.1.3:2
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.4
Flags          : Used  Valid  Best  IGP
AS-Path        : No As-Path
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: spmsi-ad type MVPN IPv4 routes (detailed)

```
A:node-2# show router bgp routes mvpn-ipv4 type spmsi-ad detail
===============================================================================
 BGP Router ID:10.20.1.3        AS:46000       Local AS:46000
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP MVPN-IPv4 Routes
===============================================================================
Original Attributes

Route Type     : Spmsi-Ad
Route Dist.    : 10.1.200.41:1
Originator IP  : 10.20.1.4
Source IP      : 10.1.101.2
Group IP       : 225.100.0.0

<snip>

Last Modified  : 00h18m52s
VPRN Imported  :  1
-------------------------------------------------------------------------------
PMSI Tunnel Attribute :
Tunnel-type    : None                  Flags          : Leaf required
MPLS Label     : 0
-------------------------------------------------------------------------------

===============================================================================
```

Output example: spmsi-ad type MVPN IPv6 routes (detailed)

```
A:node-2# show router bgp routes mvpn-ipv6 type spmsi-ad detail
===============================================================================
 BGP Router ID:10.20.1.3        AS:46000       Local AS:46000
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP MVPN-IPv6 Routes
===============================================================================
Original Attributes

Route Type     : Spmsi-Ad
Route Dist.    : 10.1.200.41:1
Originator IP  : 10.20.1.4
Source IP      : 2001:10:1:101::2
Group IP       : ff0e:225:100::

<snip>

VPRN Imported  :  1
-------------------------------------------------------------------------------
PMSI Tunnel Attribute :
Tunnel-type    : None                  Flags          : Leaf required
MPLS Label     : 0
-------------------------------------------------------------------------------
===============================================================================
```

Output example: multi-segment pseudowire routes

```
A:node-2# show router bgp routes ms-pw
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
 BGP Router ID:10.20.1.3        AS:100         Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP MSPW Routes
===============================================================================
Flag  Network                 RD
      Nexthop                 AII-Type2/Preflen
      As-Path
-------------------------------------------------------------------------------
?     3:10.20.1.3             100:3
      10.20.1.5               3:10.20.1.3:0/64
      200 100
?     3:10.20.1.3             100:4
      10.20.1.5               3:10.20.1.3:0/64
      200 100
u*>?  6:10.20.1.6             100:6
      10.20.1.5               6:10.20.1.6:0/64
      200 300 400
-------------------------------------------------------------------------------
Routes : 3
===============================================================================
```

Output example: IPv4 routes (detailed)

```
A:node-2# show router bgp routes ipv4 detail
===============================================================================
 BGP Router ID:1.1.1.1          AS:100         Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
-------------------------------------------------------------------------------
Original Attributes

Network        : 11.1.1.1/32
Nexthop        : 192.168.1.1
Path Id        : None
From           : 192.168.1.1
Res. Nexthop   : 192.168.1.1
Local Pref.    : n/a                   Interface Name : net
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : 5000
AIGP Metric    : 100
Community      : None
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 2.2.2.2
Fwd Class      : None                  Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : External
AS-Path        : 200 400 500

Modified Attributes

Network        : 11.1.1.1/32
Nexthop        : 192.168.1.1
Path Id        : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
From           : 192.168.1.1
Res. Nexthop   : 192.168.1.1
Local Pref.    : None                   Interface Name : net
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : 5000
AIGP Metric    : 110
Community      : None
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 2.2.2.2
Fwd Class      : None                   Priority       : None
Flags          : Used  Valid  Best  Incomplete
Route Source   : External
AS-Path        : 200 400 500
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: BGP-LS link NLRI routes with advertised routes (detailed)

```
A:node-2# show router bgp routes bgp-ls hunt link
===============================================================================
 BGP Router ID:38.120.48.226    AS:65000       Local AS:65000
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP-LS Link NLRIs
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network:
 Type          : LINK-NLRI
 Protocol      : ISIS Level-2           Identifier     : 0xa
 Local Node descriptor:
  Autonomous System  : 0.0.253.232
  Link State Id      : 10
  IGP Router Id      : 0x38120048184
 Remote Node descriptor:
  Autonomous System  : 0.0.253.232
  Link State Id      : 10
  IGP Router Id      : 0x38120048223
 Link descriptor:
  IPV4 Interface Addr: 10.0.14.184
  IPV4 Neighbor Addr : 10.0.14.223
Nexthop        : 38.120.48.199
From           : 38.120.48.199
Res. Nexthop   : 0.0.0.0
Local Pref.    : 100                    Interface Name : NotAvailable
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 38.120.48.199
Flags          : Valid  Best  IGP
Route Source   : Internal
AS-Path        : No As-Path
Route Tag      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Neighbor-AS    : N/A
DB Orig Val    : N/A                    Final Orig Val : N/A
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
Last Modified  : 02h27m50s
-------------------------------------------------------------------------------
Link State Attribute TLVs :
 Administrative group (color) : 0x0
 Maximum link bandwidth : 100000 Kbps
 Max. reservable link bandwidth : 100000 Kbps
 Unreserved bandwidth0 : 100000 Kbps
 Unreserved bandwidth1 : 100000 Kbps
 Unreserved bandwidth2 : 100000 Kbps
 Unreserved bandwidth3 : 100000 Kbps
 Unreserved bandwidth4 : 100000 Kbps
 Unreserved bandwidth5 : 100000 Kbps
 Unreserved bandwidth6 : 100000 Kbps
 Unreserved bandwidth7 : 100000 Kbps
 TE Default Metric : 100
 IGP Metric : 100
 Adjacency Segment Identifier (Adj-SID) :       flags 0x30 weight 0 sid 262136
-------------------------------------------------------------------------------
Network:
 Type          : LINK-NLRI
 Protocol      : ISIS Level-2           Identifier     : 0xa
 Local Node descriptor:
  Autonomous System  : 0.0.253.232
  Link State Id      : 10
  IGP Router Id      : 0x38120048184
 Remote Node descriptor:
  Autonomous System  : 0.0.253.232
  Link State Id      : 10
  IGP Router Id      : 0x38120048223
 Link descriptor:
  IPV4 Interface Addr: 10.0.14.184
  IPV4 Neighbor Addr : 10.0.14.223
Nexthop        : 38.120.48.221
From           : 38.120.48.221
Res. Nexthop   : 0.0.0.0
Local Pref.    : 100                    Interface Name : NotAvailable
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : No Community Members
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 38.120.48.221
Flags          : Valid  IGP
TieBreakReason : OriginatorID
Route Source   : Internal
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : N/A
DB Orig Val    : N/A                    Final Orig Val : N/A
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
Last Modified  : 02h27m54s
-------------------------------------------------------------------------------
Link State Attribute TLVs :
 Administrative group (color) : 0x0
 Maximum link bandwidth : 100000 Kbps
 Max. reservable link bandwidth : 100000 Kbps
 Unreserved bandwidth0 : 100000 Kbps
 Unreserved bandwidth1 : 100000 Kbps
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Unreserved bandwidth2 : 100000 Kbps
 Unreserved bandwidth3 : 100000 Kbps
 Unreserved bandwidth4 : 100000 Kbps
 Unreserved bandwidth5 : 100000 Kbps
 Unreserved bandwidth6 : 100000 Kbps
 Unreserved bandwidth7 : 100000 Kbps
 TE Default Metric : 100
 IGP Metric : 100
 Adjacency Segment Identifier (Adj-SID) :       flags 0x30 weight 0 sid 262136
-------------------------------------------
```

Output example: learned BGP routes that belong to the IPv4 address family

```
A:node-2# show router bgp routes
===============================================================================
 BGP Router ID:10.20.1.1        AS:1          Local AS:1
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
 Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup
===============================================================================
BGP IPv4 Routes
===============================================================================
Flag  Network                                          LocalPref     MED
      Nexthop                                            Path-Id      Label
      As-Path
-------------------------------------------------------------------------------
u*>i  20.0.0.1/32                                      100         2010
      10.20.1.2                                           None        131057
      2
ub*i  20.0.0.1/32                                      100         2010
      10.20.1.3                                           None        131067
      2
-------------------------------------------------------------------------------
Routes : 2
===============================================================================
```

Output example: EVPN MAC routes (with advertised routes) that match a specific address (detailed)

```
A:node-2# show router bgp routes evpn mac mac-address 00:00:01:00:01:02 hunt
===============================================================================
BGP Router ID:10.20.1.1        AS:100         Local AS:100
===============================================================================
Legend -
Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP EVPN Mac Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : N/A
Nexthop        : 10.20.1.2
From           : 10.20.1.2
Res. Nexthop   : N/A
Local Pref.    : 100                   Interface Name : NotAvailable
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : 0
AIGP Metric    : None
Connector      : None
Community      : target:100:1 bgp-tunnel-encap:VXLAN
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                  mac-mobility:Seq:0/Static
Cluster         : No Cluster Members
Originator Id   : None                    Peer Router Id : 10.20.1.2
Flags           : Used  Valid  Best  IGP
Route Source    : Internal
AS-Path         : 111
EVPN type       : MAC
ESI             : 0:0:0:0:0:0:0:0:0:0     Tag            : 1
IP Address      : N/A                     Route Dist.    : 10.20.1.2:1
Mac Address     : 00:00:01:00:01:02
MPLS Label1     : X                       MPLS Label2    : Y
Route Tag       : Z
Neighbor-AS     : 111
DB Orig Val     : N/A                     Final Orig Val : N/A
Source Class    : 0                       Dest Class     : 0

-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: EVPN IP prefix routes that match a specific prefix (detailed)

```
A:node-2# show router bgp routes evpn ip-prefix prefix 3.0.1.6/32 detail
===============================================================================
BGP Router ID:10.20.1.1        AS:100         Local AS:100
===============================================================================
Legend -
Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
Origin codes  : i - IGP, e - EGP, ? - incomplete, > - best, b - backup

===============================================================================
BGP EVPN IP-Prefix Routes
===============================================================================
-------------------------------------------------------------------------------
Original Attributes

Network         : N/A
Nexthop         : 10.20.1.2
From            : 10.20.1.2
Res. Nexthop    : N/A
Local Pref.     : 100                     Interface Name : NotAvailable
Aggregator AS   : None                    Aggregator     : None
Atomic Aggr.    : Not Atomic              MED            : 0
AIGP Metric     : None
Connector       : None
Community       : target:100:1 mac-nh:00:00:01:00:01:02
                  bgp-tunnel-encap:VXLAN
Cluster         : No Cluster Members
Originator Id   : None                    Peer Router Id : 10.20.1.2
Flags           : Used  Valid  Best  IGP
Route Source    : Internal
AS-Path         : No As-Path
EVPN type       : IP-PREFIX
ESI             : N/A                     Tag            : 1
Gateway Address: 00:00:01:00:01:02
Prefix          : 3.0.1.6/32              Route Dist.    : 10.20.1.2:1
MPLS Label    : X
Route Tag       : Z
Neighbor-AS     : N/A
DB Orig Val     : N/A                     Final Orig Val : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Source Class   : 0                     Dest Class     : 0

Modified Attributes

Network        : N/A
Nexthop        : 10.20.1.2
From           : 10.20.1.2
Res. Nexthop   : N/A
Local Pref.    : 100                   Interface Name : NotAvailable
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : 0
AIGP Metric    : None
Connector      : None
Community      : target:100:1 mac-nh:00:00:01:00:01:02
                 bgp-tunnel-encap:VXLAN
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 10.20.1.2
Flags          : Used  Valid  Best  IGP
Route Source   : Internal
AS-Path        : 111
EVPN type      : IP-PREFIX
ESI            : N/A                   Tag            : 1
Gateway Address: 00:00:01:00:01:02
Prefix         : 3.0.1.6/32            Route Dist.    : 10.20.1.2:1
MPLS Label    : X
Route Tag      : W
Neighbor-AS    : 111
DB Orig Val    : N/A                   Final Orig Val : N/A
Source Class   : 0                     Dest Class     : 0

-------------------------------------------------------------------------------
Routes : 1
===============================================================================
```

Output example: EVPN IP prefix routes (with advertised routes) that match a specific prefix (detailed)

```
A:node-2# show router bgp routes evpn ip-prefix prefix 10.0.0.0/24 hunt
===============================================================================
BGP Router ID:192.0.2.4        AS:64500       Local AS:64500
===============================================================================
Legend -
Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                l - leaked, x - stale, > - best, b - backup, p - purge
Origin codes  : i - IGP, e - EGP, ? - incomplete

===============================================================================
BGP EVPN IP-Prefix Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : n/a
Nexthop        : 192.0.2.2
Path Id        : None
From           : 192.0.2.2
Res. Nexthop   : 192.168.24.1
Local Pref.    : 100                   Interface Name : int-PE-4-PE-2
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None                  IGP Cost       : 10
Connector      : None
Community      : target:64500:2002 mac-nh:00:00:00:00:00:02
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                bgp-tunnel-encap:MPLS
Cluster        : No Cluster Members
Originator Id  : None                    Peer Router Id : 192.0.2.2
Flags          : Used Valid Best IGP
Route Source   : Internal
AS-Path        : No As-Path
D-Path         : [65000:1:128(ipvpn), 65000:2:70(evpn), 65000:3:1(ip), 65000:4:0(local)]
EVPN type      : IP-PREFIX
ESI            : n/a
Tag            : 0
Gateway Address: 00:00:00:00:00:02
Prefix         : 10.0.0.0/24
Route Dist.    : 192.0.2.2:2002
MPLS Label     : LABEL 524266
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                     Final Orig Val : N/A
Source Class   : 0                       Dest Class     : 0
Add Paths Send : Default
Last Modified  : 23h15m42s
===============================================================================
```

Output example: BGP-LS routes

```
A:node-2# show router bgp routes bgp-ls
===============================================================================
BGP-LS NLRIs
===============================================================================
-------------------------------------------------------------------------------
Type: Node
Protocol: ISIS | OSPFLevel: L1 | L2 | NA
Identifier:
Network : 215.0.0.0/24
Nexthop : 202.50.0.2
Path Id : None
From : 10.255.105.141
AS Path: 65534
Local Node
   Name:
   Autonomous System:
   Area ID:
   Rtr ID:
   Flags:
Type: Link
Protocol: ISIS | OSPFLevel: L1 | L2 | NA
Identifier:
Network : 215.0.0.0/24
Nexthop : 202.50.0.2
Path Id : None
From : 10.255.105.141
AS Path: 65534
Local Node
   Name:
   Autonomous System:
   Area ID:
   Rtr ID:
Remote Node
   Name:
   Autonomous System:
   Area ID:
   Rtr ID:
Descriptor
   IPv4 Address: 10.10.1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Attributes
   Flags:
   IGP Metric: 1000
   Admin-Grp: 0
   Maximum Link BW (kbps): 100000
   Maximum Reservable BW (kbps): 100000
   TE Default Metric: 1000
   Unreserved BW (kbps): 10000

Type: IPv4 Prefix
Protocol: ISIS | OSPFLevel: L1 | L2 | NA
Identifier:
Network : 215.0.0.0/24
Nexthop : 202.50.0.2
Path Id : None
From : 10.255.105.141
AS Path: 65534
Local Node
   Name:
   Autonomous System:
   Area ID: 0.0.0.0
   Rtr ID: 10.20.1.6
   Flags:
Prefix descriptor
   IPv4 Address: 10.20.1.6
   Prefix-len: 32
   MT_ID :0
   Route Type :Unknown
```

Output example: EVPN multicast join sync routes with advertised routes (detailed)

```
A:node-2# show router bgp routes evpn mcast-join-synch hunt
===============================================================================
 BGP Router ID:192.0.2.3        AS:64500       Local AS:64500
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete
===============================================================================
BGP EVPN Mcast Join Synch Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : n/a
Nexthop        : 192.0.2.2
From           : 192.0.2.2
Res. Nexthop   : 192.168.23.1
Local Pref.    : 100                    Interface Name : int-PE-3-PE-2
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : 0
AIGP Metric    : None                   IGP Cost       : 10
Connector      : None
Community      : evi-target:64500:2001 target:00:00:00:00:00:01
                 bgp-tunnel-encap:MPLS
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 192.0.2.2
Flags          : Used Valid Best IGP
Route Source   : Internal
AS-Path        : No As-Path
EVPN type      : MCAST-JOIN
Tag            : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ESI            : 01:00:00:00:00:00:01:00:00:00
Version        : Flags(0xc): IE:1/V3:1/V2:0/V1:0
Src IP         : 0.0.0.0
Grp IP         : 239.0.0.4
Originator IP  : 192.0.2.2
Route Dist.    : 192.0.2.2:2001
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                    Final Orig Val : N/A
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
Last Modified  : 00h29m38s
```

Output example: IPv4 VPN routes (with advertised routes) with attached attribute set (ATTR_SET) (detailed)

Note: ATTR_SET is supported for IPv4, IPv6, IPv4 VPN, IPv6 VPN, and labeled unicast IPv4 routes.

```
A:node-2# show router bgp routes vpn-ipv4 hunt
===============================================================================
 BGP Router ID:10.20.1.2      AS:100       Local AS:100
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete

===============================================================================
BGP VPN-IPv4 Routes
===============================================================================
-------------------------------------------------------------------------------
RIB In Entries
-------------------------------------------------------------------------------
Network        : 10.10.35.0/24
Nexthop        : 10.20.1.3
Route Dist.    : 100:3                  VPN Label      : 524286
Path Id        : None
From           : 10.20.1.3
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : to_C
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None                   IGP Cost       : 10
Connector      : None
Community      : target:100:1
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 10.20.1.3
Fwd Class      : None                   Priority       : None
Flags          : Used Valid Best IGP
Route Source   : Internal
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                    Final Orig Val : N/A
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
Last Modified  : 00h00m55s
VPRN Imported  : 1

Attribute-Set [Origin-AS 65000]
Local Pref.    : 100
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None
Connector      : None
Community      : color:00:1 target:65002:100
Cluster        : No Cluster Members
Originator Id  : None
AS-Path        : No As-Path

-------------------------------------------------------------------------------

Network        : 100.1.1.1/32
Nexthop        : 10.20.1.3
Route Dist.    : 100:3                 VPN Label      : 524286
Path Id        : None
From           : 10.20.1.3
Res. Nexthop   : n/a
Local Pref.    : 100                   Interface Name : to_C
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : 0
AIGP Metric    : None                  IGP Cost       : 10
Connector      : None
Community      : target:100:1
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 10.20.1.3
Fwd Class      : None                  Priority       : None
Flags          : Used Valid Best IGP
Route Source   : Internal
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                   Final Orig Val : N/A
Source Class   : 0                     Dest Class     : 0
Add Paths Send : Default
Last Modified  : 00h00m55s
VPRN Imported  : 1

Attribute-Set [Origin-AS 65000]
Local Pref.    : 100
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None
Connector      : None
Community      : color:00:1 target:65002:100
Cluster        : No Cluster Members
Originator Id  : None
AS-Path        : No As-Path

-------------------------------------------------------------------------------
RIB Out Entries
-------------------------------------------------------------------------------
Network        : 10.10.12.0/24
Nexthop        : 10.20.1.2
Route Dist.    : 100:2                 VPN Label      : 524286
Path Id        : None
From           : 10.20.1.3
Res. Nexthop   : n/a
Local Pref.    : 100                   Interface Name : NotAvailable
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None                  IGP Cost       : n/a
Connector      : None
Community      : target:100:1
Cluster        : No Cluster Members
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Originator Id  : None                   Peer Router Id : 10.20.1.3
Origin         : IGP
AS-Path        : No As-Path
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                    Final Orig Val : N/A
Source Class   : 0                      Dest Class     : 0

Attribute-Set [Origin-AS 65000]
Local Pref.    : 100
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None
Connector      : None
Community      : color:00:1 target:65002:100
Cluster        : No Cluster Members
Originator Id  : None

-------------------------------------------------------------------------------
Routes : 3
===============================================================================
```

Output example: IPv4 VPN routes with attached attribute set (ATTR_SET) (detailed)

```
A:node-2# show router bgp routes vpn-ipv4 detail
===============================================================================
 BGP Router ID:192.0.2.2      AS:65002       Local AS:65002
===============================================================================
 Legend -
 Status codes  : u - used, s - suppressed, h - history, d - decayed, * - valid
                 l - leaked, x - stale, > - best, b - backup, p - purge
 Origin codes  : i - IGP, e - EGP, ? - incomplete

===============================================================================
BGP VPN-IPv4 Routes
===============================================================================
Original Attributes

Network        : 10.0.0.8/30
Nexthop        : 222.222.222.222
Route Dist.    : 65002:2                VPN Label      : 524286
Path Id        : None
From           : 192.0.2.3
Res. Nexthop   : n/a
Local Pref.    : 100                    Interface Name : to-C
Aggregator AS  : None                   Aggregator     : None
Atomic Aggr.   : Not Atomic             MED            : None
AIGP Metric    : None                   IGP Cost       : 10
Connector      : None
Community      : color:00:1 target:65002:100
Cluster        : No Cluster Members
Originator Id  : None                   Peer Router Id : 192.0.2.3
Fwd Class      : None                   Priority       : None
Flags          : Used Valid Best IGP
Route Source   : Internal
AS-Path        : No As-Path
AttrSet        : Present                AttrSet OriginAS: 65000
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                    Final Orig Val : N/A
Source Class   : 0                      Dest Class     : 0
Add Paths Send : Default
Last Modified  : 71d14h14m
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
VPRN Imported  : 1

Original Attribute-Set [Origin-AS 65000]
Local Pref.    : 100
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None
Connector      : None
Community      : color:00:1 target:65002:100
Cluster        : No Cluster Members
Originator Id  : None

Modified Attributes

Network        : 10.0.0.8/30
Nexthop        : 222.222.222.222
Route Dist.    : 65002:2               VPN Label      : 524286
Path Id        : None
From           : 192.0.2.3
Res. Nexthop   : n/a
Local Pref.    : 100                   Interface Name : to-C
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None                  IGP Cost       : 10
Connector      : None
Community      : color:00:1 target:65002:100
Cluster        : No Cluster Members
Originator Id  : None                  Peer Router Id : 192.0.2.3
Fwd Class      : None                  Priority       : None
Flags          : Used Valid Best IGP
Route Source   : Internal
AS-Path        : No As-Path
AttrSet        : Present               AttrSet OriginAS: 65000
Route Tag      : 0
Neighbor-AS    : n/a
DB Orig Val    : N/A                   Final Orig Val : N/A
Source Class   : 0                     Dest Class     : 0
Add Paths Send : Default
Last Modified  : 71d14h14m
VPRN Imported  : 1

Modified Attribute-Set [Origin-AS 65000]
Local Pref.    : 100
Aggregator AS  : None                  Aggregator     : None
Atomic Aggr.   : Not Atomic            MED            : None
AIGP Metric    : None
Connector      : None
Community      : color:00:1 target:65002:100
Cluster        : No Cluster Members
Originator Id  : None
```

Table 479: Output fields: BGP routes

Label	Description
Add Paths Send	The local BGP router ID
Aggregator	The aggregator attribute value none — Aggregator attributes are not present
Aggregator AS	The aggregator AS value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	none — Aggregator AS attributes are not present
AIGP Metric	The Accumulated IGP metric
AII-Type2/Preflen	The FEC 129 AII Type 2/preference length
AS	The configured Autonomous System (AS) number
AS-Path	The BGP AS path attribute
Atomic Aggr.	Atomic — The atomic aggregator flag is set Not Atomic — The atomic aggregator flag is not set
AttrSet	The attribute set
AttrSet OriginAS	The attribute set origin AS
BGP Router ID	The local BGP router ID
BSID/Pref/TunnType	The binding SID (BSID), preference, and tunnel type
Cluster	The route reflector cluster list
Community	The BGP community attribute list
Connector	The connector attribute value
DB Orig Val	The database RPKI route origin validation state
Dest Class	The destination class
D-Path	The D-Path
ESI	The Ethernet Segment Identifier
EVPN type	The Ethernet VPN route type
Extended Tunne* (Extended Tunnel ID)	The extended tunnel ID
Final Orig Val	The final RPKI route origin validation state
Flag	The flag is set to one of the following: • u — used • s — suppressed • h —history • d — decayed • * — valid • i — igp • e — egp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• ? — incomplete • > — best • S — sticky
From	The IP address of the advertising BGP neighbor
Fwd Class	The forwarding class
Gateway Address	The gateway address
GroupIP/Group IP	The group IP address
Identifier	The service access (SAP) points
IGP Cost	The Interior Gateway Protocol (IGP) cost for the route
Interface Name	The name of the interface
Last Modified	The time elapsed since the next hop was modified
Local AS	The configured local AS setting If not configured, the value is the same as the AS
Local Pref.	The local preference value This value is used if the BGP route arrives from a BGP peer without the Local Pref attribute set. It is overridden by any value set via a route policy
MED	The MED metric value none — MED metrics are present
MPLS Label	The MPLS label
Neighbor-AS	The neighbor AS
Network	The IP prefix and mask length
Nexthop	The BGP next hop
Originator Id	The originator ID path attribute value none — The originator ID attribute is not present
OriginatorIP/Originator IP	The originator IP
OSPFLevel	The Open Shortest Path First (OSPF) level
P2MP-ID	The Internal identifier of point-to-multipoint LSP
Path Id	The path ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Peer Router Id	The router ID of the advertising router
PMSI Tunnel Attribute	The P-Multicast Service Interface (PMSI) tunnel attribute
Prefix	The number of interfaces on the nodes on which BGP is enabled
Priority	The priority of the BGP route
Protocol	The protocol
RD	The Route Distinguisher (RD)
RD/Color/End Point RD/Color/End Pt	The RD, color, and end point
Res. Nexthop	The resolved next hop
RIB Priority	The Routing Information Base (RIB) priority
Route Dist.	The route distinguisher identifier attached to routes that distinguishes the VPN to which it belongs
Route Source	The route source
Route Tag	The route tag of the entry
Route Type	The route type
Source Class	The source class
SourceAS/Source AS	The source AS
SourceIP/Source IP	The source IP
Tag	The tag information
TieBreakReason	The step in the BGP decision process where a BGP route lost the tiebreak with the next better BGP route for the same prefix LocalPref — This route is not the best because the next better route has a higher LOCAL_PREF AIGP — This route is not the best because the next better route has a lower derived AIGP metric value ASPathLen — This route is not the best because the next better route has a shorter AS PATH length Origin — This route is not the best because the next better route has a lower origin value MED — This route is not the best because the next better route has a lower MED, and MED comparison of the routes was allowed

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	IBGP — This IBGP route is not the best because the next better route is an EBGP route NHCost — This route is not the best because the next better route has a lower metric value to reach the BGP NEXT HOP BGPID — This route is not the best because the next better route has a lower Originator ID or BGP Identifier ClusterLen — This route is not the best because the next better route has a shorter cluster list length PeerIP — This route is not the best because the next better route has a lower neighbor IP address
Tunnel-ID	The tunnel ID
Tunnel-type	The tunnel type
Type	The type
VPN Label	The label generated by the PEs label manager
VPRN Imported	The VPRNs where a particular BGP-VPN received route has been imported and installed
Attributes	
Flags	The flags of the BGP-LS route
IGP Metric	The IGP metric
Admin-Grp	The admin group
Maximum Link BW (kbps)	The maximum link bandwidth (BW)
Maximum Reservable BW (kbps)	The maximum reservable bandwidth (BW)
TE Default Metric	The Traffic Engineering (TE) default metric
Unreserved BW (kbps)	The unreserved bandwidth (BW)
Descriptor	
IPv4 Address	The IPv4 address of the descriptor
Link descriptor	
IPV4 Interface Addr	The IPv4 interface address
IPV4 Neighbor Addr	The IPv4 neighbor address
Link State Attribute TLVs	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Administrative group (color)	The administrative group color
Maximum link bandwidth	The maximum link bandwidth
Max. reservable link bandwidth	The maximum reservable link bandwidth
Unreserved bandwidth0	The unreserved bandwidth0
Unreserved bandwidth1	The unreserved bandwidth1
Unreserved bandwidth2	The unreserved bandwidth2
Unreserved bandwidth3	The unreserved bandwidth3
Unreserved bandwidth4	The unreserved bandwidth4
Unreserved bandwidth5	The unreserved bandwidth5
Unreserved bandwidth6	The unreserved bandwidth6
Unreserved bandwidth7	The unreserved bandwidth7
TE Default Metric	The traffic engineering (TE) default
IGP Metric	The IGP metric
Adjacency Segment Identifier (Adj-SID)	The Adjacency Segment Identifier (Adj-SID)
Local Node	
Name	The name of the local node
Autonomous System	The Autonomous System
Area ID	The area ID
Rtr ID	The router ID
Flags	The flags in the detailed output display additional information about BGP routes

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Local Node descriptor	
Autonomous System	The Autonomous System
Link State Id	The link-state ID
IGP Router Id	The IGP router
Prefix descriptor	
IPv4 Address	The IPv4 address
Prefix-len	The prefix length
MT_ID	The multitopology ID
Route Type	The route type
Remote Node	
Name	The remote node name
Autonomous System	The Autonomous System
Area ID	The area ID
Rtr ID	The router ID
Remote Node descriptor	
Autonomous System	The Autonomous System
Link State Id	The link-state ID
IGP Router Id	The Interior Gateway Protocol (IGP) ID

routes

Syntax

routes [**ipv4-unicast** | **ipv6-unicast** | **ipv4-multicast** | **ipv6-multicast** | **mt** *mt-id-number*] [*ip-prefix*[/*prefix-length*]] [**alternative**] [**exclude-shortcut**] [**flex-algo** {*flex-algo-id* | **all**}] [**status** {**reachable** | **unreachable**}] [**detail**]

Context

[Tree] (show>router>isis routes)

Full Context

show router isis routes

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the routes in the IS-IS route table.

Parameters

ipv4-unicast

Displays IPv4 unicast parameters.

ipv6-unicast

Displays IPv6 unicast parameters.

mt *mt-id-number*

Displays multi-topology parameters.

Values 0, 2

alternative

Displays LFA details.

exclude-shortcut

Displays the routes without shortcuts.

detail

Displays detailed information.

flex-algo *flex-algo-id*

Displays the flexible algorithm aware forwarding path.

Values 128 to 255, all

flex-algo all

Displays all the flexible algorithms-aware forwarding paths.

reachable

Displays the reachable unicast routing table. When the status is not specified, the complete unicast routing table is displayed.

unreachable

Displays the unreachable unicast routing table. When the status is not specified, the complete unicast routing table is displayed.

Platforms

All

Output

The following output is an example of IS-IS route unreachable information, and Table 480: Output fields: IS-IS routes describes the output fields.

Output example

```
A:node-2>show>router>isis# routes status unreachable

===============================================================================
Rtr Base ISIS Instance 0 Route Table
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Prefix[Flags]                     Metric     Lvl/Typ     Ver.  SysID/Hostname
  NextHop                                                MT     AdminTag/SID[F]
-------------------------------------------------------------------------------
10.20.1.3/32                      UPA        1/Int.      2     Dut-B
   0.0.0.0                                                 0       0
-------------------------------------------------------------------------------
No. of Routes: 1 (1 path)
-------------------------------------------------------------------------------
Flags        : L = LFA nexthop available
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================
```

The following output is an example of IS-IS route unreachable detailed information, and Table 480: Output fields: IS-IS routes describes the output fields.

Output example

```
A:node-2>show>router>isis# routes status unreachable detail

===============================================================================
Rtr Base ISIS Instance 0 Route Table (detail)
===============================================================================
Prefix           : 10.20.1.3/32
Algorithm        : 0
Status           : Unreachable          Level              : 1
NextHop          : 0.0.0.0
Metric           : 4261412865 (UPA)     Type               : Internal
SPF Version      : 2                    SysID/Hostname     : Dut-B
MT               : 0                    AdminTag           : 0
-------------------------------------------------------------------------------
No. of Routes: 1 (1 path)
-------------------------------------------------------------------------------
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================
```

The following outputs are examples of IS-IS route information, and Table 480: Output fields: IS-IS routes describes the output fields.

Output example

```
A:node-2# show router isis routes
===============================================================================
Rtr Base ISIS Instance 0 Route Table
===============================================================================
Prefix[Flags]                     Metric     Lvl/Typ     Ver.  SysID/Hostname
  NextHop                                                MT     AdminTag/SID[F]
-------------------------------------------------------------------------------
1.1.2.0/24                        20         1/Int.      0     Dut-A
   1.1.3.1                                                 0       0
1.1.2.0/24                        20         1/Int.      0     Dut-B
   1.2.3.2                                                 0       0
1.1.3.0/24                        10         1/Int.      0     Dut-C
   0.0.0.0                                                 0       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1.2.3.0/24                        10         1/Int.      0     Dut-C
   0.0.0.0                                               0       0
1.2.4.0/24                        20         1/Int.      0     Dut-B
   1.2.3.2                                               0       0
1.3.5.0/24                        10         1/Int.      0     Dut-C
   0.0.0.0                                               0       0
1.4.5.0/24                        20         1/Int.      0     Dut-E
   1.3.5.5                                               0       0
1.4.6.0/24                        30         1/Int.      0     Dut-B
   1.2.3.2                                               0       0
1.4.6.0/24                        30         1/Int.      0     Dut-E
   1.3.5.5                                               0       0
10.20.1.1/32                      10         1/Int.      0     Dut-A
   1.1.3.1                                               0       0
10.20.1.2/32                      10         1/Int.      0     Dut-B
   1.2.3.2                                               0       0
10.20.1.3/32                      0          1/Int.      0     Dut-C
   0.0.0.0                                               0       0
10.20.1.4/32                      20         1/Int.      0     Dut-B
   1.2.3.2                                               0       0
10.20.1.4/32                      20         1/Int.      0     Dut-E
   1.3.5.5                                               0       0
10.20.1.5/32                      10         1/Int.      0     Dut-E
   1.3.5.5                                               0       0
10.20.1.6/32                      30         1/Int.      0     Dut-B
   1.2.3.2                                               0       0
10.20.1.6/32                      30         1/Int.      0     Dut-E
   1.3.5.5                                               0       0
-------------------------------------------------------------------------------
No. of Routes: 17 (17 paths)
-------------------------------------------------------------------------------
Flags        : L = LFA nexthop available
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================

A:node-2# show router isis routes ipv4-unicast
===============================================================================
Rtr Base ISIS Instance 0 Route Table
===============================================================================
Prefix[Flags]                     Metric     Lvl/Typ     Ver.  SysID/Hostname
  NextHop                                                MT     AdminTag/SID[F]
-------------------------------------------------------------------------------
1.2.3.0/24                        10         1/Int.      8     Dut-C
   0.0.0.0                                                 0       0
1.2.4.0/24                        20         1/Int.      8     Dut-D
   1.3.4.4                                                 0       0
1.2.5.0/24                        20         1/Int.      8     Dut-B
   1.2.3.2                                                 0       0
1.3.4.0/24                        10         1/Int.      8     Dut-C
   0.0.0.0                                                 0       0
1.3.5.0/24 [L]                    30         1/Int.      11    Dut-B
   1.2.3.2                                                 0       0
1.4.5.0/24                        20         1/Int.      8     Dut-D
   1.3.4.4                                                 0       0
2.3.4.0/24                        40         1/Int.      11    Dut-D
   1.3.4.4                                                 0       0
4.0.0.1/32                        10         1/Int.      8     Dut-D
   1.3.4.4                                                 0       0/1[NnP]
10.20.1.2/32                      10         1/Int.      8     Dut-B
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   1.2.3.2                                                  0       0/1002[NnP]
10.20.1.3/32                     0          1/Int.      5     Dut-C
   0.0.0.0                                                  0       0/1003[NnP]
10.20.1.4/32                     10         1/Int.      8     Dut-D
   1.3.4.4                                                  0       0/1004[NnP]
10.20.1.5/32 [L]                 20         1/Int.      11    Dut-B
   1.2.3.2                                                  0       0/1005[NnP]
10.21.1.2/32                     10         1/Int.      8     Dut-B
   1.2.3.2                                                  0       0
10.21.1.3/32                     0          1/Int.      5     Dut-C
   0.0.0.0                                                  0       0
10.21.1.4/32                     10         1/Int.      8     Dut-D
   1.3.4.4                                                  0       0
10.21.1.5/32 [L]                 20         1/Int.      11    Dut-B
   1.2.3.2                                                  0       0
-------------------------------------------------------------------------------
No. of Routes: 16 (16 paths)
-------------------------------------------------------------------------------
Flags        : L = LFA nexthop available
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================

A:node-2# show router isis routes ipv4-unicast alternative
===============================================================================
Rtr Base ISIS Instance 0 Route Table (alternative)
===============================================================================
Prefix[Flags]                    Metric     Lvl/Typ     Ver.  SysID/Hostname
  NextHop                                                MT     AdminTag/SID[F]
Alt-Nexthop                                              Alt-   Alt-Type
                                                        Metric
-------------------------------------------------------------------------------
1.2.3.0/24                       10         1/Int.      8     Dut-C
   0.0.0.0                                                  0       0
1.2.4.0/24                       20         1/Int.      8     Dut-D
   1.3.4.4                                                  0       0
1.2.5.0/24                       20         1/Int.      8     Dut-B
   1.2.3.2                                                  0       0
1.3.4.0/24                       10         1/Int.      8     Dut-C
   0.0.0.0                                                  0       0
1.3.5.0/24                       30         1/Int.      11    Dut-B
   1.2.3.2                                                  0       0
   1.3.4.4(L)                                              30      NP
1.4.5.0/24                       20         1/Int.      8     Dut-D
   1.3.4.4                                                  0       0
2.3.4.0/24                       40         1/Int.      11    Dut-D
   1.3.4.4                                                  0       0
4.0.0.1/32                       10         1/Int.      8     Dut-D
   1.3.4.4                                                  0       0/1[NnP]
10.20.1.2/32                     10         1/Int.      8     Dut-B
   1.2.3.2                                                  0       0/1002[NnP]
10.20.1.3/32                     0          1/Int.      5     Dut-C
   0.0.0.0                                                  0       0/1003[NnP]
10.20.1.4/32                     10         1/Int.      8     Dut-D
   1.3.4.4                                                  0       0/1004[NnP]
10.20.1.5/32                     20         1/Int.      11    Dut-B
   1.2.3.2                                                  0       0/1005[NnP]
   1.3.4.4(L)                                              20      NP
10.21.1.2/32                     10         1/Int.      8     Dut-B
   1.2.3.2                                                  0       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.21.1.3/32                      0          1/Int.      5     Dut-C
   0.0.0.0                                                  0       0
10.21.1.4/32                      10         1/Int.      8     Dut-D
   1.3.4.4                                                  0       0
10.21.1.5/32                      20         1/Int.      11    Dut-B
   1.2.3.2                                                  0       0
   1.3.4.4(L)                                              20      NP
-------------------------------------------------------------------------------
No. of Routes: 16 (18 paths)
Flags        : L = Loop-Free Alternate nexthop
Alt-Type     : LP = linkProtection, NP = nodeProtection
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================
```

The following output is an example of IS-IS detailed route information.

Output Example

```
A:node-2# show router isis routes 170::/96 detail

===============================================================================
Rtr Base ISIS Instance 0 Route Table (detail)
===============================================================================
Prefix           : 170::/96
Algorithm        : 134
Status           : Active              Level              : 1
NextHop          : fe80::a40f:1ff:fe01:b-"toA"
Metric           : 10                  Type               : Internal
SPF Version      : 8                   SysID/Hostname     : Dut-A
MT               : 0                   AdminTag           : 0
Alt-NextHop      : fe80::a414:1ff:fe01:15-"toB"
Alt-Metric       : 20                  Alt-Type           : linkProtection
-------------------------------------------------------------------------------
No. of Routes: 1 (1 path)
-------------------------------------------------------------------------------
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================
```

The following output is an example of the flexible-algorithm output information, and Table 480: Output fields: IS-IS routes describes the output fields.

Output example

```
A:node-2# show router isis 0 routes flex-algo all
===============================================================================
Rtr Base ISIS Instance 0 Flex-Algo 128 Route Table
===============================================================================
Prefix[Flags]                     Metric     Lvl/Typ     Ver.  SysID/Hostname
  NextHop                                                MT     AdminTag/SID[F]
-------------------------------------------------------------------------------
10.20.1.1/32                      0          1/Int.      93    Dut-A
   0.0.0.0                                                  0       0/11[NnP]
10.20.1.2/32                      200        2/Int.      89    Dut-C
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   10.10.10.6                                                 0       0/12[NnP]
10.20.1.3/32                     100        2/Int.      89    Dut-C
   10.10.10.6                                                 0       0/13[NnP]
10.20.1.4/32                     300        2/Int.      96    Dut-C
   10.10.10.6                                                 0       0/14[RNnP]
-------------------------------------------------------------------------------
No. of Routes: 4 (4 paths)
-------------------------------------------------------------------------------
Flags        : L = LFA nexthop available
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================
```

The following output is an example of the flexible-algorithm output showing SRv6 routes and micro-segment locator routes, and Table 480: Output fields: IS-IS routes describes the output fields.

Output Example

```
A:node-2# show router isis routes flex-algo all

===============================================================================
Rtr Base ISIS Instance 0 Flex-Algo 128 Route Table
===============================================================================
Prefix[Flags]                    Metric     Lvl/Typ     Ver.  SysID/Hostname
  NextHop                                               MT     AdminTag/SID[F]
-------------------------------------------------------------------------------
1.1.1.11/32 [L]                  10         1/Int.      7     Dut-A
   1.1.3.1                                                    0       0/511[NnP]
1.1.1.12/32 [L]                  10         1/Int.      7     Dut-B
   1.2.3.2                                                    0       0/512[NnP]
1.1.1.13/32                      0          1/Int.      3     Dut-C
   0.0.0.0                                                    0       0/513[NnP]
1.1.1.14/32 [L]                  20         1/Int.      8     Dut-B
   1.2.3.2                                                    0       0/514[NnP]
1.1.1.15/32                      10         1/Int.      7     Dut-E
   1.3.5.5                                                    0       0/515[NnP]
1.1.1.16/32 [L]                  20         1/Int.      8     Dut-E
   1.3.5.5                                                    0       0/516[NnP]
110::/96 [L]                     10         1/Int.      7     Dut-A
   fe80::a40f:1ff:fe01:b-"toA"                                0       0
210::/96 [L]                     10         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                               0       0
310::/96                         0          1/Int.      9     Dut-C
   ::                                                         0       0
410::/96 [L]                     20         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                               0       0
510::/96                         10         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                0       0
610::/96 [L]                     20         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                0       0
2000:0:0:1::/64 [L]              10         1/Int.      7     Dut-A
   fe80::a40f:1ff:fe01:b-"toA"                                0       0
2000:0:0:2::/64 [L]              10         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                               0       0
2000:0:0:3::/64                  0          1/Int.      9     Dut-C
   ::                                                         0       0
2000:0:0:4::/64 [L]              20         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                               0       0
2000:0:0:5::/64                  10         1/Int.      8     Dut-E
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   fe80::a42a:1ff:fe01:1-"toE"                                 0       0
2000:0:0:6::/64 [L]              20         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                 0       0
3ffe::101:10b/128 [L]            10         1/Int.      7     Dut-A
   fe80::a40f:1ff:fe01:b-"toA"                                 0       0/711[NnP]
3ffe::101:10c/128 [L]            10         1/Int.      7     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                                0       0/712[NnP]
3ffe::101:10d/128                0          1/Int.      3     Dut-C
   ::                                                          0       0/713[NnP]
3ffe::101:10e/128 [L]            20         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                                0       0/714[NnP]
3ffe::101:10f/128                10         1/Int.      7     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                 0       0/715[NnP]
3ffe::101:110/128 [L]            20         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                 0       0/716[NnP]
-------------------------------------------------------------------------------
No. of Routes: 24 (24 paths)
-------------------------------------------------------------------------------
Flags        : L = LFA nexthop available
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================

===============================================================================
Rtr Base ISIS Instance 0 Flex-Algo 129 Route Table
===============================================================================
Prefix[Flags]                    Metric     Lvl/Typ     Ver.  SysID/Hostname
  NextHop                                                MT     AdminTag/SID[F]
-------------------------------------------------------------------------------
1.1.1.11/32 [L]                  10         1/Int.      7     Dut-A
   1.1.3.1                                                     0       0/521[NnP]
1.1.1.12/32 [L]                  10         1/Int.      7     Dut-B
   1.2.3.2                                                     0       0/522[NnP]
1.1.1.13/32                      0          1/Int.      3     Dut-C
   0.0.0.0                                                     0       0/523[NnP]
1.1.1.14/32 [L]                  20         1/Int.      8     Dut-B
   1.2.3.2                                                     0       0/524[NnP]
1.1.1.15/32                      10         1/Int.      7     Dut-E
   1.3.5.5                                                     0       0/525[NnP]
1.1.1.16/32 [L]                  20         1/Int.      8     Dut-E
   1.3.5.5                                                     0       0/526[NnP]
120::/96 [L]                     10         1/Int.      7     Dut-A
   fe80::a40f:1ff:fe01:b-"toA"                                 0       0
220::/96 [L]                     10         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                                0       0
320::/96                         0          1/Int.      9     Dut-C
   ::                                                          0       0
420::/96 [L]                     20         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                                0       0
520::/96                         10         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                 0       0
620::/96 [L]                     20         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                 0       0
3000:0:0:1::/64 [L]              10         1/Int.      7     Dut-A
   fe80::a40f:1ff:fe01:b-"toA"                                 0       0
3000:0:0:2::/64 [L]              10         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                                0       0
3000:0:0:3::/64                  0          1/Int.      9     Dut-C
   ::                                                          0       0
3000:0:0:4::/64 [L]              20         1/Int.      8     Dut-B
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   fe80::a414:1ff:fe01:15-"toB"                                  0       0
3000:0:0:5::/64                  10         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                   0       0
3000:0:0:6::/64 [L]              20         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                   0       0
3ffe::101:10b/128 [L]            10         1/Int.      7     Dut-A
   fe80::a40f:1ff:fe01:b-"toA"                                   0       0/721[NnP]
3ffe::101:10c/128 [L]            10         1/Int.      7     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                                  0       0/722[NnP]
3ffe::101:10d/128                0          1/Int.      3     Dut-C
   ::                                                            0       0/723[NnP]
3ffe::101:10e/128 [L]            20         1/Int.      8     Dut-B
   fe80::a414:1ff:fe01:15-"toB"                                  0       0/724[NnP]
3ffe::101:10f/128                10         1/Int.      7     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                   0       0/725[NnP]
3ffe::101:110/128 [L]            20         1/Int.      8     Dut-E
   fe80::a42a:1ff:fe01:1-"toE"                                   0       0/726[NnP]
-------------------------------------------------------------------------------
No. of Routes: 24 (24 paths)
-------------------------------------------------------------------------------
Flags        : L = LFA nexthop available
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================
```

The following output is an example of the detailed flexible-algorithm output, and Table 480: Output fields: IS-IS routes describes the output fields.

Output example

```
A:node-2# show router isis routes flex-algo 134 170::/96 detail

===============================================================================
Rtr Base ISIS Instance 0 Flex-Algo 134 Route Table (detail)
===============================================================================
Prefix           : 170::/96
Algorithm        : 134
Status           : Active               Level              : 1
NextHop          : fe80::a40f:1ff:fe01:b-"toA"
Metric           : 10                   Type               : Internal
SPF Version      : 8                    SysID/Hostname     : Dut-A
MT               : 0                    AdminTag           : 0
Alt-NextHop      : fe80::a414:1ff:fe01:15-"toB"
Alt-Metric       : 20                   Alt-Type           : linkProtection
-------------------------------------------------------------------------------
No. of Routes: 1 (1 path)
-------------------------------------------------------------------------------
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================
```

The following output is an example of information about SRv6 RTM entries associated with a flexible algorithm.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:node-2# show router isis 0 routes flex-algo 128
===============================================================================
Rtr Base ISIS Instance 0 Flex-Algo 128 Route Table
===============================================================================
Prefix[Flags]                     Metric     Lvl/Typ     Ver.  SysID/Hostname
  NextHop                                                MT     AdminTag/SID[F]
-------------------------------------------------------------------------------
1.1.1.11/32                       10         1/Int.      7     Dut-A
   1.1.3.1                                                 0       0/511[NnP]
110::/96 [L]                      10         1/Int.      7     Dut-A
   fe80::ce0f:1ff:fe01:b-"toA"                             0       0
-------------------------------------------------------------------------------
No. of Routes: 2 (2 paths)
-------------------------------------------------------------------------------
Flags        : L = LFA nexthop available
SID[F]       : R  = Re-advertisement
               N  = Node-SID
               nP = no penultimate hop POP
               E  = Explicit-Null
               V  = Prefix-SID carries a value
               L  = value/index has local significance
===============================================================================
```

Table 480: Output fields: IS-IS routes

Label	Description
Prefix or Prefix [Flags]	Displays the route prefix and mask
Algorithm	Displays the algorithm
Status	Displays the status
Level or Lvl	Displays the IS-IS level
NextHop	Displays the system ID of the next hop
Metric	Displays the metric of the route  **Note:** • For an unreachable route, the short table view shows UPA as the metric value. • In the detailed view, the real metric value with (UPA) shows for an unreachable route and the status indicates Unreachable.
Type	Displays the route type as either Internal or External
SPF Version or Ver.	Displays the SPF version that generated the route
SysID/Hostname	Displays the hostname for the specific *system-id*
MT	Displays the IS-IS topology for the route

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
AdminTag	Displays the number of administrative tags
SID[F]	Displays the segment identifier flags of a Prefix-SID as defined by IETF segment routing R: Re-advertisement flag. If set, the prefix to which this Prefix-SID is attached has been propagated by the router either from another level (in other words, from level 1 to level 2 or the opposite) or from redistribution (for example, from another protocol). N: Node-SID flag. The N-Flag is set on Prefix-SIDs attached to a router loopback address. nP: no-PHP flag. If set, the penultimate hop must not pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID E: Explicit-Null Flag. If set, any upstream neighbor of the Prefix-SID originator must replace the Prefix-SID with a Prefix-SID having an Explicit-NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet V: Value flag. If set, the Prefix-SID carries a value (instead of an index) L: Local Flag. If set, the value/index carried by the Prefix-SID has local significance
No. of Routes	Displays the total number of routes

routes

Syntax

routes [*ip-prefix*[/*prefix-length*]] [**type**] [**detail**] [**alternative**] [**summary**] [**exclude-shortcut**] [**flex-algo** {*flex-algo-id* | **all**}]

Context

[Tree] (show>router>ospf routes)

Full Context

show router ospf routes

Description

This command displays information about OSPF routes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-prefix[/prefix-length]

Displays information about the specified IP prefix and length.

flex-algo-id

Displays information about the specified flexible algorithm identifier.

Values 128 to 255

type

Displays information about the specified type.

Values intra-area, inter-area, external-1, external-2, nssa-1, nssa-2

detail

Displays detailed information about the routes.

alternative

Displays the level of protection per prefix (ref. show router OSPF routes alternative).

summary

Displays summarized information about the routes.

exclude-shortcut

Displays routes without shortcut, in the **show**>**router**>**ospf** context.

flex-algo

Displays the OSPFv2 routes associated with a segment routing algorithm specified by the flexible algorithm identifier.

all

Displays the OSPFv2 routes associated with all flexible algorithms.

Platforms

All

Output

The following output shows an example of OSPF routes information.

Output Example

```
*A:Dut-C# show router ospf routes flex-algo 128
===============================================================================
Rtr Base OSPFv2 Instance 0 Flex-Algo 128 Route Table
===============================================================================
Destination         Type(Dest)    Stat   SID    SIDflgs
   NHIP            NHIF     Cost[E2]
-------------------------------------------------------------------------------
10.20.1.2/32        IA (HOST)     N (R)  1282   NnP
   192.168.1.2     2           200
10.20.1.3/32        IA (HOST)     D (R)  1283   NnP
   DIRECT          1             0
10.20.1.5/32        IA (HOST)     N (R)  1285   NnP
   192.168.1.2     2           100
10.20.1.2/0         IA (RTR)      N (N)
   192.168.1.2     2           200
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.3/0         IA (RTR)      N (N)
                                 0
10.20.1.5/0         IA (RTR)      N (N)
   192.168.1.2     2           100
-------------------------------------------------------------------------------
No. of routes found: 6 (5 paths)
Stat: D = direct   N = not direct
(RTM stat):(R) = added      (F) = add failed
           (N) = not added  (D) = policy discarded
unnum-xxx: nexthop is unnumbered global interface index xxx
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
===============================================================================
*A:Dut-C#
*A:Dut-C#
```

routes

Syntax

routes [*ip-prefix*[/*prefix-length*]] [**type**] [**detail**] [**alternative**] [**summary**] [**exclude-shortcut**]

Context

[Tree] (show>router>ospf3 routes)

Full Context

show router ospf3 routes

Description

This command displays information about OSPF routes.

Parameters

ip-prefix[/prefix-length]

Displays information about the specified IP prefix and length.

type

Displays information about the specified type.

Values intra-area, inter-area, external-1, external-2, nssa-1, nssa-2

detail

Displays detailed information about the routes.

alternative

Displays the level of protection per prefix (ref. show router OSPF routes alternative).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

summary

Displays summarized information about the routes.

exclude-shortcut

Displays routes without shortcut, in the **show**>**router**>**ospf** context.

Platforms

All

Output

The following output shows an example of OSPF information.

Output Example

```
*A:Dut-C# show router ospf routes
===============================================================================
Rtr Base OSPFv2 Instance 0 Route Table (alternative)
===============================================================================
Destination         Type(Dest)    Stat   SID    SIDflgs
   NHIP           NHIF     Cost[E2]
-------------------------------------------------------------------------------
1.1.1.1/32          IA (HOST)     N (R)
   1.1.3.1         3          1000
1.1.2.0/24          IA (NET)      N (R)
   1.1.3.1         3          2000
   1.2.3.2         4          2000
1.1.3.0/24          IA (NET)      D (F)
   DIRECT          3          1000
1.2.3.0/24          IA (NET)      D (F)
   DIRECT          4          1000
1.2.4.0/24          IA (NET)      N (R)
   2.2.3.2         5          2000
1.3.5.0/24          IA (NET)      D (F)
   DIRECT          6          1000
1.4.5.0/24          IA (NET)      N (R)
   1.3.5.5         6          2000
1.4.6.0/24          IE (NET)      N (R)
   2.2.3.2         5          3000
   1.3.5.5         6          3000
1.5.6.0/24          IE (NET)      N (R)
   1.3.5.5         6          2000
2.2.2.2/32          IA (HOST)     N (R)
   2.2.3.2         5          1000
2.2.3.0/24          IA (NET)      D (F)
   DIRECT          5          1000
3.3.3.3/32          IA (HOST)     D (F)
   DIRECT          2             0
4.4.4.4/32          IA (HOST)     N (R)
   2.2.3.2         5          2000
   1.3.5.5         6          2000
5.5.5.5/32          IA (HOST)     N (R)
   1.3.5.5         6          1000
6.6.6.6/32          IE (HOST)     N (R)
   1.3.5.5         6          2000
10.20.1.1/32        IA (HOST)     N (R)  11     NnP
   1.1.3.1         3          1000
10.20.1.2/32        IA (HOST)     N (R)  22     NnP
   2.2.3.2         5          1000
10.20.1.3/32        IA (HOST)     D (F)  33     NnP
   DIRECT          1             0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.4/32        IA (HOST)     N (R)  44     NnP
   2.2.3.2         5          2000
   1.3.5.5         6          2000
10.20.1.5/32        IA (HOST)     N (R)  55     NnP
   1.3.5.5         6          1000
10.20.1.6/32        IE (HOST)     N (R)  66     NnP
   1.3.5.5         6          2000
10.20.1.1/0         IA (RTR)      N (N)
   1.1.3.1         3          1000
10.20.1.2/0         IA (AB-AS)    N (N)
   2.2.3.2         5          1000
10.20.1.2/0         IA (AB-AS)    N (N)
   1.2.3.2         4          1000
10.20.1.4/0         IA (AB-AS)    N (N)
   2.2.3.2         5          2000
   1.3.5.5         6          2000
10.20.1.5/0         IA (AB-AS)    N (N)
   1.3.5.5         6          1000
-------------------------------------------------------------------------------
No. of routes found: 26 (31 paths)
Stat: D = direct   N = not direct
(RTM stat):(R) = added      (F) = add failed
           (N) = not added  (D) = policy discarded
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
===============================================================================

*A:Dut-C# show router ospf routes
===============================================================================
Rtr Base OSPFv2 Instance 0 Routing Table
===============================================================================
Destination         Type(Dest)    Stat   SID    SIDflgs
   NHIP            NHIF     Cost[E2]
-------------------------------------------------------------------------------
1.1.1.1/32          IA (HOST)     N (R)
   1.1.3.1         3          1000
1.1.2.0/24          IA (NET)      N (R)
   1.1.3.1         3          2000
   1.2.3.2         4          2000
1.1.3.0/24          IA (NET)      D (F)
   DIRECT          3          1000
1.2.3.0/24          IA (NET)      D (F)
   DIRECT          4          1000
1.2.4.0/24          IA (NET)      N (R)
   2.2.3.2         5          2000
1.3.5.0/24          IA (NET)      D (F)
   DIRECT          6          1000
1.4.5.0/24          IA (NET)      N (R)
   1.3.5.5         6          2000
1.4.6.0/24          IE (NET)      N (R)
   2.2.3.2         5          3000
   1.3.5.5         6          3000
1.5.6.0/24          IE (NET)      N (R)
   1.3.5.5         6          2000
2.2.2.2/32          IA (HOST)     N (R)
   2.2.3.2         5          1000
2.2.3.0/24          IA (NET)      D (F)
   DIRECT          5          1000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3.3.3.3/32          IA (HOST)     D (F)
   DIRECT          2             0
4.4.4.4/32          IA (HOST)     N (R)
   2.2.3.2         5          2000
   1.3.5.5         6          2000
5.5.5.5/32          IA (HOST)     N (R)
   1.3.5.5         6          1000
6.6.6.6/32          IE (HOST)     N (R)
   1.3.5.5         6          2000
10.20.1.1/32        IA (HOST)     N (R)  11     NnP
   1.1.3.1         3          1000
10.20.1.2/32        IA (HOST)     N (R)  22     NnP
   2.2.3.2         5          1000
10.20.1.3/32        IA (HOST)     D (F)  33     NnP
   DIRECT          1             0
10.20.1.4/32        IA (HOST)     N (R)  44     NnP
   2.2.3.2         5          2000
   1.3.5.5         6          2000
10.20.1.5/32        IA (HOST)     N (R)  55     NnP
   1.3.5.5         6          1000
10.20.1.6/32        IE (HOST)     N (R)  66     NnP
   1.3.5.5         6          2000
10.20.1.1/0         IA (RTR)      N (N)
   1.1.3.1         3          1000
10.20.1.2/0         IA (AB-AS)    N (N)
   2.2.3.2         5          1000
10.20.1.2/0         IA (AB-AS)    N (N)
   1.2.3.2         4          1000
10.20.1.4/0         IA (AB-AS)    N (N)
   2.2.3.2         5          2000
   1.3.5.5         6          2000
10.20.1.5/0         IA (AB-AS)    N (N)
   1.3.5.5         6          1000
-------------------------------------------------------------------------------
No. of routes found: 26 (31 paths)
Stat: D = direct   N = not direct
(RTM stat):(R) = added      (F) = add failed
           (N) = not added  (D) = policy discarded
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
===============================================================================

*A:Dut-C# show router ospf routes alternative
===============================================================================
Rtr Base OSPFv2 Instance 0 Route Table (alternative)
===============================================================================
Destination         Type(Dest)    Stat   SID    SIDflgs
   NHIP            NHIF     Cost[E2]
   A-NHIP(L)       A-NHIF   A-Cost[E2]
-------------------------------------------------------------------------------
1.1.1.1/32          IA (HOST)     N (R)
   1.1.3.1         3          1000
   1.2.3.2(L)      4          2000
1.1.2.0/24          IA (NET)      N (R)
   1.1.3.1         3          2000
   1.2.3.2         4          2000
1.1.3.0/24          IA (NET)      D (F)
   DIRECT          3          1000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1.2.3.0/24          IA (NET)      D (F)
   DIRECT          4          1000
1.2.4.0/24          IA (NET)      N (R)
   2.2.3.2         5          2000
1.3.5.0/24          IA (NET)      D (F)
   DIRECT          6          1000
1.4.5.0/24          IA (NET)      N (R)
   1.3.5.5         6          2000
1.4.6.0/24          IE (NET)      N (R)
   2.2.3.2         5          3000
   1.3.5.5         6          3000
1.5.6.0/24          IE (NET)      N (R)
   1.3.5.5         6          2000
2.2.2.2/32          IA (HOST)     N (R)
   2.2.3.2         5          1000
2.2.3.0/24          IA (NET)      D (F)
   DIRECT          5          1000
3.3.3.3/32          IA (HOST)     D (F)
   DIRECT          2             0
4.4.4.4/32          IA (HOST)     N (R)
   2.2.3.2         5          2000
   1.3.5.5         6          2000
5.5.5.5/32          IA (HOST)     N (R)
   1.3.5.5         6          1000
6.6.6.6/32          IE (HOST)     N (R)
   1.3.5.5         6          2000
10.20.1.1/32        IA (HOST)     N (R)  11     NnP
   1.1.3.1         3          1000
   1.2.3.2(L)      4          2000
10.20.1.2/32        IA (HOST)     N (R)  22     NnP
   2.2.3.2         5          1000
10.20.1.3/32        IA (HOST)     D (F)  33     NnP
   DIRECT          1             0
10.20.1.4/32        IA (HOST)     N (R)  44     NnP
   2.2.3.2         5          2000
   1.3.5.5         6          2000
10.20.1.5/32        IA (HOST)     N (R)  55     NnP
   1.3.5.5         6          1000
10.20.1.6/32        IE (HOST)     N (R)  66     NnP
   1.3.5.5         6          2000
10.20.1.1/0         IA (RTR)      N (N)
   1.1.3.1         3          1000
10.20.1.2/0         IA (AB-AS)    N (N)
   2.2.3.2         5          1000
10.20.1.2/0         IA (AB-AS)    N (N)
   1.2.3.2         4          1000
10.20.1.4/0         IA (AB-AS)    N (N)
   2.2.3.2         5          2000
   1.3.5.5         6          2000
10.20.1.5/0         IA (AB-AS)    N (N)
   1.3.5.5         6          1000
-------------------------------------------------------------------------------
No. of routes found: 26 (31 paths)
Flags: L = Loop-Free Alternate nexthop
Stat: D = direct   N = not direct
(RTM stat):(R) = added      (F) = add failed
           (N) = not added  (D) = policy discarded
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            A = Attached flag
===============================================================================

*A:Dut-C# show router ospf routes alternative detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Route Table (alternative) (detail)
===============================================================================
Destination         Type(Dest)    Stat   SID    SIDflgs
   NHIP             NHIF     Cost[E2]    Area            Type    Weight:Cfg/Norm
   A-NHIP(L)        A-NHIF   A-Cost[E2]  A-Type          PGID
-------------------------------------------------------------------------------
1.1.1.1/32          IA (HOST)     N (R)
   1.1.3.1          3          1000      0.0.0.1
   1.2.3.2(L)       4          2000      LINK            0x410079
1.1.2.0/24          IA (NET)      N (R)
   1.1.3.1          3          2000      0.0.0.1
   1.2.3.2          4          2000      0.0.0.1
1.1.3.0/24          IA (NET)      D (F)
   DIRECT           3          1000      0.0.0.1
1.2.3.0/24          IA (NET)      D (F)
   DIRECT           4          1000      0.0.0.1
1.2.4.0/24          IA (NET)      N (R)
   2.2.3.2          5
===============================================================================

*A:Dut-C# show router ospf 1 routes exclude-shortcut alternative detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Route Table (excl-shortcut) (alternative) (detail)
===============================================================================
Destination         Type(Dest)    Stat
   NHIP             NHIF     Cost[E2]    Area            Tunnel-Information
   A-NHIP(L)        A-NHIF   A-Cost[E2]  A-Type          PGID
-------------------------------------------------------------------------------
1.1.2.0/24          IA (NET)      N (R)
   1.1.3.1          3            20      0.0.0.0
   1.2.3.2          4            20      0.0.0.0
1.1.3.0/24          IA (NET)      D (F)
   DIRECT           3            10      0.0.0.0
1.2.3.0/24          IA (NET)      D (F)
   DIRECT           4            10      0.0.0.0
1.2.4.0/24          IA (NET)      N (R)
   1.2.3.2          4            20      0.0.0.0
1.3.5.0/24          IA (NET)      D (F)
   DIRECT           5            10      0.0.0.0
1.4.5.0/24          IA (NET)      N (R)
   1.3.5.5          5            20      0.0.0.0
1.4.6.0/24          IA (NET)      N (R)
   1.2.3.2          4            30      0.0.0.0
   1.3.5.5          5            30      0.0.0.0
10.20.1.1/32        IA (HOST)     N (R)
   1.1.3.1          3            10      0.0.0.0
10.20.1.2/32        IA (HOST)     N (R)
   1.2.3.2          4            10      0.0.0.0
10.20.1.3/32        IA (HOST)     D (F)
   DIRECT           1             0      0.0.0.0
10.20.1.4/32        IA (HOST)     N (R)
   1.2.3.2          4            20      0.0.0.0
   1.3.5.5          5            20      0.0.0.0
10.20.1.5/32        IA (HOST)     N (R)
   1.3.5.5          5            10      0.0.0.0
10.20.1.6/32        IA (HOST)     N (R)
   1.2.3.2          4            30      0.0.0.0
   1.3.5.5          5            30      0.0.0.0
10.20.1.1/0         IA (RTR)      N (N)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   1.1.3.1         3            10      0.0.0.0
10.20.1.2/0         IA (RTR)      N (N)
   1.2.3.2         4            10      0.0.0.0
10.20.1.4/0         IA (RTR)      N (N)
   1.2.3.2         4            20      0.0.0.0
   1.3.5.5         5            20      0.0.0.0
10.20.1.5/0         IA (RTR)      N (N)
   1.3.5.5         5            10      0.0.0.0
10.20.1.6/0         IA (RTR)      N (N)
   1.2.3.2         4            30      0.0.0.0
   1.3.5.5         5            30      0.0.0.0
-------------------------------------------------------------------------------
No. of routes found: 18 (24 paths)
Flags: L = Loop-Free Alternate nexthop
Stat: D = direct   N = not direct
(RTM stat):(R) = added      (F) = add failed
           (N) = not added  (D) = policy discarded
===============================================================================
*A:Dut-C#

*A:Dut-A# show router ospf routes alternative detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Route Table (alternative) (detail)
===============================================================================
Destination         Type(Dest)    Stat
   NHIP             NHIF     Cost[E2]    Area            Tunnel-Information
   A-NHIP(L)        A-NHIF   A-Cost[E2]  A-Type          PGID
-------------------------------------------------------------------------------
1.1.2.0/24          IA (NET)      D (F)
   DIRECT           2            10      0.0.0.0
1.1.3.0/24          IA (NET)      D (F)
   DIRECT           3            10      0.0.0.0
1.2.3.0/24          IA (NET)      N (R)
   1.1.2.2          2            20      0.0.0.0
   1.1.3.3          3            20      0.0.0.0
1.2.4.0/24          IA (NET)      N (R)
   1.1.2.2          2            20      0.0.0.0
   1.1.3.3(L)       3            30      LINK            0x130015
1.3.5.0/24          IA (NET)      N (R)
   1.1.3.3          3            20      0.0.0.0
   1.1.2.2(L)       2            30      LINK            0x130016
1.4.5.0/24          IA (NET)      N (R)
   1.1.2.2          2            30      0.0.0.0
   1.1.3.3          3            30      0.0.0.0
1.4.6.0/24          IA (NET)      N (R)
   1.1.2.2          2            30      0.0.0.0
   1.1.3.3(L)       3            40      LINK            0x130015
1.5.6.0/24          IA (NET)      N (R)
   1.1.3.3          3            30      0.0.0.0
   1.1.2.2(L)       2            40      LINK            0x130016
10.20.1.1/32        IA (HOST)     D (F)
   DIRECT           1             0      0.0.0.0
10.20.1.2/32        IA (HOST)     N (R)
   1.1.2.2          2            10      0.0.0.0
   1.1.3.3(L)       3            20      LINK            0x130015
10.20.1.3/32        IA (HOST)     N (R)
   1.1.3.3          3            10      0.0.0.0
   1.1.2.2(L)       2            20      LINK            0x130016
10.20.1.4/32        IA (HOST)     N (R)
   1.1.2.2          2            20      0.0.0.0
   1.1.3.3(L)       3            30      LINK            0x130015
10.20.1.5/32        IA (HOST)     N (R)
   1.1.3.3          3            20      0.0.0.0
   1.1.2.2(L)       2            30      LINK            0x130016
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.3/0         IA (RTR)      N (N)
   1.1.3.3         3            10      0.0.0.0
10.20.1.4/0         IA (RTR)      N (N)
   1.1.2.2         2            20      0.0.0.0
10.20.1.5/0         IA (RTR)      N (N)
   1.1.3.3         3            20      0.0.0.0
10.20.1.6/0         IA (RTR)      N (N)
   1.1.3.3         3            30      0.0.0.0
   1.1.2.2         2            30      0.0.0.0
-------------------------------------------------------------------------
19 OSPFv2 routes found (23 paths)
Flags: L = Loop-Free Alternate nexthop
=========================================================================

*A:Dut-C# show router ospf 1 routes 10.0.0.2/32 detail
===============================================================================
Rtr Base OSPFv2 Instance 1 Routing Table (detail)
===============================================================================
Destination         Type(Dest)    Stat
   NHIP            NHIF     Cost[E2]    Area            Type    Weight:Cfg/Norm
-------------------------------------------------------------------------------
10.0.0.2/32         E2 (HOST)     N (R)
   1.0.0.3         RSVP:94       9:10   0.0.0.0         Shortcut         40/20
   1.0.0.3         RSVP:61442      9:10   0.0.0.0         Shortcut          2/ 1
-------------------------------------------------------------------------------
No. of routes found: 1 (2 paths)
Stat: D = direct   N = not direct
(RTM stat):(R) = added      (F) = add failed
           (N) = not added  (D) = policy discarded
===============================================================================
```

```
*A:Dut-C>config>router>ospf3# show router ospf3 0 routes
===============================================================================
Rtr Base OSPFv3 Instance 0 Route Table
===============================================================================
Destination                                 Type(Dest)       Stat
   SID    SID flags
   NHIP                                        NHIF   Cost[E2]
-------------------------------------------------------------------------------
3ffe::100:900/120                           IA (STUB)        D (F)
   DIRECT                                      4         200
3ffe::100:b01/128                           IA (HOST)        N (R)
   4      NnPA
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"      2         100
3ffe::100:c00/120                           IA (STUB)        N (R)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"      2         200
3ffe::100:d00/120                           IA (STUB)        D (F)
   DIRECT                                      2         100
3ffe::100:1602/128                          IA (HOST)        N (R)
   5      NnPA
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"      2         200
3ffe::100:1800/120                          IE (NET)         N (R)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"      2         300
3ffe::100:1a00/120                          IE (NET)         N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"      3         200
3ffe::100:2103/128                          IA (HOST)        D (F)
   0      NnPA
   DIRECT                                      5           0
3ffe::100:2400/120                          IA (STUB)        D (F)
   DIRECT                                      3         100
3ffe::100:2c04/128                          IE (HOST)        N (R)
   1      NnP
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"      2         300
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3ffe::100:2d00/120                                IE (NET)         N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          300
3ffe::100:3705/128                                IE (HOST)        N (R)
   2      NnP
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          200
3ffe::100:3800/120                                IE (NET)         N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          200
3ffe::100:4206/128                                IA (HOST)        N (R)
   3      NnPA
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          100
3ffe::a14:101/128                                 IA (HOST)        N (R)
   10     NnPA
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          100
3ffe::a14:102/128                                 IE (HOST)        N (R)
   11     NnPA
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          200
3ffe::a14:103/128                                 IA (HOST)        D (F)
   6      NnPA
   DIRECT                                            1            0
3ffe::a14:104/128                                 IE (HOST)        N (R)
   7      NnP
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          300
3ffe::a14:105/128                                 IE (HOST)        N (R)
   8      NnP
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          200
3ffe::a14:106/128                                 IE (HOST)        N (R)
   9      NnPA
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          100
3ffe::3300:b01/128                                IA (HOST)        N (R)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          100
3ffe::3300:c00/120                                IA (STUB)        N (R)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          200
3ffe::3300:d00/120                                IA (STUB)        D (F)
   DIRECT                                            2          100
3ffe::3300:1602/128                               IA (HOST)        N (R)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          200
3ffe::3300:1800/120                               IE (NET)         N (R)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          300
3ffe::3300:1a00/120                               IE (NET)         N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          200
3ffe::3300:2103/128                               IA (HOST)        D (F)
   DIRECT                                            5            0
3ffe::3300:2400/120                               IA (STUB)        D (F)
   DIRECT                                            3          100
3ffe::3300:2c04/128                               IE (HOST)        N (R)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          300
3ffe::3300:2d00/120                               IE (NET)         N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          300
3ffe::3300:3705/128                               IE (HOST)        N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          200
3ffe::3300:3800/120                               IE (NET)         N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          200
3ffe::3300:4206/128                               IA (HOST)        N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          100
3ffe::6800:1/128                                  E2 (HOST)        N (R)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          300:1
3ffe::6900:1/128                                  E2 (HOST)        N (R)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"            3          200:1
10.20.1.1/0                                       IA (RTR)         N (N)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          100
10.20.1.2/0                                       IA (AB-AS)       N (N)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          200
10.20.1.4/0                                       IE (ASBR)        N (N)
   fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"            2          300
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.5/0                                     IE (ASBR)        N (N)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"          3         200
10.20.1.6/0                                     IA (AB-AS)       N (N)
   fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"          3         100
-------------------------------------------------------------------------------
No. of routes found: 40 (40 paths)
Stat: D = direct   N = not direct
(RTM stat):(R) = added      (F) = add failed
           (N) = not added  (D) = policy discarded
SID Flags : N = Node-SID
           nP = no penultimate hop POP
            M = Mapping server
            E = Explicit-Null
            V = Prefix-SID carries a value
            L = value/index has local significance
            I = Inter Area flag
            A = Attached flag
            B = Backup flag
===============================================================================
```

```
*A:Dut-C# show router ospf3 31 routes detail
===============================================================================
Rtr Base OSPFv3 Instance 31 Route Table (detail)
===============================================================================
Destination                                     Type(Dest)       Stat
   NHIP                                            NHIF   Cost[E2]    Area
-------------------------------------------------------------------------------
3ffe::10:10:2:0/120                             IA (NET)         D (F)
   DIRECT                                          2        1000      0.0.0.0
3ffe::10:10:3:0/120                             IA (NET)         D (F)
   DIRECT                                          3        1000      0.0.0.0
3ffe::10:10:4:0/120                             IA (NET)         N (R)
   fe80::2052:1ff:fe01:3-"ip-10.10.3.3"            3        2000      0.0.0.0
3ffe::10:10:5:0/120                             IA (NET)         D (F)
   DIRECT                                          4        1000      0.0.0.0
3ffe::10:10:6:0/120                             IA (NET)         N (R)
   fe80::205e:1ff:fe01:1-"ip-10.10.5.3"            4        2000      0.0.0.0
3ffe::10:10:9:0/120                             IA (NET)         N (R)
   10.20.1.4 (SC)                              RSVP:1        3000      0.0.0.0
3ffe::10:10:13:0/120                            IA (STUB)        N (R)
   fe80::6628:1ff:fe01:2-"ip-10.10.2.3"            2        2000      0.0.0.0
3ffe::10:10:14:0/120                            IA (STUB)        N (R)
   10.20.1.4 (SC)                              RSVP:1        4000      0.0.0.0
3ffe::10:20:1:1/128                             IA (HOST)        N (R)
   fe80::6628:1ff:fe01:2-"ip-10.10.2.3"            2        1000      0.0.0.0
3ffe::10:20:1:2/128                             IA (HOST)        N (R)
   fe80::2052:1ff:fe01:3-"ip-10.10.3.3"            3        1000      0.0.0.0
3ffe::10:20:1:3/128                             IA (HOST)        D (F)
   DIRECT                                          1           0      0.0.0.0
3ffe::10:20:1:4/128                             IA (HOST)        N (R)
   10.20.1.4 (SC)                              RSVP:1        2000      0.0.0.0
3ffe::10:20:1:5/128                             IA (HOST)        N (R)
   fe80::205e:1ff:fe01:1-"ip-10.10.5.3"            4        1000      0.0.0.0
3ffe::10:20:1:6/128                             IA (HOST)        N (R)
   10.20.1.4 (SC)                              RSVP:1        3000      0.0.0.0
3ffe::100:100:100:4/128                         IA (HOST)        N (R)
   10.20.1.4 (SC)                              RSVP:1        2000      0.0.0.0
3ffe::100:100:100:6/128                         IA (HOST)        N (R)
   10.20.1.4 (SC)                              RSVP:1        3000      0.0.0.0
10.20.1.1/0                                     IA (RTR)         N (N)
   fe80::6628:1ff:fe01:2-"ip-10.10.2.3"            2        1000      0.0.0.0
10.20.1.2/0                                     IA (RTR)         N (N)
   fe80::2052:1ff:fe01:3-"ip-10.10.3.3"            3        1000      0.0.0.0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.20.1.4/0                                     IA (RTR)         N (N)
   10.20.1.4 (SC)                              RSVP:1        2000      0.0.0.0
10.20.1.5/0                                     IA (RTR)         N (N)
   fe80::205e:1ff:fe01:1-"ip-10.10.5.3"            4         1000      0.0.0.0
10.20.1.6/0                                     IA (RTR)         N (N)
   10.20.1.4 (SC)                              RSVP:1        3000      0.0.0.0
-------------------------------------------------------------------------------
No. of routes found: 21 (21 paths)
Stat: D = direct   N = not direct
(RTM stat):(R) = added      (F) = add failed
           (N) = not added  (D) = policy discarded
===============================================================================
*A:Dut-C#
*A:Dut-C# show router ospf3 20 status
===============================================================================
Rtr Base OSPFv3 Instance 20 Status
===============================================================================
OSPF Cfg Router Id           : 10.20.1.3
OSPF Oper Router Id          : 10.20.1.3
OSPF Version                 : 3
OSPF Admin Status            : Enabled
OSPF Oper Status             : Enabled
Graceful Restart             : Disabled
GR Helper Mode               : Disabled
GR Strict LSA Checking       : Enabled (operational down)
Preference                   : 10
External Preference          : 150
Backbone Router              : True
Area Border Router           : False
AS Border Router             : False
Traffic Engineering Support  : False
Demand Exts Support          : False
In Overload State            : False
In External Overflow State   : False
Exit Overflow Interval       : 0
Last Overflow Entered        : Never
Last Overflow Exit           : Never
External LSA Limit           : -1
Reference Bandwidth          : 100,000,000 Kbps
Init SPF Delay               : 1000 msec
Sec SPF Delay                : 1000 msec
Max SPF Delay                : 10000 msec
Min LS Arrival Interval      : 1000 msec
Init LSA Gen Delay           : 5000 msec
Sec LSA Gen Delay            : 5000 msec
Max LSA Gen Delay            : 5000 msec
Lsa accumulate               : 1000 msec
Redistribute delay           : 1000 msec
Incremental SPF wait         : 1000 msec
Last Ext SPF Run             : Never
Ext LSA Cksum Sum            : 0x0
OSPF Last Enabled            : 10/10/2018 20:22:05
Unicast Import               : True
Multicast Import             : False
Export Policies              : None
Import Policies              : None
Lfa Policies                 : None
OSPF Ldp Sync Admin Status   : Enabled
LDP-over-RSVP                : Disabled
IGP-Shortcut                 : Enabled
IPv6 IGP SC Tunn-Nhop        : Res-Filter(RSVP)
Advertise-Tunnel-Link        : Disabled
LFA                          : Disabled
Remote-LFA                   : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Max PQ Cost                  : 65535
TI-LFA                       : Disabled
Max SR FRR Labels            : 2
Export Limit                 : 0
Export Limit Log Percent     : 0
Total Exp Routes             : 0
RIB-priority-high prefix list: None
Segment Routing              : Disabled
Extended LSA                 : sparse
===============================================================================
```

22.59 routing

routing

Syntax

routing [**sub-domain** *sub-domain*] [**bsl** *bsl*] [**neighbor-prefix** *ip-address*] [**dest-prefix** *ip-address*]

Context

[Tree] (show>router>bier routing)

Full Context

show router bier routing

Description

This command shows the BIER routing table.

Parameters

sub-domain

Specifies a sub-domain.

Values 0 to 255

bsl

Specifies a bit string length.

Values 256 to 1024

ip-address

Specifies a prefix in IP address format.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of a BIER router table. Table 481: Output fields: BIER routing provides BIER routing field descriptions.

Output Example

```
*A:Dut-A# show router bier routing sub-domain 0
===============================================================================
Destination Prefix                          Bfr-ID          Age
  Neighbor
    Nexthop
    Interface
-------------------------------------------------------------------------------
===============================================================================
BIER Routing Database Sub-Domain 0 BSL 256
===============================================================================
10.20.1.2                                   2               0d 23:05:23
  10.20.1.2
    10.180.1.2
    ip-10.180.1.1

10.20.1.3                                   3               0d 23:05:20
  10.20.1.2
    10.180.1.2
    ip-10.180.1.1

10.20.1.4                                   0               0d 23:05:20
  10.20.1.2
    10.180.1.2
    ip-10.180.1.1

10.20.1.5                                   5               0d 23:05:16
  10.20.1.2
    10.180.1.2
    ip-10.180.1.1

10.20.1.6                                   6               0d 23:05:16
  10.20.1.2
    10.180.1.2
    ip-10.180.1.1

===============================================================================
Total (Sub-Domain 0): 5
===============================================================================
Total BIER Routing entries : 5
===============================================================================
*A:Dut-A#
```

Table 481: Output fields: BIER routing

Label	Description
Destination Prefix	The destination prefix
BFR-ID	The BFR ID
Age	The tunnel age
Neighbor	The neighbor IP address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Nexthop	The next-hop IP address
Interface	The egress interface name for the programmed tunnel

22.60 rp

rp

Syntax

rp [*family* | *ip-address*]

Context

[Tree] (show>router>pim rp)

Full Context

show router pim rp

Description

This command displays the rendezvous point (RP) set information built by the router.

Parameters

family

Displays information about RP family.

Values ipv4, ipv6

ip-address

Specifies the IP address of the RP.

Platforms

All

Output

The following output is an example of a PIM RP configuration.

Output Example

```
A:ALA-1# show router pim rp
===============================================================
PIM RP Set
===============================================================
Group Address      RP Address      Type        Priority  Holdtime
---------------------------------------------------------------
224.0.0.0/4        239.200.200.4   Dynamic     192       150
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                   10.1.7.1        Static      1         N/A
-------------------------------------------------------------------
Group Prefixes : 1
===================================================================
A:ALA-1#

A:ALA-1# show router pim rp 10.1.7.1
===================================================================
PIM RP Set
===================================================================
Group Address      RP Address      Type        Priority  Holdtime
-------------------------------------------------------------------
224.0.0.0/4        10.1.7.1        Static      1         N/A
-------------------------------------------------------------------
Group Prefixes : 1
===================================================================
A:ALA-1#
```

Table 482: Output fields: PIM RP

Label	Description
Group Address	The multicast group address of the entry.
RP Address	The address of the Rendezvous Point (RP)
Type	Displays whether the entry was learned through the Bootstrap mechanism or if it was statically configured.
Priority	The priority for the specified group address. The higher the value, the higher the priority.
Holdtime	The value of the hold time present in the BSM message

22.61 rp-hash

rp-hash

Syntax

rp-hash *ip-address*

Context

[Tree] (show>router>pim rp-hash)

Full Context

show router pim rp-hash

Description

This command hashes the RP for the specified group from the RP set.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-address

Displays specific multicast group addresses.

Platforms

All

Output

The following output is an example of a PIM RP-Hash configuration. Table 483: Output fields: RP hash provides RP-Hash output field descriptions.

Output Example

```
A:ALA-1# show router pim rp-hash 239.101.0.0
===============================================
PIM Group-To-RP mapping
===============================================
Group Address      RP Address      Type
-----------------------------------------------
239.101.0.0        239.200.200.4   Bootstrap
===============================================
A:ALA-1#

A:ALA-1# show router pim rp-hash 239.101.0.6
===============================================
PIM Group-To-RP mapping
===============================================
Group Address      RP Address      Type
-----------------------------------------------
239.101.0.6        239.200.200.4   Bootstrap
===============================================
A:ALA-1#
```

Table 483: Output fields: RP hash

Label	Description
Group Address	The multicast group address of the entry
RP Address	The address of the Rendezvous Point (RP)
Type	Specifies whether the entry was learned through the Bootstrap mechanism or if it was statically configured.

22.62 rpki-session

rpki-session

Syntax

rpki-session [*ip-address*] [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>origin-validation rpki-session)

Full Context

show router origin-validation rpki-session

Description

This command displays RPKI session information, including the TLS client profile and DNS name used to authenticate the SAN field of the cache server certificate.

Parameters

ip-address

Displays RPKI session information for the specified IP address.

Values ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:d.d.d.d

x: [0 to FFFF]H

d: [0 to 255]D

detail

Keyword to display detailed RPKI session information.

Platforms

All

Output

The following outputs are examples of RPKI session information when TLS is configured and when TLS is not configured, and Table 484: Output fields: RPKI session describes the output fields.

Output Example

```
*A:Dut-A# show router origin-validation rpki-session 10.1.1.1
===============================================================================
RPKI Session Information
===============================================================================
IP Address         : 10.1.1.1
Description        : 123456780~
TLS Client Profile : cl-tls-prof-1
TLS SAN Auth       : rpki-cache.example.com
-------------------------------------------------------------------------------
Port               : 323               Oper State         : idle
Uptime             : 0d 00:00:00       Flaps              : 0
Active IPv4 Records: 0                 Active IPv6 Records: 0
===============================================================================
No. of Sessions    : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-A# show router origin-validation rpki-session 10.1.1.1 detail
===============================================================================
RPKI Session Information
===============================================================================
IP Address         : 10.1.1.1
Description        : 123456780~
TLS Client Profile : cl-tls-prof-1
TLS SAN Auth       : rpki-cache.example.com
-------------------------------------------------------------------------------
Port               : 300               Oper State         : idle
Uptime             : 0d 00:00:00       Flaps              : 0
Active IPv4 Records: 0                 Active IPv6 Records: 0
Admin State        : Down              Local Address      : 1.1.1.1
Hold Time          : 2223              Refresh Time       : 1111
Stale Route Time   : 500               Connect Retry      : 50
Serial ID          : 0                 Session ID         : 0
===============================================================================
No. of Sessions    : 1
===============================================================================
```

Output Example

```
*A:Dut-A# show router origin-validation rpki-session 10.1.1.1
===============================================================================
RPKI Session Information
===============================================================================
IP Address         : 10.1.1.1
Description        : (Not Specified)
TLS Client Profile : (Not Specified)
TLS SAN Auth       : (Not Specified)
-------------------------------------------------------------------------------
Port               : 323               Oper State         : idle
Uptime             : 0d 00:00:00       Flaps              : 0
Active IPv4 Records: 0                 Active IPv6 Records: 0
===============================================================================
No. of Sessions    : 1
===============================================================================
```

Output Example

```
*A:Dut-A# show router origin-validation rpki-session 10.1.1.1 detail
===============================================================================
RPKI Session Information
===============================================================================
IP Address         : 10.1.1.1
Description        : (Not Specified)
TLS Client Profile : (Not Specified)
TLS SAN Auth       : (Not Specified)
-------------------------------------------------------------------------------
Port               : 300               Oper State         : idle
Uptime             : 0d 00:00:00       Flaps              : 0
Active IPv4 Records: 0                 Active IPv6 Records: 0
Admin State        : Down              Local Address      : 1.1.1.1
Hold Time          : 2223              Refresh Time       : 1111
Stale Route Time   : 500               Connect Retry      : 50
Serial ID          : 0                 Session ID         : 0
===============================================================================
No. of Sessions    : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 484: Output fields: RPKI session

Label	Description
IP Address	The IP address of the RPKI cache server
Description	The configured description of the RPKI session
TLS Client Profile	The TLS client profile assigned to the RPKI session (Not Specified) — A TLS client profile is not assigned
TLS SAN Auth	The DNS domain name used to authenticate the(SAN field in the cache server certificate. (Not Specified) — SAN authentication is not configured
Port	The destination TCP port used to contact the cache server
Oper State	The operational state of the RPKI session
Uptime	The length of time the RPKI session has been operationally up
Flaps	The number of times the RPKI session has gone down
Active IPv4 Records	The number of active IPv4 VRP records learned from the cache server
Active IPv6 Records	The number of active IPv6 VRP records learned from the cache server
Admin State	Up — The RPKI session is administratively enabled Down — The RPKI session is administratively disabled
Local Address	The local IP address used for the RPKI session
Hold Time	The hold time, in seconds, used for liveness detection of the RPKI session
Refresh Time	The refresh time, in seconds, used for liveness detection of the RPKI session
Stale Route Time	The maximum duration, in seconds, that prefix origin validation records learned from the cache server remain usable after the RPKI session goes down
Connect Retry	The time, in seconds, between a failed TCP connection attempt and the next attempt
Serial ID	The serial number of the last cache payload received from the cache server
Session ID	The session ID of the RPKI session
No. of Sessions	The number of RPKI sessions displayed

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.63 rs-fec

rs-fec

Syntax

rs-fec [**clear**]

Context

[Tree] (tools>dump>port rs-fec)

Full Context

tools dump port rs-fec

Description

This command dumps the Reed-Solomon Forward Error Correction (RS-FEC) information for port.

Platforms

All

22.64 rsb

rsb

Syntax

rsb

Context

[Tree] (tools>dump>router>rsvp rsb)

Full Context

tools dump router rsvp rsb

Description

This command displays RSVP RSB information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of MPLS RSVP RSB detail fields.

Output Example

```
4)*A:Dut-A>config>router>mpls>lsp$ /tools dump router rsvp rsb detail
-------------------------------------------------------------------------------
RSB:
 EndPt 10.20.1.4  Tid 61441  XTid 10.20.1.1  Sndr 10.20.1.1  LspId 2  ifIndex 3 NHop
10.20.1.3
Style FF, refresh in 0 secs
RSVP NextHop 10.20.1.3, LIH 3 (TLV: RtrId 10.20.1.3 IntfId 2)
CT Shared Reservation Info:
No Reservation:
FlowSpec :Flags 0x8000 QOSC 1, PDR (infinity), PBS 0.000 bps, CDR (0.000 bps)
          CBS 0, EBS 0, RSpecR 0, RSpecS 0 MTU 1500 MPU 20
FwdFlowspec :Flags 0x0 QOSC 0, PDR (0.000 bps), PBS 0.000 bps, CDR (0.000 bps)
             CBS 0, EBS 0, RSpecR 0, RSpecS 0 MPU 0
FilterSpec:
Timeout in : 26 secs, LocLabel: 0  Sender: 10.20.1.1 lspId: 2 OutIfId: 0
RRO :
  (1) * Flags : 0x0 :      U
  (1) * UnInf : 10.20.1.3, 2
  (2) * Flags : 0x1 :     Global
  (2) * Label : 131070
  (3) * Flags : 0x0 :      U
  (3) * UnInf : 10.20.1.4, 5
  (4) * Flags : 0x1 :     Global
  (4) * Label : 131070
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
RSB:
 EndPt 10.20.1.6  Tid 1  XTid 10.20.1.1  Sndr 0.0.0.0  LspId 0  ifIndex 2 NHop
10.20.1.2
Style SE, refresh in 0 secs
RSVP NextHop 10.20.1.2, LIH 2 (TLV: RtrId 10.20.1.2 IntfId 2)
CT Shared Reservation Info:
No Reservation:
FlowSpec :Flags 0x8000 QOSC 1, PDR (infinity), PBS 0.000 bps, CDR (0.000 bps)
          CBS 0, EBS 0, RSpecR 0, RSpecS 0 MTU 1496 MPU 20
FwdFlowspec :Flags 0x0 QOSC 0, PDR (0.000 bps), PBS 0.000 bps, CDR (0.000 bps)
             CBS 0, EBS 0, RSpecR 0, RSpecS 0 MPU 0
FilterSpec:
Timeout in : 21 secs, LocLabel: 0  Sender: 10.20.1.1 lspId: 30208 OutIfId: 0
RRO :
  (1) * Flags : 0x9 :      U LP_AVAIL NODE
  (1) * UnInf : 10.20.1.2, 2
  (2) * Flags : 0x1 :     Global
  (2) * Label : 131071
  (3) * Flags : 0x1 :      U LP_AVAIL
  (3) * UnInf : 10.20.1.4, 2
  (4) * Flags : 0x1 :     Global
  (4) * Label : 131071
  (5) * Flags : 0x0 :      U
  (5) * UnInf : 10.20.1.6, 2
  (6) * Flags : 0x1 :     Global
  (6) * Label : 131071
-------------------------------------------------------------------------------
  Total RSB Count   : 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.65 rsvp

rsvp

Syntax

rsvp

Context

[Tree] (clear>router rsvp)

Full Context

clear router rsvp

Description

Commands in this context clear and reset RSVP protocol entities.

Platforms

All

rsvp

Syntax

rsvp

Context

[Tree] (show>router rsvp)

Full Context

show router rsvp

Description

Commands in this context display RSVP related information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rsvp

Syntax

rsvp

Context

[Tree] (tools>dump>router rsvp)

Full Context

tools dump router rsvp

Description

Commands in this context dump tools for RSVP.

Platforms

All

rsvp

Syntax

rsvp

Context

[Tree] (monitor>router rsvp)

Full Context

monitor router rsvp

Description

Commands in this context monitor RSVP instances.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.66 rsvp-te

rsvp-te

Syntax

rsvp-te

Context

[Tree] (clear>router>mpls>lsp>auto-lsp rsvp-te)

Full Context

clear router mpls lsp auto-lsp rsvp-te

Description

This command resets and restarts all auto RSVP-TE LSPs.

Platforms

All

rsvp-te

Syntax

rsvp-te

Context

[Tree] (clear>router>mpls>lsp rsvp-te)

Full Context

clear router mpls lsp rsvp-te

Description

This command resets and restarts all RSVP-TE LSPs.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.67 rtp-session

rtp-session

Syntax

rtp-session [**service** *service-id*] [**source** *ip-address*] [**detail** [**stats** {**rt-server** | **fcc-server**}]]

rtp-session [**service** *service-id*] **summary**

Context

[Tree] (show>video rtp-session)

Full Context

show video rtp-session

Description

This command displays video session information.

Parameters

service *service-id*

Displays video session information pertaining to the specified service ID.

Values 1 to 2148278317

svc-name — a string up to 64 characters.

source *ip-address*

Displays session information for the specified IP address.

detail

The output displays detailed video session information.

stats

Displays video session statistics.

Values **rt-server** — Displays video session statistics for the RT server.

fcc-server — Displays video session statistics for the FCC server.

summary

The output displays summarized video session information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

Output

The following output is an example of this command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-C# show video  rtp-session
===============================================================================
Video RTP session
===============================================================================
Service Id        Source address      SSRC Id (hex)   RT reqs      FCC reqs
 Interface         Source Port         Time to expire  RT replies   FCC replies
-------------------------------------------------------------------------------
1                 10.0.103.103        1               0            226
 vi                1000                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1001                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1002                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1003                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1004                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1005                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1006                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1007                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1008                0d 00:03:24     0            225
1                 10.0.103.103        1               0            226
 vi                1009                0d 00:03:24     0            225
-------------------------------------------------------------------------------
Number of RTP sessions : 10
===============================================================================
*A:Dut-C#


*A:Dut-C# show video  rtp-session summary
===============================================================================
Video RTP session summary
===============================================================================
Num Sessions     : 2000
Rx RT Requests   : 0                    Tx RT Packets    : 0
Tx RT Replies    : 0                    Tx RT Octets     : 0
Rx FCC Requests  : 371068               Tx FCC Packets   : 243011904
Tx FCC Replies   : 368259               Tx FCC Octets    : 14152149376
-------------------------------------------------------------------------------
Interfaces : 1
===============================================================================
*A:Dut-C#

*A:Dut-C# show video  rtp-session detail
===============================================================================
Video RTP session detail
===============================================================================
Service Id       : 1
Interface        : vi
Source Address   : 10.0.103.103         Source Port      : 1000

Destination Addr : 10.3.3.3             SSRC Id (hex)    : 1
CName            : ixiaPort
Up Time          : 0d 00:07:08          Time to Expire   : 0d 00:04:59

Num RT Requests  : 0                    Num RT Replies   : 0
RT Packets Sent  : 0                    RT Octets Sent   : 0
RT Failed Pkts   : 0                    Req RTP Packets  : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Num FCC Requests : 212                 Num FCC Replies  : 211
FCC Packets Sent : 138582              FCC Octets Sent  : 8145140
FCC Failed Pkts  : 1
-------------------------------------------------------------------------------
*A:Dut-C#
```

22.68 rtr-advertisement

rtr-advertisement

Syntax

rtr-advertisement [**interface** *interface-name*] [**prefix** *ipv6-prefix*[*/prefix-length*]]

rtr-advertisement [**conflicts**]

Context

[Tree] (show>router rtr-advertisement)

Full Context

show router rtr-advertisement

Description

This command displays router advertisement information.

If no command line arguments are specified, all routes are displayed, sorted by prefix.

Parameters

interface-name

Specifies the interface name, up to 32 characters.

***ipv6-prefix*[*/prefix-length*]**

Displays routes only matching the specified *ip-address* and length and only applies to the 7750 SR and 7950 XRS.

Values

ipv6	ipv6-prefix[/pref*:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
		x:x:x:x:x:x:d.d.d.d
		x: [0 to FFFF]H
		d: [0 to 255]D
	prefix-length:	1 to 128

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

Router-Advertisement Table Output — The following output is an example of a router advertisement information, and Table 485: Output fields: router advertisement describes the fields.

Output Example

```
show router rtr-advertisement
===============================================================================
Router Advertisement
===============================================================================
-------------------------------------------------------------------------------
Interface: interfaceNetworkNonDefault
-------------------------------------------------------------------------------
Rtr Advertisement Tx : 8               Last Sent            : 00h01m28s
Nbr Solicitation Tx  : 83              Last Sent            : 00h00m17s
Nbr Advertisement Tx : 74              Last Sent            : 00h00m25s
Rtr Advertisement Rx : 8               Rtr Solicitation Rx  : 0
Nbr Advertisement Rx : 83              Nbr Solicitation Rx  : 74
-------------------------------------------------------------------------------
Server1              : 2001:db8::1
Server2              : N/A
Server3              : N/A
Server4              : N/A
Rdnss-lifetime       : 1200            Include-dns          : yes
-------------------------------------------------------------------------------
Max Advert Interval  : 601             Min Advert Interval  : 201
Managed Config       : TRUE            Other Config         : TRUE
Reachable Time       : 00h00m00s400ms  Router Lifetime      : 00h30m01s
Retransmit Time      : 00h00m00s400ms  Hop Limit            : 63
Link MTU             : 1500

Prefix: 211::/120
Autonomous Flag      : FALSE           On-link flag         : FALSE
Preferred Lifetime   : 07d00h00m       Valid Lifetime       : 30d00h00m

Prefix: 231::/120
Autonomous Flag      : FALSE           On-link flag         : FALSE
Preferred Lifetime   : 49710d06h       Valid Lifetime       : 49710d06h

Prefix: 241::/120
Autonomous Flag      : TRUE            On-link flag         : TRUE
Preferred Lifetime   : 00h00m00s       Valid Lifetime       : 00h00m00s

Prefix: 251::/120
Autonomous Flag      : TRUE            On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m       Valid Lifetime       : 30d00h00m
-------------------------------------------------------------------------------
Advertisement from: fe80::200:ff:fe00:2
Managed Config       : FALSE           Other Config         : FALSE
Reachable Time       : 00h00m00s0ms    Router Lifetime      : 00h30m00s
Retransmit Time      : 00h00m00s0ms    Hop Limit            : 64
Link MTU             : 0
-------------------------------------------------------------------------------
Interface: interfaceServiceNonDefault
-------------------------------------------------------------------------------
Rtr Advertisement Tx : 8               Last Sent            : 00h06m41s
Nbr Solicitation Tx  : 166             Last Sent            : 00h00m04s
Nbr Advertisement Tx : 143             Last Sent            : 00h00m05s
Rtr Advertisement Rx : 8               Rtr Solicitation Rx  : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Nbr Advertisement Rx : 166              Nbr Solicitation Rx  : 143
-------------------------------------------------------------------------------
Max Advert Interval  : 601              Min Advert Interval  : 201
Managed Config       : TRUE             Other Config         : TRUE
Reachable Time       : 00h00m00s400ms   Router Lifetime      : 00h30m01s
Retransmit Time      : 00h00m00s400ms   Hop Limit            : 63
Link MTU             : 1500

Prefix: 23::/120
Autonomous Flag      : FALSE            On-link flag         : FALSE
Preferred Lifetime   : infinite         Valid Lifetime       : infinite

Prefix: 24::/120
Autonomous Flag      : TRUE             On-link flag         : TRUE
Preferred Lifetime   : 00h00m00s        Valid Lifetime       : 00h00m00s

Prefix: 25::/120
Autonomous Flag      : TRUE             On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m        Valid Lifetime       : 30d00h00m
-------------------------------------------------------------------------------
Advertisement from: fe80::200:ff:fe00:2
Managed Config       : FALSE            Other Config         : FALSE
Reachable Time       : 00h00m00s0ms     Router Lifetime      : 00h30m00s
Retransmit Time      : 00h00m00s0ms     Hop Limit            : 64
Link MTU             : 0

Prefix: 2::/120
Autonomous Flag      : TRUE             On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m        Valid Lifetime       : 30d00h00m

Prefix: 23::/120
Autonomous Flag      : TRUE             On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m        Valid Lifetime       : 30d00h00m

Prefix: 24::/119
Autonomous Flag      : TRUE             On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m        Valid Lifetime       : 30d00h00m

Prefix: 25::/120
Autonomous Flag      : TRUE             On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m        Valid Lifetime       : infinite

Prefix: 231::/120
Autonomous Flag      : TRUE             On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m        Valid Lifetime       : 30d00h00m
-------------------------------------------------------------------------------
...
```

Table 485: Output fields: router advertisement

Label	Description
Rtr Advertisement Tx/ Last Sent	The number of router advertisements sent and time since they were sent
Nbr Solicitation Tx	The number of neighbor solicitations sent and time since they were sent
Nbr Advertisement Tx	The number of neighbor advertisements sent and time since they were sent

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Rtr Advertisement Rx	The number of router advertisements received and time since they were received
Nbr Advertisement Rx	The number of neighbor advertisements received and time since they were received
Max Advert Interval	The maximum interval between sending router advertisement messages
Managed Config	True — indicates that DHCPv6 has been configured
	False — indicates that DHCPv6 is not available for address configuration
Reachable Time	The time, in milliseconds, that a node assumes a neighbor is reachable after receiving a reachability confirmation
Retransmit Time	The time, in milliseconds, between retransmitted neighbor solicitation messages
Link MTU	The MTU number the nodes use for sending packets on the link
Rtr Solicitation Rx	The number of router solicitations received and time since they were received
Nbr Solicitation Rx	The number of neighbor solicitations received and time since they were received
Min Advert Interval	The minimum interval between sending ICMPv6 neighbor discovery router advertisement messages
Other Config	True — indicates there are other stateful configurations False — indicates there are no other stateful configurations
Router Lifetime	The router lifetime in seconds
Hop Limit	The current hop limit

Router-Advertisement Conflicts Output — The following output is an example of router advertisement conflicts, and Table 486: Output fields: router advertisement conflicts describes the fields.

Output Example

```
show router rtr-advertisement conflicts
===============================================================================
Router Advertisement
===============================================================================
Interface: interfaceNetworkNonDefault
-------------------------------------------------------------------------------
Advertisement from: fe80::200:ff:fe00:2
Managed Config    : FALSE [TRUE]
Other Config      : FALSE [TRUE]
Reachable Time    : 00h00m00s0ms [00h00m00s400ms]
Router Lifetime   : 00h30m00s [00h30m01s]
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Retransmit Time   : 00h00m00s0ms [00h00m00s400ms]
Hop Limit         : 64 [63]
Link MTU          : 0 [1500]

Prefix not present in neighbor router advertisement
Prefix: 211::/120
Autonomous Flag      : FALSE           On-link flag         : FALSE
Preferred Lifetime   : 07d00h00m       Valid Lifetime       : 30d00h00m

Prefix not present in neighbor router advertisement
Prefix: 231::/120
Autonomous Flag      : FALSE           On-link flag         : FALSE
Preferred Lifetime   : 49710d06h       Valid Lifetime       : 49710d06h

Prefix not present in neighbor router advertisement
Prefix: 241::/120
Autonomous Flag      : TRUE            On-link flag         : TRUE
Preferred Lifetime   : 00h00m00s       Valid Lifetime       : 00h00m00s

Prefix not present in neighbor router advertisement
Prefix: 251::/120
Autonomous Flag      : TRUE            On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m       Valid Lifetime       : 30d00h00m
-------------------------------------------------------------------------------
Interface: interfaceServiceNonDefault
-------------------------------------------------------------------------------
Advertisement from: fe80::200:ff:fe00:2
Managed Config    : FALSE [TRUE]
Other Config      : FALSE [TRUE]
Reachable Time    : 00h00m00s0ms [00h00m00s400ms]
Router Lifetime   : 00h30m00s [00h30m01s]
Retransmit Time   : 00h00m00s0ms [00h00m00s400ms]
Hop Limit         : 64 [63]
Link MTU          : 0 [1500]

Prefix not present in own router advertisement
Prefix: 2::/120
Autonomous Flag      : TRUE            On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m       Valid Lifetime       : 30d00h00m

Prefix: 23::/120
Autonomous Flag   : TRUE [FALSE]
On-link flag      : TRUE [FALSE]
Preferred Lifetime: 07d00h00m [infinite]
Valid Lifetime    : 30d00h00m [infinite]

Prefix not present in own router advertisement
Prefix: 24::/119
Autonomous Flag      : TRUE            On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m       Valid Lifetime       : 30d00h00m

Prefix not present in neighbor router advertisement
Prefix: 24::/120
Autonomous Flag      : TRUE            On-link flag         : TRUE
Preferred Lifetime   : 00h00m00s       Valid Lifetime       : 00h00m00s

Prefix: 25::/120
Valid Lifetime    : infinite [30d00h00m]

Prefix not present in own router advertisement
Prefix: 231::/120
Autonomous Flag      : TRUE            On-link flag         : TRUE
Preferred Lifetime   : 07d00h00m       Valid Lifetime       : 30d00h00m
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 486: Output fields: router advertisement conflicts

Label	Description
Advertisement from	The address of the advertising router
Reachable Time	The time, in milliseconds, that a node assumes a neighbor is reachable after receiving a reachability confirmation
Router Lifetime	Displays the router lifetime in seconds
Retransmit Time	The time, in milliseconds, between retransmitted neighbor solicitation messages
Hop Limit	Displays the current hop limit
Link MTU	The MTU number the nodes use for sending packets on the link

The following output is an example of a router advertisement interface, and Table 487: Output fields: router advertisement interface describes the fields.

Output Example

```
show router rtr-advertisement interface "MyExampleInterface"

===============================================================================
Router Advertisement
===============================================================================
Interface: MyExampleInterface
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Rtr Advertisement Tx : 0               Last Sent            : 00h00m00s
Nbr Solicitation Tx  : 0               Last Sent            : 00h00m00s
Nbr Advertisement Tx : 0               Last Sent            : 00h00m00s
Rtr Advertisement Rx : 0               Rtr Solicitation Rx  : 0
Nbr Advertisement Rx : 0               Nbr Solicitation Rx  : 0
-------------------------------------------------------------------------------
Max Advert Interval  : 600             Min Advert Interval  : 200
Managed Config       : FALSE           Other Config         : FALSE
Reachable Time       : 00h00m00s0ms    Router Lifetime      : 00h30m00s
Retransmit Time      : 00h00m00s0ms    Hop Limit            : 64
Link MTU             : 0               ND Router-preference: <high|medium|low>
MAC Addr To Use      : Interface
Creation Origin      : manual
No Prefixes
===============================================================================
```

Table 487: Output fields: router advertisement interface

Label	Description
Rtr Advertisement Tx/ Last Sent	The number of router advertisements sent and time since they were sent
Nbr Solicitation Tx/ Last Sent	The number of neighbor solicitations sent and time since they were sent

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Nbr Advertisement Tx/ Last Sent	The number of neighbor advertisements sent and time since they were sent
Rtr Advertisement Rx	The number of router advertisements received and time since they were received
Rtr Solicitation Rx	The number of router solicitations received and time since they were received
Nbr Advertisement Rx	The number of neighbor advertisements received and time since they were received
Nbr Solicitation Rx	The number of neighbor solicitations received and time since they were received
Max Advert Interval	The maximum interval between sending router advertisement messages
Min Advert Interval	The minimum interval between sending ICMPv6 neighbor discovery router advertisement messages
Managed Config	True — indicates that DHCPv6 has been configured
	False — indicates that DHCPv6 is not available for address configuration
Other Config	True — indicates there are other stateful configurations False — indicates there are no other stateful configurations
Reachable Time	The time, in milliseconds, that a node assumes a neighbor is reachable after receiving a reachability confirmation
Router Lifetime	The router lifetime in seconds
Retransmit Time	The time, in milliseconds, between retransmitted neighbor solicitation messages
Hop Limit	The current hop limit
Link MTU	The MTU number the nodes use for sending packets on the link
ND Router-preference	High — indicates the router advertises a high router default gateway preference Medium — indicates the router advertises a medium default gateway preference Low — indicates the router advertises a low default gateway preference
MAC Addr to Use	The MAC address to use
Creation Origin	The creation origin

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

22.69 run-manual-spf

run-manual-spf

Syntax

run-manual-spf

Context

[Tree] (tools>perform>router>isis run-manual-spf)

Full Context

tools perform router isis run-manual-spf

Description

This command runs the Shortest Path First (SPF) algorithm.

Platforms

All

run-manual-spf

Syntax

run-manual-spf [**externals-only**]

Context

[Tree] (tools>perform>router>ospf3 run-manual-spf)

[Tree] (tools>perform>router>ospf run-manual-spf)

Full Context

tools perform router ospf3 run-manual-spf

tools perform router ospf run-manual-spf

Description

This command runs the Shorted Path First (SPF) algorithm.

Parameters

externals-only

Runs external only SPF.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23 s Commands – Part I

23.1 s-pmsi

s-pmsi

Syntax

s-pmsi [[**group-ip** *group-ip*][**source-ip** *source-ip*] **detail**]

s-pmsi [*mdSrcAddr* [**mdGrpAddr**]] [[**group-ip** *group-ip*] [**source-ip** *source-ip*] **detail**]

s-pmsi ext-tunnel-id *ext-tunnel-id* [**tunnel-id** *tunnel-id*] [[**group-ip** *group-ip*] [**source-ip** *source-ip*] **detail**]

s-pmsi root-addr *root-addr* [**lsp-id** *lsp-id*] [[**group-ip** *group-ip*] [**source-ip** *source-ip*] **detail**]

s-pmsi bier-root-addr *ip-address* [[**sub-domain** *sub-domain*] [**bfr-id** *bfr-id*] [**mpls-lbl** *mpls-lbl*] **detail**]

Context

[Tree] (show>router>pim s-pmsi)

Full Context

show router pim s-pmsi

Description

This command displays information about selective provider multicast service interfaces that are currently active.

Parameters

group-ip

Displays group IP address information.

source-ip

Displays source IP address information.

mdSrcAddr

Displays source address information of the multicast sender.

mdGrpAddr

Displays group address information of the multicast sender.

ext-tunnel-id

Displays information about the extended tunnel address.

tunnel-id

Displays information about the tunnel identifier.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0 to 4294967295

root-addr

Displays information about the root address.

lsp-id

Displays information about the specified LSP ID.

Values 0 to 4294967295

sub-domain

Displays information about the BIER sub-domain ID.

bfr-id

Displays information about the BIER-ID of the router.

Values 1 to 4096

mpls-lbl

Displays information about the specified MPLS service label.

detail

Displays detailed output.

Platforms

All

Output

The following output is an example of a PIM data MDT configuration. Table 488: Output fields: PIM data MDT provides PIM data MDT descriptions.

Output Example PIM Selective Provider Tunnel

```
*B:node-6# show router 100 pim s-pmsi
===============================================================================
PIM Selective provider tunnels
===============================================================================
MD Src Address        MD Grp Address        MT Index      Num VPN SGs
-------------------------------------------------------------------------------
239.200.200.7         239.0.89.72           24603         1
239.200.200.7         239.0.89.73           24604         1
239.200.200.7         239.0.89.74           24605         1
239.200.200.7         239.0.89.75           24606         1
239.200.200.7         239.0.89.76           24607         1
239.200.200.7         239.0.89.77           24608         1
239.200.200.7         239.0.89.78           24609         1
239.200.200.7         239.0.89.79           24610         1
239.200.200.7         239.0.89.80           24611         1
239.200.200.7         239.0.89.81           24612         1
239.200.200.7         239.0.89.82           24613         1
239.200.200.7         239.0.89.83           24614         1
239.200.200.7         239.0.89.84           24615         1
239.200.200.7         239.0.89.85           24616         1
239.200.200.7         239.0.89.86           24617         1
239.200.200.7         239.0.89.87           24618         1
...
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*B:node-6#
```

Output Example PIM Selective Provider Tunnel Detail

```
*B:node-6# show router 100 pim s-pmsi detail
===============================================================================
PIM Selective provider tunnels
===============================================================================
Md Source Address  : 239.200.200.7      Md Group Address   : 239.0.89.72
Number of VPN SGs  : 1                  Uptime             : 0d 00:00:18
MT IfIndex         : 24603              Egress Fwding Rate : 163.2 kbps

VPN Group Address  : 239.1.0.0          VPN Source Address : 10.2.102.1
State              : RX Joined
Expiry Timer       : 0d 00:02:41
===============================================================================
PIM Selective provider tunnels
===============================================================================
Md Source Address  : 239.200.200.7      Md Group Address   : 239.0.89.73
Number of VPN SGs  : 1                  Uptime             : 0d 00:00:18
MT IfIndex         : 24604              Egress Fwding Rate : 163.2 kbps

VPN Group Address  : 239.1.0.1          VPN Source Address : 10.2.102.1
State              : RX Joined
Expiry Timer       : 0d 00:02:41
===============================================================================
PIM Selective provider tunnels
===============================================================================
Md Source Address  : 239.200.200.7      Md Group Address   : 239.0.89.74
Number of VPN SGs  : 1                  Uptime             : 0d 00:00:20
MT IfIndex         : 24605              Egress Fwding Rate : 165.7 kbps

VPN Group Address  : 239.1.0.2          VPN Source Address : 10.2.102.1
State              : RX Joined
Expiry Timer       : 0d 00:02:39
===============================================================================
PIM Selective provider tunnels
===============================================================================
Md Source Address  : 239.200.200.7      Md Group Address   : 239.0.89.75
Number of VPN SGs  : 1                  Uptime             : 0d 00:00:20
MT IfIndex         : 24606              Egress Fwding Rate : 165.7 kbps

VPN Group Address  : 239.1.0.3          VPN Source Address : 10.2.102.1
State              : RX Joined
Expiry Timer       : 0d 00:02:39
===============================================================================
*B:node-6#
```

Output Example for Rosen MVPN S-PMSI Tunnel

```
B:Dut-E# show router 100 pim s-pmsi
===============================================================================
PIM Selective provider tunnels
===============================================================================
MD Src Address      MT Index          Num VPN SGs  MD RP for ASM   State
   MD Grp Address      Multistream ID
-------------------------------------------------------------------------------
10.20.1.5           5798467           1            N/A             TX Joined
   233.0.0.5           5
10.20.1.5           5798468           1            N/A             TX Joined
   233.0.0.6           6
10.20.1.5           5798469           1            N/A             TX Joined
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   233.0.0.7           7
10.20.1.5           5798470           1021         N/A             TX Joined
   233.0.0.8           8
===============================================================================
PIM Selective provider tunnels Interfaces : 4
```

Output Example RX Tracking for RSVP S-PMSI Tunnel

```
*A:Dut-C# show router 1 pim s-pmsi
===============================================================================
PIM RSVP Spmsi tunnels
===============================================================================
P2mp ID   Tunnel ID   Ext Tunnel Adrs       SPMSI Index   Num VPN   State
                                                         SGs
-------------------------------------------------------------------------------
0         0           10.20.1.4             1030144       1         RX Tracking
0         0           10.20.1.4             1030144       1         RX Tracking
===============================================================================
PIM RSVP Spmsi Interfaces : 2
===============================================================================
*A:Dut-C# show router 21 pim s-pmsi

===============================================================================
PIM LDP Spmsi tunnels
===============================================================================
Lsp ID    Root Addr             SPMSI Index   Num VPN   State
                                              SGs
-------------------------------------------------------------------------------
0         10.20.1.4             1030144       1         RX Tracking
0         10.20.1.4             1030144       1         RX Tracking
===============================================================================
PIM LDP Spmsi Interfaces : 2
===============================================================================
*A:Dut-C#
```

Output Example RX Tracking for RSVP S-PMSI Tunnel Detail

```
*A:Dut-C# show router 1 pim s-pmsi detail
===============================================================================
PIM RSVP Spmsi tunnels
===============================================================================
P2MP ID            : 0                   Tunnel ID          : 0
Ext Tunnnel Addrs  : 10.20.1.4           Spmsi IfIndex      : 1030144
Number of VPN SGs  : 1                   Uptime             : 0d 00:02:48

VPN Group Address  : 239.100.0.0
VPN Source Address : 10.1.101.2
State              : RX Tracking         Mdt Threshold      : 0

===============================================================================
PIM RSVP Spmsi tunnels
===============================================================================
P2MP ID            : 0                   Tunnel ID          : 0
Ext Tunnnel Addrs  : 10.20.1.4           Spmsi IfIndex      : 1030144
Number of VPN SGs  : 1                   Uptime             : 0d 00:02:47

VPN Group Address  : ff0e:db8:225:100::
VPN Source Address : 2001:db8:1:101::2
State              : RX Tracking         Mdt Threshold      : 0
===============================================================================
PIM RSVP Spmsi Interfaces : 2
===============================================================================
*A:Dut-C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-C# show router 21 pim s-pmsi detail
===============================================================================
PIM LDP Spmsi tunnels
===============================================================================
LSP ID             : 0
Root Addr          : 10.20.1.4          Spmsi IfIndex      : 1030144
Number of VPN SGs  : 1                  Uptime             : 0d 00:03:35

VPN Group Address  : 239.100.0.0
VPN Source Address : 10.1.101.2
State              : RX Tracking        Mdt Threshold      : 0

===============================================================================
PIM LDP Spmsi tunnels
===============================================================================
LSP ID             : 0
Root Addr          : 10.20.1.4          Spmsi IfIndex      : 1030144
Number of VPN SGs  : 1                  Uptime             : 0d 00:03:34

VPN Group Address  : ff0e:db8:225:100::
VPN Source Address : 2001:db8:1:101::2
State              : RX Tracking        Mdt Threshold      : 0
===============================================================================
PIM LDP Spmsi Interfaces : 2
===============================================================================
*A:Dut-C#
```

Output Example TX Tracking for RSVP S-PMSI Tunnel Detail

```
*A:Dut-C# show router 1 pim s-pmsi detail
===============================================================================
PIM RSVP Spmsi tunnels
===============================================================================
P2MP ID            : 1                  Tunnel ID          : 61442
Ext Tunnnel Addrs  : 10.20.1.4          Spmsi IfIndex      : 74230
Number of VPN SGs  : 1                  Uptime             : 0d 00:05:11

VPN Group Address  : 239.100.0.0
VPN Source Address : 10.1.101.2
State              : TX Join Pending    Mdt Threshold      : 1
Join Timer         : N/A                Holddown Timer     : 0d 00:00:47
Receiver Count     : 4

===============================================================================
PIM RSVP Spmsi tunnels
===============================================================================
P2MP ID            : 1                  Tunnel ID          : 61443
Ext Tunnnel Addrs  : 10.20.1.4          Spmsi IfIndex      : 74231
Number of VPN SGs  : 1                  Uptime             : 0d 00:05:10

VPN Group Address  : ff0e:225:100::
VPN Source Address : 2001:db8:1:101::2
State              : TX Join Pending    Mdt Threshold      : 1
Join Timer         : N/A                Holddown Timer     : 0d 00:00:50
Receiver Count     : 4
===============================================================================
PIM RSVP Spmsi Interfaces : 2
===============================================================================
*A:Dut-C#

*A:Dut-D# show router 21 pim s-pmsi detail
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PIM LDP Spmsi tunnels
===============================================================================
LSP ID              : 8194
Root Addr           : 10.20.1.4          Spmsi IfIndex      : 74228
Number of VPN SGs   : 1                  Uptime             : 0d 00:05:56

VPN Group Address   : 239.100.0.0
VPN Source Address  : 10.1.101.2
State               : TX Join Pending    Mdt Threshold      : 1
Join Timer          : N/A                Holddown Timer     : 0d 00:00:02
Receiver Count      : 4

===============================================================================
PIM LDP Spmsi tunnels
===============================================================================
LSP ID              : 8195
Root Addr           : 10.20.1.4          Spmsi IfIndex      : 74229
Number of VPN SGs   : 1                  Uptime             : 0d 00:05:55

VPN Group Address   : ff0e:db8:225:100::
VPN Source Address  : 2001:db8:1:101::2
State               : TX Join Pending    Mdt Threshold      : 1
Join Timer          : N/A                Holddown Timer     : 0d 00:00:05
Receiver Count      : 4
===============================================================================
PIM LDP Spmsi Interfaces : 2
===============================================================================
*A:Dut-D#
```

Table 488: Output fields: PIM data MDT

Label	Description
MD Grp Address	The IP multicast group address for which this entry contains information
MD Src Address	The source address of the multicast sender. The value is 0 if the type is configured as **starg**. The address of the Rendezvous Point (RP) displays if the type is configured as **starRP**.
MT Index	The index number
Num VP SGs	The VPN number

s-pmsi

Syntax

s-pmsi [**source** *mdSrcAddr*] [**group** *mdGrpAddr*] [**vprn-source** *vprnSrcAddr* **vprn-group** *vprnGrpAddr*]

Context

[Tree] (clear>router>pim s-pmsi)

Full Context

clear router pim s-pmsi

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears PIM selective provider multicast service interface cache.

Parameters

mdSrcAddr

Clears the specified source address used for Multicast Distribution Tree (MDT).

mdGrpAddr

Clears the specified group address used for Multicast Distribution Tree (MDT).

vprnSrcAddr

Clears the specified source address of the multicast sender.

vprnGrpAddr

Clears the specified multicast group address.

Platforms

All

23.2 s11

s11

Syntax

s11

Context

[Tree] (show>subscr-mgmt>gtp s11)

Full Context

show subscriber-mgmt gtp s11

Description

Commands in this context display information related to established S11 connections.

Platforms

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

s11

Syntax

s11

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>gtp s11)

Full Context

show router gtp s11

Description

Commands in this context display S11 information.

Platforms

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

23.3 saa

saa

Syntax

saa [*test-name*] [**owner** *test-owner*]

Context

[Tree] (show saa)

Full Context

show saa

Description

This command displays information about the SAA test.

If no specific test is specified a summary of all configured tests is displayed.

If a specific test is specified then detailed test results for that test are displayed for the last three occurrences that this test has been executed, or since the last time the counters have been reset via a system reboot or clear command.

Parameters

test-name

Specifies the optional parameter is used to enter the name of the SAA test for which the information needs to be displayed. The test name must already be configured in the **config>saa>test** context.

test-owner

Specifies the owner of an SAA operation, up to 32 characters. If a **test-owner** value is not specified, tests created by the CLI have a default owner "TiMOS CLI”.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default "TiMOS CLI"

Platforms

All

Output

The following output is an example of SAA test information. Table 489: Output fields: SAA describes the SAA test fields.

Output Example

```
*A:bksim130>config>saa>test>trap-gen# show saa mySaaPingTest1
===============================================================================
SAA Test Information
===============================================================================
Test name                    : mySaaPingTest1
Owner name                   : TiMOS CLI
Description                  : N/A
Accounting policy            : None
Administrative status        : Disabled
Test type                    : icmp-ping 11.22.33.44
Trap generation              : probe-fail-enable probe-fail-threshold 3
                               test-fail-enable test-fail-threshold 2
                               test-completion-enable
Test runs since last clear   : 0
Number of failed test runs   : 0
Last test result             : Undetermined
-------------------------------------------------------------------------------
Threshold
Type        Direction Threshold  Value      Last Event          Run #
-------------------------------------------------------------------------------
Jitter-in   Rising    None       None       Never               None
            Falling   None       None       Never               None
Jitter-out  Rising    None       None       Never               None
            Falling   None       None       Never               None
Jitter-rt   Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-in  Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-out Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-rt  Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-in     Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-out    Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-rt     Rising    None       None       Never               None
            Falling   None       None       Never               None

===============================================================================
*A:bksim130>config>saa>test>trap-gen#


*A:bksim130>config>saa>test>trap-gen$ show saa mySaaTraceRouteTest1
===============================================================================
SAA Test Information
===============================================================================
Test name                    : mySaaTraceRouteTest1
Owner name                   : TiMOS CLI
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description                 : N/A
Accounting policy           : None
Administrative status       : Disabled
Test type                   : icmp-trace 11.22.33.44
Trap generation             : test-fail-enable test-completion-enable
Test runs since last clear  : 0
Number of failed test runs  : 0
Last test result            : Undetermined
-------------------------------------------------------------------------------
Threshold
Type        Direction Threshold  Value      Last Event          Run #
-------------------------------------------------------------------------------
Jitter-in   Rising    None       None       Never               None
            Falling   None       None       Never               None
Jitter-out  Rising    None       None       Never               None
            Falling   None       None       Never               None
Jitter-rt   Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-in  Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-out Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-rt  Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-in     Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-out    Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-rt     Rising    None       None       Never               None
            Falling   None       None       Never               None
===============================================================================
*A:bksim130>config>saa>test>trap-gen$


show saa <test-name>
CFM Loopback:
===============================================================================
SAA Test Information
===============================================================================
Test name : CFMLoopbackTest
Owner name                  : TiMOS CLI
Description                 : N/A
Accounting policy           : 1
Continuous                   : Yes
Administrative status       : Enabled
Test type                  : eth-cfm-
loopback 00:01:01:01:01:01 mep 1 domain 1 association 1 interval 1 count 10
Trap generation : None
Test runs since last clear : 1
Number of failed test runs : 0
Last test result : Success
-------------------------------------------------------------------------------
Threshold
Type        Direction Threshold  Value      Last Event          Run #
-------------------------------------------------------------------------------
Jitter-in   Rising    None       None       Never               None
            Falling   None       None       Never               None
Jitter-out  Rising    None       None       Never               None
            Falling   None       None       Never               None
Jitter-rt   Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-in  Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-out Rising    None       None       Never               None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            Falling   None       None       Never               None
Latency-rt  Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-in     Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-out    Rising    None       None       Never               None
            Falling   None       None       Never               None
Loss-rt     Rising    None       None       Never               None
            Falling   None       None       Never               None
===============================================================================
Test Run: 1
Total number of attempts: 10
Number of requests that failed to be sent out: 0
Number of responses that were received: 10
Number of requests that did not receive any response: 0
Total number of failures: 0, Percentage: 0
 (in us)            Min          Max      Average       Jitter
Outbound  :        0.000        0.000      0.000         0
Inbound   :        0.000        0.000      0.000         0
Roundtrip :        10200        10300      10250         100

Per test packet:
  Sequence      Result                  Delay(us)
         1      Response Received          10300
         2      Response Received          10300
         3      Response Received          10300
         4      Response Received          10200
         5      Response Received          10300
         6      Response Received          10200
         7      Response Received          10300
         8      Response Received          10200
         9      Response Received          10300
        10      Response Received          10300
===================================================================
CFM Traceroute:
===============================================================================
SAA Test Information
===============================================================================
Test name                    : CFMLinkTraceTest
Owner name                   : TiMOS CLI
Description                  : N/A
Accounting policy            : None
Continuous                    : Yes
Administrative status        : Enabled
Test type                    : eth-cfm-
linktrace 8A:DB:01:01:00:02 mep 1 domain 1 association 1 interval 1
Trap generation              : None
Test runs since last clear   : 1
Number of failed test runs   : 0
Last test result             : Success
-------------------------------------------------------------------------------
Threshold
Type        Direction Threshold  Value      Last Event          Run #
-------------------------------------------------------------------------------
Jitter-in   Rising    None       None       Never               None
            Falling   None       None       Never               None
Jitter-out  Rising    None       None       Never               None
            Falling   None       None       Never               None
Jitter-rt   Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-in  Rising    None       None       Never               None
            Falling   None       None       Never               None
Latency-out Rising    None       None       Never               None
            Falling   None       None       Never               None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Latency-rt  Rising    None       None       Never              None
            Falling   None       None       Never              None
Loss-in     Rising    None       None       Never              None
            Falling   None       None       Never              None
Loss-out    Rising    None       None       Never              None
            Falling   None       None       Never              None
Loss-rt     Rising    None       None       Never              None
            Falling   None       None       Never              None
===============================================================================
Test Run: 1
HopIdx: 1
Total number of attempts: 3
Number of requests that failed to be sent out: 0
Number of responses that were received: 3
Number of requests that did not receive any response: 0
Total number of failures: 0, Percentage: 0
 (in ms)             Min          Max      Average       Jitter
Outbound  :        0.000        0.000        0.000        0.000
Inbound   :        0.000        0.000        0.000        0.000
Roundtrip :         2.86         3.67         3.15        0.047
Per test packet:
  Sequence     Outbound      Inbound    RoundTrip Result
         1        0.000        0.000         3.67 Response Received
         2        0.000        0.000         2.92 Response Received
         3        0.000        0.000         2.86 Response Received

HopIdx: 2
Total number of attempts: 3
Number of requests that failed to be sent out: 0
Number of responses that were received: 3
Number of requests that did not receive any response: 0
Total number of failures: 0, Percentage: 0
 (in ms)             Min          Max      Average       Jitter
Outbound  :        0.000        0.000        0.000        0.000
Inbound   :        0.000        0.000        0.000        0.000
Roundtrip :         4.07         4.13         4.10        0.005
Per test packet:
  Sequence     Outbound      Inbound    RoundTrip Result
         1        0.000        0.000         4.10 Response Received
         2        0.000        0.000         4.13 Response Received
         3        0.000        0.000         4.07 Response Received
==================================
CFM Two Way Delay Measurement:
===============================================================================
SAA Test Information
===============================================================================
Test name                    : CFMTwoWayDelayTest
Owner name                   : TiMOS CLI
Description                  : N/A
Accounting policy            : None
Continuous                    : Yes
Administrative status        : Enabled
Test type                    : eth-cfm-two-way-
delay 00:01:01:01:01:01 mep 1 domain 1 association 1 interval 1
Trap generation              : None
Test runs since last clear   : 1
Number of failed test runs   : 0
Last test result             : Success
-------------------------------------------------------------------------------
Threshold
Type        Direction Threshold  Value      Last Event          Run #
-------------------------------------------------------------------------------
Jitter-in   Rising    None       None       Never              None
            Falling   None       None       Never              None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Jitter-out  Rising    None       None       Never              None
            Falling   None       None       Never              None
Jitter-rt   Rising    None       None       Never              None
            Falling   None       None       Never              None
Latency-in  Rising    None       None       Never              None
            Falling   None       None       Never              None
Latency-out Rising    None       None       Never              None
            Falling   None       None       Never              None
Latency-rt  Rising    None       None       Never              None
            Falling   None       None       Never              None
Loss-in     Rising    None       None       Never              None
            Falling   None       None       Never              None
Loss-out    Rising    None       None       Never              None
            Falling   None       None       Never              None
Loss-rt     Rising    None       None       Never              None
            Falling   None       None       Never              None
...
===============================================================================
Test Run: 1
HopIdx: 1
Total number of attempts: 3
Number of requests that failed to be sent out: 0
Number of responses that were received: 3
Number of requests that did not receive any response: 0
Total number of failures: 0, Percentage: 0
Total number of failures: 0, Percentage: 0
 (in us)            Min          Max      Average       Jitter
Outbound  :        5095         5095      5095          0
Inbound   :        5095         5095      0.000         0
Roundtrip :        10190        10190     10190         0
Per test packet:
  Sequence   (in us) Outbound    Inbound   Delay   Delay variation
1              5195         5195    10190        0
2              5195         5195    10190        0
3              5195         5195    10190        0
...
===============================================================================
```

Table 489: Output fields: SAA

Label	Description
Test Name	Specifies the name of the test.
Owner Name	Specifies the owner of the test.
Description	Specifies the description for the test type.
Accounting policy	Specifies the associated accounting policy ID.
Administrative status	Specifies whether the administrative status is enabled or disabled.
Test type	Specifies the type of test configured.
Trap generation	Specifies the trap generation for the SAA test.
Test runs since last clear	Specifies the total number of tests performed since the last time the tests were cleared.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Number of failed tests run	Specifies the total number of tests that failed.
Last test run	Specifies the last time a test was run.
Threshold type	Indicates the type of threshold event being tested, jitter-event, latency-event, or loss-event, and the direction of the test responses received for a test run: in — inbound out — outbound rt — roundtrip
Direction	Indicates the direction of the event threshold, rising or falling.
Threshold	Displays the configured threshold value.
Value	Displays the measured crossing value that triggered the threshold crossing event.
Last event	Indicates the time that the threshold crossing event occurred.
Run #	Indicates what test run produced the specified values.

saa

Syntax

saa-test [*test-name* [**owner** *test-owner*]]

Context

[Tree] (clear saa)

Full Context

clear saa

Description

This command clears the SAA results for the latest and the history for this test. If the test name is omitted, all the results for all tests are cleared.

Parameters

test-name

Specifies the name of the SAA test. The test name must already be configured in the **config>saa>test** context.

test-owner

Specifies the owner of an SAA operation up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default If a **test-owner** value is not specified, tests created by the CLI have a default owner "TiMOS CLI".

Platforms

All

23.4 saii-type2-using

saii-type2-using

Syntax

saii-type2-using *global-id*[:*prefix*[:*ac-id*]]

Context

[Tree] (show>service saii-type2-using)

Full Context

show service saii-type2-using

Description

This command displays the SDP used by a spoke SDP FEC with a specified FEC129 Type 2 SAII.

Parameters

global-id[:prefix[:ac-id]]

Specifies the switch-point information using SAII-Type2.

Values <global-id[:prefix*> : <global-id>[:<prefix>[:<ac-id>]]

global-id	1 to 4294967295
prefix	a.b.c.d | 1 to 4294967295
ac-id	1 to 4294967295

Platforms

All

Output

The following output is an example of SAII information.

Output Example

```
*A:Dut-E# show service saii-type2-using 3:10.20.1.3:1
===============================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service Switch-Point Information
========================================================================
SvcId      Oper-SdpBind      SAII-Type2
------------------------------------------------------------------------
2147483598 17407:4294967195  3:10.20.1.3:1
------------------------------------------------------------------------
Entries found: 1
========================================================================
```

23.5 sap

sap

Syntax

sap {all | *sap-id***}**

Context

[Tree] (show>subscr-mgmt>errors sap)

Full Context

show subscriber-mgmt errors sap

Description

This command sorts all the subscriber errors by SAP.

Parameters

all

Shows all errors starting with the lowest SAP index.

sap-id

Shows only the error of a specific SAP index.

Platforms

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

Output

The following output is an example of subscriber management errors listed by SAP.

Output Example

```
A:BNG-2# show  subscriber-mgmt errors sap all
===============================================================================
Subscriber management errors
===============================================================================
-------------------------------------------------------------------------------
SAP       : 1/1/20:841
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Time      : 2016/06/23 17:35:46.0
Service   : 1000
MAC       : 00:00:10:10:12:13
Error     : No Offer from DHCP server after Discover from DHCP client
Extra     : DHCPv4
Time      : 2016/06/23 17:35:16.0
Service   : 1000
MAC       : 00:00:10:10:12:13
Error     : No Offer from DHCP server after Discover from DHCP client
Extra     : DHCPv4
===============================================================================
```

Table 490: Output fields: subscriber management SAP error describes subscriber management SAP error output fields.

Table 490: Output fields: subscriber management SAP error

Field	Description
SAP	The SAP ID associated with the error
Time	The time this error was reported to the subscriber management errors subsystem
Service	The service ID associated with the error
MAC	The MAC address associated with the error
Error	The error that occurred on the SAP
Extra	Extra information about the error that occurred

sap

Syntax

sap *sap-id* **static-isids** [**range-id** *range-id*]

sap *sap-id* **dist-cpu-protection** [**detail**]

sap *sap-id* **detail**

sap *sap-id* **encap-group** *group-name* [**member** *encap-id*] [**encap-detail** | **encap-stats**]

sap *sap-id* **encap-group**

sap *sap-id* [**base** | **dhcp** | **mc-ring** | **mcac** | **mrp** | **qos** | **sap-stats** | **stats** | **stp** | **sub-mgmt** | **ipsec-gw**]

sap *sap-id* [**circuit-id** *circuit-id*] [**mac** *ieee-address*] [**remote-id** *remote-id*] **host-lockout-policy** [**summary**]

sap queue-depth [**queue** *queue-id*] [**ingress** | **egress**]

sap

sap *sap-id* **static-isids mfib**

sap *sap-id* **queue-group-redirection** [**ingress** | **egress**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id sap)

Full Context

show service id sap

Description

This command displays information for the SAPs associated with the service.

If no optional parameters are specified, a summary of all associated SAPs is displayed.

Parameters

sap-id

The ID that displays SAPs for the service.

detail

Displays detailed information for the SAP. For **dist-cpu-protection**, **detail** includes the adapted operational rate parameters in the CLI output. The adapted Oper. parameters are only applicable if the policer is instantiated (for example, if the associated forwarding plane is operational, or for an interface if there is a physical port configured for the interface, or if the dynamic policers are allocated), otherwise values of 0 kb/s, and so on, are displayed.

static-isids

Displays static ISIDs for the SAP.

range-id

Specifies the range ID.

Values 1 to 4294967295

dist-cpu-protection

Displays information about the distributed CPU protection policy and parameters associated with the SAP.

group-name

Specifies the group name, up to 32 characters in length.

encap-id

Specifies the encapsulation ID.

Values 0 to 16777215

encap-detail

Displays encapsulation details for the specified encapsulation ID.

encap-stats

Displays encapsulation statistics.

encap-group

Displays the encapsulation group.

base

Displays base information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

dhcp

Displays DHCP information.

mc-ring

Displays MC ring information.

mcac

Displays MCAC information.

mrp

Displays MRP information.

qos

Displays QoS information.

sap-stats

Displays SAP statistics.

stats

Displays statistics.

stp

Displays STP information.

sub-mgmt

Displays subscriber management information.

ipsec-gw

Displays IPSEC gateway information.

circuit-id

Specifies the circuit ID, up to 256 characters.

ieee-address

Specifies the IEEE address, up to 30 characters.

remote-id

Specifies the remote-ID, up to 256 characters.

host-lockout-policy

Displays the host lockout policy.

summary

Displays summary information.

queue-id

Specifies the queue ID.

Values 1 to 32

ingress

Displays ingress information.

egress

Displays egress information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mfib

Displays MFIB information.

queue-group-redirection

The output lists the queue group name and the instances configured in the related queue group redirect list. For each instance, the FP (for ingress) and port (for egress) is displayed. If there is a mismatch between the SAP and redirect list configuration and the queue group instance configuration, this is highlighted.

ingress

Displays information for the ingress policy.

egress

Displays information for the egress policy.

Platforms

All

Output

The following output is an example of SAP information, and Table 491: Output fields: service ID SAP describes the output fields.

Output Example

```
show service id "BD20023" sap lag-1:200 detail
```

```
===============================================================================
Service Access Points(SAP)
===============================================================================
Service Id         : 20023
SAP                : lag-1:200               Encap             : q-tag
Description        : (Not Specified)
Admin State        : Up                      Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 02/09/2023 15:35:22
Last Mgmt Change   : 02/09/2023 15:35:12
Sub Type           : regular
Split Horizon Group: (Not Specified)

Etree Root Leaf Tag: Disabled                Etree Leaf Tag    : 0
Etree Leaf AC      : Disabled
Max Nbr of MAC Addr: No Limit                Total MAC Addr    : 2
Learned MAC Addr   : 2                       Static MAC Addr   : 0
OAM MAC Addr       : 0                       DHCP MAC Addr     : 0
Host MAC Addr      : 0                       Intf MAC Addr     : 0
SPB MAC Addr       : 0                       Cond MAC Addr     : 0
BGP EVPN Addr      : 0                       EVPN Static Addr  : 0
Admin MTU          : 1518                    Oper MTU          : 1518
Ingr IP Fltr-Id    : n/a                     Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                     Egr IPv6 Fltr-Id  : n/a
qinq-pbit-marking  : both
Egr Agg Rate Limit : max
                                             Limit Unused BW   : Disabled
ARP Reply Agent    : Disabled                Host Conn Verify  : Disabled
SHCV pol IPv4      : None
Mac Learning       : Enabled                 Discard Unkwn Srce: Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Mac Aging          : Enabled                   Mac Pinning       : Disabled
BPDU Translation   : Disabled
L2PT Termination   : Disabled
Vlan-translation   : None
Qinq-vlan-                                     Qinq-vlan-
translation        : None                      translation Ids   : None

Acct. Pol          : None                      Collect Stats     : Disabled

Anti Spoofing      : None                      Dynamic Hosts     : Enabled
Avl Static Hosts   : 0                         Tot Static Hosts  : 0
Calling-Station-Id : n/a

Application Profile: None
Transit Policy     : None

Oper Group         : (none)                    Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Lag Link Map Prof  : (none)

Lag Per Link Hash
Class              : 1                         Weight            : 1
Oper Class         : 1                         Oper Weight       : 1
Override           : false

Cflowd             : Disabled
Bandwidth          : Not-Applicable
Oper DCpu Prot Pol : _default-access-policy
MCAC Policy Name   :                           MCAC Const Adm St : Enable
MCAC Max Unconst BW: no limit                  MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0                         MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                         MCAC Avail Opnl BW: unlimited
Use LAG port weight: no
MCAC If-Policy Name:
Restr MacUnpr Dst  : Disabled (oper: Disabled)
Auto Learn Mac Prot: Disabled (oper: Disabled)
ALMP Exclude List  : <none>
Oper ALMP Excl List: <none>
RestMacProtSrc Act : none (oper: Discard-frame)
Time to RetryReset : never                     Retries Left      : 3
Mac Move           : Blockable                 Blockable Level   : Tertiary
Auth Policy        : None
DestMac Rewrite    : Disabled
Proc CPM Tfc Sap Dn: Disabled
SendBvplsEvpnFlush : Enabled
Bgp-Vpls MH VeId   : <none>

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : n/a                       AIS               : Disabled
MC Prop-Hold-Timer : n/a                       V-MEP Filtering   : Disabled
Squelch Levels     : None
Squelch Ctag Levels: None
Collect Lmm Stats  : Disabled
LMM FC Stats       : None
LMM FC In Prof     : None

-------------------------------------------------------------------------------
Stp Service Access Point specifics
-------------------------------------------------------------------------------
Stp Admin State    : Up                        Stp Oper State    : Down
Core Connectivity  : Down
Port Role          : N/A                       Port State        : Forwarding
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Port Number        : N/A                      Port Priority     : 128
Port Path Cost     : 10                       Auto Edge         : Enabled
Admin Edge         : Disabled                 Oper Edge         : N/A
Link Type          : Pt-pt                    BPDU Encap        : Dot1d
Root Guard         : Disabled                 Active Protocol   : N/A
Last BPDU from     : N/A
CIST Desig Bridge  : N/A                      Designated Port   : N/A

Forward transitions: 0                        Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                        Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                        TCN BPDUs tx      : 0
TC bit BPDUs rcvd  : 0                        TC bit BPDUs tx   : 0
RST BPDUs rcvd     : 0                        RST BPDUs tx      : 0
MST BPDUs rcvd     : 0                        MST BPDUs tx      : 0

-------------------------------------------------------------------------------
ARP host
-------------------------------------------------------------------------------
Admin State        : outOfService
Host Limit         : 1                        Min Auth Interval : 15 minutes

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                        Egress qos-policy : 1
Ingress FP QGrp    : (none)                   Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                   Egr Port QGrp Inst: (none)
Ing ip-match tag   : none                     Ing ipv6-match tag: none
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
I. QGrp Redir. List: (Not Specified)
E. QGrp Redir. List: (Not Specified)
Hw Agg Shaper Q Set: No
Hw Agg Shpr QSet Sz: 0
Hw Agg Shpr In-Use : No

-------------------------------------------------------------------------------
DHCP
-------------------------------------------------------------------------------
Description        : (Not Specified)
Admin State        : Down                     Lease Populate    : 0
DHCP Snooping      : Down                     Action            : Keep

Proxy Admin State  : Down
Proxy Lease Time   : N/A
Emul. Server Addr  : Not Configured

-------------------------------------------------------------------------------
DHCP6
-------------------------------------------------------------------------------
Description        : (Not Specified)
LDRA               : Enabled
  Interface-type   : client-facing
  Interface-Id     : ascii-tuple
  Remote-Id        : mac

-------------------------------------------------------------------------------
Subscriber Management
-------------------------------------------------------------------------------
Admin State        : Down                     MAC DA Hashing    : False
Def Sub-Id         : None
Def Sub-Profile    : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Def SLA-Profile    : None
Def Inter-Dest-Id  : None
Def App-Profile    : None
Sub-Ident-Policy   : None

Subscriber Limit   : 1
Single-Sub-Parameters
Prof Traffic Only : False
Non-Sub-Traffic   : N/A

Static host management
MAC learn options  : N/A

-------------------------------------------------------------------------------
Sap Aggregate Stats
-------------------------------------------------------------------------------
                        Packets                 Octets
Ingress
Aggregate Offered     : 2                       136
Aggregate Forwarded   : 2                       136
Aggregate Dropped     : 0                       0

Egress
Aggregate Forwarded   : 674                     50140
Aggregate Dropped     : 0                       0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A

                        Packets                 Octets
CPM Ingress           : 92                      5740

Forwarding Engine Stats
Dropped               : 0                       0
Received Valid        : 2                       136
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 2                       136
Off. Managed          : 0                       0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 2                       136

Queueing Stats(Egress QoS Policy 1)
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
For. In/InplusProf    : 674                     50140
For. Out/ExcProf      : 0                       0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ingress Queue 11 (Multipoint) (Priority)
Off. Combined         : 2                       136
Off. Managed          : 0                       0
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 2                       136

Egress Queue 1
For. In/InplusProf    : 674                     50140
For. Out/ExcProf      : 0                       0
Dro. In/InplusProf    : 0                       0
Dro. Out/ExcProf      : 0                       0
===============================================================================
```

```
show service id 4 sap 1/1/c1/1:45 detail
```

```
===============================================================================
Service Access Points(SAP)
===============================================================================
Service Id         : 4
SAP                : 1/1/c1/1:45             Encap             : q-tag
Description        : (Not Specified)
Admin State        : Up                      Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 04/02/2024 18:08:35
Last Mgmt Change   : 04/02/2024 18:08:26
Sub Type           : regular
Dot1Q Ethertype    : 0x8100                  QinQ Ethertype    : 0x8100
Split Horizon Group: (Not Specified)
Eth Seg Name       : vES-4
Admin MTU          : 9208                    Oper MTU          : 9208
Ingr IP Fltr-Id    : n/a                     Egr IP Fltr-Id    : n/a
Ingr Mac Fltr-Id   : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                     Egr IPv6 Fltr-Id  : n/a
qinq-pbit-marking  : both
Endpoint           : N/A
Egr Agg Rate Limit : max
Q Frame-Based Acct : Disabled                Limit Unused BW   : Disabled
Vlan-translation   : None
Qinq-vlan-                                   Qinq-vlan-
translation        : None                    translation Ids   : None
Acct. Pol          : None                    Collect Stats     : Disabled
Application Profile: None
Transit Policy     : None

Oper Group         : og-4                    Monitor Oper Grp  : (none)
Host Lockout Plcy  : n/a
Ignore Oper Down   : Disabled
Lag Link Map Prof  : (none)
Cflowd             : Disabled
Bandwidth          : Not-Applicable
Oper DCpu Prot Pol : _default-access-policy
Virtual Port       : (Not Specified)
Eth Loopback       : Started
Mode               : line                    MAC Swap         : enabled
MAC Swap Address   : <all>

FXC VLAN normalization mode : Double (Tags 9.10)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
PPPoE Intermediate Agent
-------------------------------------------------------------------------------
Admin State        : Up                       MTU              : N/A
BBF Vendor Specific Tag
  Agent Circuit-id : replace
                   : "$SYS|vpls $SVC|sap $SAP"
  Agent Remote-id  : replace
                   : "mac: $MAC"
  Other sub-tags   : remove

-------------------------------------------------------------------------------
ETH-CFM SAP specifics
-------------------------------------------------------------------------------
Tunnel Faults      : n/a                      AIS              : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels     : None
Squelch Ctag Levels: None
Collect Lmm Stats  : Disabled
LMM FC Stats       : None
LMM FC In Prof     : None

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
Ingress qos-policy : 1                        Egress qos-policy : 1
Ingress FP QGrp    : (none)                   Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                   Egr Port QGrp Inst: (none)
Ing ip-match tag   : none                     Ing ipv6-match tag: none
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
I. QGrp Redir. List: (Not Specified)
E. QGrp Redir. List: (Not Specified)
Hw Agg Shaper Q Set: No
Hw Agg Shpr QSet Sz: 0
Hw Agg Shpr In-Use : No
Latency Budget     : 0 us

-------------------------------------------------------------------------------
Sap Aggregate Stats
-------------------------------------------------------------------------------
                       Packets                 Octets
Ingress
Aggregate Offered     : 0                      0
Aggregate Forwarded   : 0                      0
Aggregate Dropped     : 0                      0

Egress
Aggregate Forwarded   : 0                      0
Aggregate Dropped     : 0                      0
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A

                       Packets                 Octets
CPM Ingress           : 0                      0

Forwarding Engine Stats
Dropped               : 3                      204
Received Valid        : 0                      0
Off. HiPrio           : 0                      0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Off. LowPrio          : 0                      0
Off. Uncolor          : 0                      0
Off. Managed          : 0                      0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                      0
Dro. LowPrio          : 0                      0
For. InProf           : 0                      0
For. OutProf          : 0                      0

Queueing Stats(Egress QoS Policy 1)
Dro. In/InplusProf    : 0                      0
Dro. Out/ExcProf      : 0                      0
For. In/InplusProf    : 0                      0
For. Out/ExcProf      : 0                      0
-------------------------------------------------------------------------------
Sap per Queue stats
-------------------------------------------------------------------------------
                        Packets                Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                      0
Off. LowPrio          : 0                      0
Dro. HiPrio           : 0                      0
Dro. LowPrio          : 0                      0
For. InProf           : 0                      0
For. OutProf          : 0                      0

Egress Queue 1
For. In/InplusProf    : 0                      0
For. Out/ExcProf      : 0                      0
Dro. In/InplusProf    : 0                      0
Dro. Out/ExcProf      : 0                      0
===============================================================================
```

```
show service id 9 sap 1/1/10:1 queue-depth
```

```
===============================================================================
Queue Depth Information (Ingress SAP)
===============================================================================
-------------------------------------------------------------------------------
Name                      : 9->1/1/10:1->1
MBS                       : Def
-------------------------------------------------------------------------------
Queue Depths (percentage)
-------------------------------------------------------------------------------
0%-10% 11%-20% 21%-30% 31%-40% 41%-50% 51%-60% 61%-70% 71%-80% 81%-90% 91%-100%
-------------------------------------------------------------------------------
100.00 0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00
-------------------------------------------------------------------------------
Average Elapsed Time            : 0d 00:00:30
Wghtd Avg Queue Polling Interval: 100 ms
-------------------------------------------------------------------------------
===============================================================================
 ===============================================================================
Queue Depth Information (Egress SAP)
===============================================================================
-------------------------------------------------------------------------------
Name                      : 9->1/1/10:1->1
MBS                       : Def
Violation Threshold Percnt: xx.xx
Violation Total Count     : xxx
Violation Last Seen       : Thu Mar 26 12:39:33 PDT 2020
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Queue Depths (percentage)
-------------------------------------------------------------------------------
0%-10% 11%-20% 21%-30% 31%-40% 41%-50% 51%-60% 61%-70% 71%-80% 81%-90% 91%-100%
-------------------------------------------------------------------------------
100.00 0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00
-------------------------------------------------------------------------------
Average Elapsed Time               : 0d 00:11:11
Wghtd Avg Queue Polling Interval   : 100 ms
Wghtd Avg HiWtrMark Polling Interval: 1000 s
-------------------------------------------------------------------------------
===============================================================================
```

```
show service id 1 sap 1/1/1 queue-group-redirection
```

```
===============================================================================
Queue Group Redirect List Information (Ingress SAP)
===============================================================================
Queue Group Redirect List    : list1
Type                         : vxlan-vni
Queue Group                  : qg1

-------------------------------------------------------------------------------
Match                    Instance                FP
-------------------------------------------------------------------------------
1                        1                       1/1
2                        2                       1/1
3                        3                       1/1 : mismatch
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
Queue Group Redirect List Information (Egress SAP)
===============================================================================
Queue Group Redirect List    : list1
Type                         : vxlan-vni
Queue Group                  : qg1

-------------------------------------------------------------------------------
Match                    Instance                Port
-------------------------------------------------------------------------------
1                        1                       1/1/1
2                        2                       1/1/1
3                        3                       1/1/1 : mismatch
-------------------------------------------------------------------------------
===============================================================================
```

Table 491: Output fields: service ID SAP

Label	Description
Service Access Points(SAP)	
Service Id	The service identifier.
SAP	The SAP and qtag.
Encap	The encapsulation type of the SAP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ethertype	Specifies an Ethernet type II Ethertype value.
Admin State	The administrative state of the SAP.
Oper State	The operating state of the SAP.
Flags	Specifies the conditions that affect the operating status of this SAP. Display output includes: ServiceAdminDown, SapAdminDown, Interface AdminDown, PortOperDown, PortMTUTooSmall, L2OperDown, SapIngress QoSMismatch, SapEgressQoSMismatch, RelearnLimitExceeded, RxProtSrc Mac, ParentIfAdminDown, NoSapIpipeCeIpAddr, SapParamMismatch, CemSap NoEcidOrMacAddr, StandByForMcRing, ServiceMTUTooSmall, NoSapEpipeRing Node.
Last Status Change	Specifies the time of the most recent operating status change to this SAP.
Last Mgmt Change	Specifies the time of the most recent management-initiated change to this SAP.
Admin MTU	The desired largest service frame size (in octets) that can be transmitted through the SAP to the far-end router, without requiring the packet to be fragmented.
Oper MTU	The actual largest service frame size (in octets) that can be transmitted through the SAP to the far-end router, without requiring the packet to be fragmented.
Restr MacUnpr Dst	The administrative and operational state of the restrict unprotected destination MAC (restrict-unprotected-dst) functionality.
Auto Learn Mac Prot	The administrative and operational state of the protected MAC auto learning (auto-learn-mac-protect) functionality.
RestMacProtSrc Act	The administrative and operational state of the restrict protected source MAC (restrict-protected-src) functionality.
Eth Loopback	Specifies whether Ethernet loopback operations are enabled.
Mode	Specifies whether the associated port or channel is configured in line or internal loopback mode.
MAC Swap	Specifies whether source and destination MAC address swapping is enabled.
MAC Swap Address	Specifies the MAC address.
FXC VLAN normalization mode	The Flexible Cross Connect (FXC) VLAN normalization mode.
PPPoE Intermediate Agent	
Admin State	Specifies the administrative state of the PPPoE Intermediate Agent.
MTU	Specifies the MTU value.
BBF Vendor Specific Tag	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Agent Circuit-id	Specifies the Agent Circuit ID action and value.
Agent Remote-id	Specifies the Agent Remote ID action and value.
Other sub-tags	Specifies the Agent other sub-tag action.
QOS	
Ingress qos-policy	The ingress QoS policy ID assigned to the SAP.
Egress qos-policy	The egress QoS policy ID assigned to the SAP.
Ingress Filter-Id	The ingress filter policy ID assigned to the SAP.
Egress Filter-Id	The egress filter policy ID assigned to the SAP.
Acct. Pol	The accounting policy ID assigned to the SAP.
Collect Stats	Specifies whether collect stats is enabled.
Dropped	The number of packets and octets dropped due to SAP state, ingress MAC or IP filter, same segment discard, bad checksum, etc.
Received Valid	The number of valid packets and octets received on the SAP.
Off. HiPrio	The number of high priority packets and octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
Off. LowPrio	The number of low priority packets and octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
Off. Uncolor	The number of uncolored packets and octets, as determined by the SAP ingress QoS policy, offered by the Pchip to the Qchip.
Dro. HiPrio	The number of high priority packets and octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
Dro. LowPrio	The number of low priority packets and octets, as determined by the SAP ingress QoS policy, dropped by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
For. InProf	The number of in-profile packets and octets (rate below CIR) forwarded by the ingress Qchip.
For. OutProf	The number of out-of-profile packets and octets discarded by the egress Qchip due to MBS exceeded, buffer pool limit exceeded, etc.
Dro. InProf	The number of in-profile packets and octets discarded by the egress Qchip due to MBS exceeded, buffer pool limit exceeded, etc.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Dro. OutProf	The number of out-of-profile packets and octets discarded by the egress Qchip due to MBS exceeded, buffer pool limit exceeded, etc.
For. InProf	The number of in-profile packets and octets (rate below CIR) forwarded by the egress Qchip.
For. OutProf	The number of out-of-profile packets and octets (rate above CIR) forwarded by the egress Qchip.
Ingress TD Profile	The profile ID applied to the ingress SAP.
Egress TD Profile	The profile ID applied to the egress SAP.
Alarm Cell Handling	The indication that OAM cells are being processed.
AAL-5 Encap	The AAL-5 encapsulation type.
Mult Svc Site	Specifies the customer's multiservice site name.
I. Sched Pol	The ingress scheduler policy applied to the customer's multiservice site.
E. Sched Pol	The egress scheduler policy applied to the customer's multiservice site.
HW Agg Shaper Q Set	Whether the hardware aggregate shaper queue sets are in use.
HW Add Shpr QSet Sz	The size of the hardware aggregate shaper queue set.
HW Agg Shpr In-Use	Whether hardware aggregate shapers are in use.
LLF Admin State	Displays the Link Loss Forwarding administrative state.
LLF Oper State	Displays the Link Loss Forwarding operational state.
pw-port	**pw**-*id[:qtag1[.qtag2]]* **pw**-*id[:qtag1[.qtag2]]* pw-2:1.1
DHCP6	
LDRA	The state of the Lightweight DHCPv6 Relay Agent: • Enabled • Disabled
Interface Type	The LDRA interface type: • client-facing • network-facing • N/A
Interface-Id	The format for the Interface ID option: • **ascii-tuple** system name | service ID | sap ID

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	For example: pe1|3000|1/x1/1/c1/1:2000.10 • **vlan-ascii-tuple** system name | service ID | sap ID | dot1p inner vlan | inner vlan ID For example: pe1|3000|1/x1/1/c1/1:2000.10|0|10 • N/A
Remote-Id	The format for the Remote ID option: • **mac** The DHCPv6 client source MAC address encoded as six hexadecimal numbers • **ASCII string in remote-id field** The configured ascii encoded string • N/A

The following output is an example of distributed CPU Protection Policer Output information and Table 492: Output fields: distributed CPU protection policer describes the output fields.

Output Example

```
*A:nodeA# show service id 33 sap 1/1/3:33 dist-cpu-protection detail
===============================================================================
Service Access Points(SAP) 1/1/3:33
===============================================================================
Distributed CPU Protection Policy :  test1
-------------------------------------------------------------------------------
Statistics/Policer-State Information
===============================================================================
-------------------------------------------------------------------------------
Static Policer
-------------------------------------------------------------------------------
Policer-Name        : arp
Card/FP             : 1/1               Policer-State      : Conform
Protocols Mapped    : arp
Exceed-Count        : 0
Detec. Time Remain  : 0 seconds         Hold-Down Remain.  : none
Operational (adapted) rate parameters:
 Oper. Packets      : 5 ppi             Oper. Within       : 8 seconds
 Oper. Initial Delay: 6 packets
 Oper. Depth        : 0 packets

Policer-Name        : dhcp
Card/FP             : 1/1               Policer-State      : Conform
Protocols Mapped    : dhcp
Exceed-Count        : 0
Detec. Time Remain  : 0 seconds         Hold-Down Remain.  : none
Operational (adapted) rate parameters:
 Oper. Kbps         : 2343 kbps         Oper. MBS          : 240 kilobytes
 Oper. Depth        : 0 bytes

… (snip)


*A:nodaA# show service id 33 sap 1/1/3:34 dist-cpu-protection detail
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service Access Points(SAP) 1/1/3:34
===============================================================================
Distributed CPU Protection Policy :  test2
-------------------------------------------------------------------------------
Statistics/Policer-State Information
===============================================================================
Static Policer
-------------------------------------------------------------------------------
No entries found
-------------------------------------------------------------------------------
Local-Monitoring Policer
-------------------------------------------------------------------------------
Policer-Name        : my-local-mon1
Card/FP             : 1/1               Policer-State      : conform
Protocols Mapped    : arp, pppoe-pppoa
Exceed-Count        : 0
All Dyn-Plcr Alloc. : False
Operational (adapted) rate parameters:
 Oper. Packets      : 10 ppi            Oper. Within       : 8 seconds
 Oper. Initial Delay: 8 packets
 Oper. Depth        : 0 packets
-------------------------------------------------------------------------------
Dynamic-Policer (Protocol)
-------------------------------------------------------------------------------
Protocol(Dyn-Plcr)  : arp
Card/FP             : 1/1               Protocol-State     : not-applicable
Exceed-Count        : 0
Detec. Time Remain  : 0 seconds         Hold-Down Remain.  : none
Dyn-Policer Alloc.  : False
Operational (adapted) rate parameters: unknown

Protocol(Dyn-Plcr)  : pppoe-pppoa
Card/FP             : 1/1               Protocol-State     : not-applicable
Exceed-Count        : 0
Detec. Time Remain  : 0 seconds         Hold-Down Remain.  : none
Dyn-Policer Alloc.  : False
Operational (adapted) rate parameters: unknown
-------------------------------------------------------------------------------
```

Table 492: Output fields: distributed CPU protection policer

Label	Description
Distributed CPU Protection Policy	The DCP policy assigned to the object.
Policer-Name	The configured name of the static policer
Card/FP	The card and FP identifier. FP identifies the instance of the FP (FastPath) chipset. Some cards have a single FP and some cards can contain multiple FPs (for example, an XCM can house multiple FPs via its two XMAs).
Policer-State	The state of the policer with the following potential values:
	Exceed — The policer has been detected as not conforming to the associated DCP policy parameters (for example, packets exceeded the configured rate and the DCP polling process identified this occurrence)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Conform — The policer has been detected as conforming to the associated DCP policy parameters (rate)
	not-applicable — Newly-created policers or policers that are not currently instantiated. This includes policers configured on line cards that are not in service.
Protocols Mapped	A list of protocols that are configured to map to the particular policer.
Oper. xyz fields	The actual hardware may not be able to perfectly rate limit to the exact configured rate parameters in a DCP policy. In this case the configured rate parameters will be adapted to the closest supported rate. These adapted operational values are displayed in CLI when the **detail** keyword is included in the show command. The adapted Oper. parameters are only applicable if the policer is instantiated (for example, if the associated forwarding plane is operational, or for an interface if there is a physical port configured for the interface, or if the dynamic policers are allocated), otherwise values of 0 kb/s, and so on, are displayed.
	Oper. Kbps - The adapted "kilobits-per-second” value for DCP "kbps” rates
	Oper. MBS - The adapted "mbs size” value for DCP "kbps” rates
	Oper. Depth - The calculated policer bucket depth in packets (for DCP "packets” rates) or in bytes (for DCP "kbps” rates)
	Oper. Packets - The adapted "ppi” value for DCP "packets” rates
	Oper. Within - The adapted "within seconds” value for DCP "packets” rates
	Oper. Init. Delay - The adapted "initial-delay packets” value for DCP "packets” rates
Exceed-Count	The count of packets exceeding the policing parameters since the given policer was previously declared as conforming or newly-instantiated. This counter has the same behavior as the exceed counter in the DCP the log events, they are baselined (reset) when the policer transitions to conforming.
Detec. Time Remain	The remaining time in the detection-time countdown during which a policer in the exceed state is being monitored to see if it conforms again.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Hold-Down Remain	The remaining time in the hold-down countdown during which a policer is treating all packets as exceeding.
All Dyn-Plcr Alloc.	Indicates that all the dynamic enforcement policers have been allocated and instantiated for a given local-monitor.
Dyn-Policer Alloc.	Indicates that a dynamic policer has been instantiated.

sap

Syntax

sap *sap-id*

Context

[Tree] (clear>service>id sap)

Full Context

clear service id sap

Description

This command clears information for the specified SAP.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition

Platforms

All

sap

Syntax

sap *sap-id* {**all** | **cem** | **counters** | **stp** | **l2pt** | **mrp**}

sap *sap-id* **encap-group** *group-name* [**member** *encap-id*]

Context

[Tree] (clear>service>statistics sap)

Full Context

clear service statistics sap

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears SAP statistics for a SAP.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

all

Clears all SAP queue statistics and STP statistics.

counters

Clears all queue statistics associated with the SAP.

stp

Clears all STP statistics associated with the SAP.

l2pt

Clears all L2PT statistics associated with the SAP.

mrp

Clears all MRP statistics associated with the SAP.

group-name

Specifies the group name, up to 32 characters.

encap-id

Specifies the encapsulation ID.

Values 0 to 16777215

Platforms

All

sap

Syntax

sap [*sap-id*] [**level** *level*] [**primary-vlan-enabled** *vlan-id*]

sap port *port-id* [**level** *level*] [**primary-vlan-enabled** *vlan-id*]

Context

[Tree] (show>eth-cfm>mip-instantiation sap)

Full Context

show eth-cfm mip-instantiation sap

Description

This command displays MIP creation information for SAPs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

level

Specifies the MIP instantiation level.

Values 0 to 7

vlan-id

Specifies the VLAN ID to display.

Values 1 to 4094, or all

port-id

Specifies the port ID.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sap

Syntax

sap *sap-id* [{**ingress** | **egress**}] [{**detail** | **root-detail** | **thresholds** | **priority-info** | **depth**}] [**port** *port-id*] [**arbiter** {*name* | *root* }]

Context

[Tree] (show>qos>policer-hierarchy sap)

Full Context

show qos policer-hierarchy sap

Description

This command displays information about the policer hierarchy per SAP.

Parameters

sap-id

Displays information about the specified SAP.

ingress

Displays ingress SAP information.

egress

Displays egress SAP information.

detail

Displays detailed information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

root-detail

Displays detailed information about the arbiter root.

thresholds

Displays the threshold, parenting, rate, and traffic information related to a policer.

priority-info

Displays the threshold information related to the root arbiter.

depth

Displays the bucket depth, parenting, rate, and traffic information related to a policer.

port-id

Displays information about the specified port.

Values *slot/mda/port*[.*channel*]

name

Displays information about the name of the QoS arbiter.

root

Displays information about the arbiter root.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of SAP policer hierarchy information.

Output Example

```
*A:PE-1# show qos policer-hierarchy sap 1/1/3:1
===============================================================================
Policer Hierarchy - Sap 1/1/3:1
===============================================================================
Ingress Policer Control Policy : cfhp-1
Egress Policer Control Policy  :
-------------------------------------------------------------------------------
root (Ing)
|
| slot(1)
|    Profile-preferred:Disabled
|
|--(A) : a3 (Sap 1/1/3:1)
|   |
|   |--(P) : Policer 1->1/1/3:1->4
|   |   |
|   |   |    [Level 2 Weight 25]
|   |   |    Assigned PIR:60000      Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    Assigned FIR:15000
|   |
|   |--(P) : Policer 1->1/1/3:1->3
|   |   |
|   |   |    [Level 2 Weight 25]
|   |   |    Assigned PIR:60000      Offered:0
|   |   |    Consumed:0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |   |
|   |   |    Assigned FIR:15000
|   |
|   |--(P) : Policer 1->1/1/3:1->2
|   |   |
|   |   |    [Level 2 Weight 50]
|   |   |    Assigned PIR:60000      Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    Assigned FIR:30000
|
|--(P) : Policer 1->1/1/3:1->5
|   |
|   |    [Level 5 Weight 1]
|   |    Assigned PIR:10000      Offered:0
|   |    Consumed:0
|   |
|   |    Assigned FIR:10000
|
|--(P) : Policer 1->1/1/3:1->1
|   |
|   |    [Level 1 Weight 1]
|   |    Assigned PIR:100000     Offered:0
|   |    Consumed:0
|   |
|   |    Assigned FIR:100000
root (Egr)
|
No Active Members Found on slot 1
===============================================================================
*A:PE-1#


*A:PE-1# show qos policer-hierarchy sap 1/1/3:1 detail
===============================================================================
Policer Hierarchy - Sap 1/1/3:1
===============================================================================
Ingress Policer Control Policy : cfhp-1
Egress Policer Control Policy  :
-------------------------------------------------------------------------------
Legend :
(*) real-time dynamic value
(w) Wire rates
-------------------------------------------------------------------------------
root (Ing)
|
| slot(1)
|    Profile-preferred:Disabled
|    MaxPIR:100000
|    ConsumedByChildren:0
|    OperPIR:100000      OperFIR:100000
|
|    DepthPIR:0 bytes
|  Priority 8
|    Oper Thresh Unfair:17408       Oper Thresh Fair:25600
|    Association count:0
|  Priority 7
|    Oper Thresh Unfair:17408       Oper Thresh Fair:25600
|    Association count:0
|  Priority 6
|    Oper Thresh Unfair:17408       Oper Thresh Fair:25600
|    Association count:0
|  Priority 5
|    Oper Thresh Unfair:17408       Oper Thresh Fair:25600
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|    Association count:1
|  Priority 4
|    Oper Thresh Unfair:9728        Oper Thresh Fair:17408
|    Association count:0
|  Priority 3
|    Oper Thresh Unfair:9728        Oper Thresh Fair:17408
|    Association count:3
|  Priority 2
|    Oper Thresh Unfair:0           Oper Thresh Fair:8192
|    Association count:0
|  Priority 1
|    Oper Thresh Unfair:0           Oper Thresh Fair:8192
|    Association count:1
|
|--(A) : a3 (Sap 1/1/3:1)
|   |    MaxPIR:60000
|   |    ConsumedByChildren:0
|   |    OperPIR:60000       OperFIR:60000
|   |
|   |    [Level 3 Weight 1]
|   |    Assigned PIR:60000      Offered:0
|   |    Consumed:0
|   |
|   |    Assigned FIR:60000
|   |
|   |--(P) : Policer 1->1/1/3:1->4
|   |   |    MaxPIR:60000        MaxCIR:20000
|   |   |    CBS:25600           MBS:77824
|   |   |    HiPrio:0
|   |   |    Depth:0
|   |   |
|   |   |    OperPIR:60000        OperCIR:20000
|   |   |    OperFIR:15000
|   |   |    PacketByteOffset:0
|   |   |    StatMode: offered-total-cir
|   |   |
|   |   |    [Level 2 Weight 25]
|   |   |    Assigned PIR:60000      Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    Assigned FIR:15000
|   |
|   |--(P) : Policer 1->1/1/3:1->3
|   |   |    MaxPIR:60000        MaxCIR:20000
|   |   |    CBS:25600           MBS:77824
|   |   |    HiPrio:0
|   |   |    Depth:0
|   |   |
|   |   |    OperPIR:60000        OperCIR:20000
|   |   |    OperFIR:15000
|   |   |    PacketByteOffset:0
|   |   |    StatMode: offered-total-cir
|   |   |
|   |   |    [Level 2 Weight 25]
|   |   |    Assigned PIR:60000      Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    Assigned FIR:15000
|   |
|   |--(P) : Policer 1->1/1/3:1->2
|   |   |    MaxPIR:60000        MaxCIR:20000
|   |   |    CBS:25600           MBS:77824
|   |   |    HiPrio:0
|   |   |    Depth:0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |   |
|   |   |    OperPIR:60000        OperCIR:20000
|   |   |    OperFIR:30000
|   |   |    PacketByteOffset:0
|   |   |    StatMode: offered-total-cir
|   |   |
|   |   |    [Level 2 Weight 50]
|   |   |    Assigned PIR:60000      Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    Assigned FIR:30000
|
|--(P) : Policer 1->1/1/3:1->5
|   |    MaxPIR:10000        MaxCIR:10000
|   |    CBS:12800           MBS:12800
|   |    HiPrio:0
|   |    Depth:0
|   |
|   |    OperPIR:10000        OperCIR:10000
|   |    OperFIR:10000
|   |    PacketByteOffset:0
|   |    StatMode: offered-total-cir
|   |
|   |    [Level 5 Weight 1]
|   |    Assigned PIR:10000      Offered:0
|   |    Consumed:0
|   |
|   |    Assigned FIR:10000
|
|--(P) : Policer 1->1/1/3:1->1
|   |    MaxPIR:100000       MaxCIR:0
|   |    CBS:0               MBS:126976
|   |    HiPrio:0
|   |    Depth:0
|   |
|   |    OperPIR:100000       OperCIR:0
|   |    OperFIR:100000
|   |    PacketByteOffset:0
|   |    StatMode: offered-total-cir
|   |
|   |    [Level 1 Weight 1]
|   |    Assigned PIR:100000     Offered:0
|   |    Consumed:0
|   |
|   |    Assigned FIR:100000
root (Egr)
|
No Active Members Found on slot 1
===============================================================================
*A:PE-1#
```

Table 493: Output fields: QoS policer hierarchy SAP

Label	Description
Policer Hierarchy - SAP	Displays the SAP ID
slot	Displays the slot number
(A)	An arbiter, an object that is configured in the policy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
a3	Displays the name of the arbiter
(P)	Displays the policer name
[Level X Weight XX]	Displays the CIR level and weight configured in the policy
Assigned PIR	Displays the assigned PIR value
Offered	Displays the Offered PIR value
Consumed	Displays the amount of bandwidth consumed by the policer
Assigned FIR	Displays the assigned FIR based on weights of individual policers and the offered traffic

sap

Syntax

sap *sap-id* [**scheduler** *scheduler-name*] [{**ingress** | **egress**}] [**detail**]

sap *sap-id* **encap-group** *group-name* [**scheduler** *scheduler-name*] [**member** *encap-id*] [**detail**]

Context

[Tree] (show>qos>scheduler-hierarchy sap)

Full Context

show qos scheduler-hierarchy sap

Description

This command displays the scheduler hierarchy per SAP.

Parameters

sap-id

Specifies the SAP assigned to the service.

Values The following values apply to the 7750 SR and 7950 XRS:

sap-id	null	[*port-id* | *lag-id*]
	dot1q	[*port-id* | *lag-id*]:*qtag1*
	qinq	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id*]: *qtag1.qtag2*
	port-id	*slot*/*mda*/*port* [.*channel*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

		esat-*id*/*slot*/*port*	
		esat	keyword
		id	1 to 20
		pxc-*id*.*sub-port*	
		pxc	keyword
		id	1 to 64
		sub-port	a, b
	lag-id	lag-id	
		lag	keyword
		id	1 to 800
	qtag1	0 to 4094	
	qtag2	*, 0 to 4094	

Values The following values apply to the 7750 SR only:

sap-id	null	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*]	
	dot1q	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*]:*qtag1*	
	qinq	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id*]:*qtag1.qtag2*	
	cem	*slot/mda/port.channel*	
	ima-grp	[*bundle-id*[:vpi/vci | vpi | *vpi1.vpi2*]	
	port-id	*slot/mda/port*[.*channel*]	
	aps-id	aps-*group-id*[.*channel*]	
		aps	keyword
		group-id	1 to 64
	ccag-id	ccag-*id*.*path-id*[*cc-type*]:*cc-id*	
		ccag	keyword
		id	1 to 8
		path-id	a, b
		cc-type	.sap-net, .net-sap
		cc-id	0 to 4094

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lag-id	lag-id	
	lag	keyword
	id	1 to 800
qtag1	0 to 4094	
qtag2	*, 0 to 4094	
ipsec-id	ipsec-*id*.[private | public]:*tag*	
	ipsec	keyword
	id	1 to 4
	tag	0 to 4094

Values The following values apply to the 7450 ESS only:

sap-id	null	[*port-id* | *lag-id*]
	dot1q	[*port-id* | *lag-id*]:*qtag1*
	qinq	*[port-id* | *lag-id]:qtag1.qtag2*
	port-id	slot/mda/port[.channel]
	aps-id	aps-*group-id*[.*channel*]
		aps keyword
		group-id 1 to 64
	ccag-id	ccag-*id*.*path-id*[*cc-type*]:*cc-id*
		ccag keyword
		id 1 to 8
		path-id a, b
		cc-type .sap-net, .net-sap
		cc-id 0 to 4094
	lag-id	lag-*id*
		lag keyword
		id 1 to 800
	qtag1	0. to 4094
	qtag2	*, 0 to 4094

scheduler-name

The unique scheduler name created in the context of the scheduler policy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ingress

The keyword to display ingress SAP scheduler stats.

egress

The keyword to display egress SAP scheduler stats.

group-name

Specifies the name of the encap-group and can be up to 32 ASCII characters.

encap-id

Specifies the value of the single encap-id.

Values 1 to 16777215

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of SAP scheduler hierarchy information, and Table 494: Output fields: QoS scheduler hierarchy SAP describes the SAP scheduler hierarchy fields.

Output Example

```
===============================================================================
*A:Dut-A>config>service# show qos scheduler-hierarchy sap lag-1:1 ingress detail

===============================================================================
Scheduler Hierarchy - Sap lag-1:1
===============================================================================
Ingress Scheduler Policy: sched1
-------------------------------------------------------------------------------
Legend :
(*)     real-time dynamic value
(otw)   on-the-wire rates
(lmotw) last-mile-on-the-wire rates
B       Bytes
-------------------------------------------------------------------------------
Root (Ing)
|
| slot(1)
|
|--(S) : sch1
|   |    AdminPIR:max                    AdminCIR:0 kbps(sum)
|   |    Limit Unused Bandwidth: disabled
|   |
|   |    [Within CIR Level 0 Weight 0]
|   |    Assigned:0 kbps     Offered:0 kbps
|   |    Consumed:0 kbps
|   |
|   |    [Above CIR Level 0 Weight 0]
|   |    Assigned:0 kbps     Offered:0 kbps
|   |    Consumed:0 kbps
|   |
|   |    TotalConsumed:0 kbps
|   |    OperPIR:max
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |
|   |    [As Parent]
|   |    Rate:max
|   |    ConsumedByChildren:0 kbps
|   |
|   |--(P) : 1->lag-1:1(1/1/c1/1)->2
|   |   |    AdminPIR:max        AdminCIR:0 kbps
|   |   |    Parent Limit Unused Bandwidth: not-found
|   |   |    CBS:0 B             MBS:8589934592 B
|   |   |    Depth:0 B
|   |   |    Low Drop Tail:0 B
|   |   |
|   |   |    [Within CIR Level 0 Weight 1]
|   |   |    Assigned:0 kbps     Offered:0 kbps
|   |   |    Consumed:0 kbps
|   |   |
|   |   |    [Above CIR Level 1 Weight 1]
|   |   |    Assigned:max        Offered:0 kbps
|   |   |    Consumed:0 kbps
|   |   |    TotalConsumed:0 kbps
|   |   |    OperPIR:max         OperCIR:0 kbps
|   |   |
|   |   |    PktByteOffset:add 0*
|   |   |    OnTheWireRates:false
|   |   |    ATMOnTheWireRates:false
|   |   |    LastMileOnTheWireRates:false
|   |
|   |--(S) : Tier0Ingress:1->lag-1:1->1
|   |   |    AdminPIR:10000000 kbps          AdminCIR:0 kbps
|   |   |    AdminFIR:0 kbps
|   |   |    Parent Limit Unused Bandwidth: not-found
|   |   |
|   |   |    [Within CIR Level 0 Weight 1]
|   |   |    Assigned:0 kbps     Offered:0 kbps
|   |   |    Consumed:0 kbps
|   |   |
|   |   |    [Above CIR Level 1 Weight 1]
|   |   |    Assigned:10000000 kbps Offered:0 kbps
|   |   |    Consumed:0 kbps
|   |   |
|   |   |    TotalConsumed:0 kbps
|   |   |    OperPIR:10000000 kbps
|   |   |
|   |   |    [As Parent]
|   |   |    OperPIR:10000000 kbps  OperCIR:0 kbps
|   |   |    OperFIR:0 kbps
|   |   |    ConsumedByChildren:0 kbps
|   |   |
|   |   |--(Q) : 1->lag-1:1(1/1/c1/1)->1 1:1/1
|   |   |   |    AdminPIR:10000000 kbps AdminCIR:0 kbps
|   |   |   |    Parent Limit Unused Bandwidth: not-found
|   |   |   |    CBS:0 B
|   |   |   |    MBS:12582912 B
|   |   |   |    Depth:0 B
|   |   |   |    HighPlus Drop Tail:12582912 B
|   |   |   |    High Drop Tail:12582912 B
|   |   |   |    Low Drop Tail:11272192 B
|   |   |   |    Exceed Drop Tail:9961472 B
|   |   |   |
|   |   |   |    [CIR Weight 1]
|   |   |   |    Assigned:0 kbps     Offered:0 kbps
|   |   |   |    Consumed:0 kbps
|   |   |   |
|   |   |   |    [PIR Weight 1]
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |   |   |    Assigned:10000000 kbps Offered:0 kbps
|   |   |   |    Consumed:0 kbps
|   |   |   |    OperPIR:max         OperCIR:0 kbps
|   |   |   |
|   |   |   |    OperFIR:0 kbps
|   |   |   |
|   |   |   |    PktByteOffset:add 0*
|   |   |   |    OnTheWireRates:false
|   |   |   |    ATMOnTheWireRates:false
|   |   |   |    LastMileOnTheWireRates:false


===============================================================================

*A:PE# show qos scheduler-hierarchy sap 1/1/1:1 egress detail

===============================================================================
Scheduler Hierarchy - Sap 1/1/1:1
===============================================================================
Egress Scheduler Policy : sp1
-------------------------------------------------------------------------------
Legend :
(*) real-time dynamic value
(w) Wire rates
B   Bytes

-------------------------------------------------------------------------------
Root (Egr)
| slot(1)
|--(S) : s1
|   |    AdminPIR:200000                AdminCIR:10000(sum)
|   |    Limit Unused Bandwidth: disabled
|   |
|   |
|   |    [Within CIR Level 0 Weight 0]
|   |    Assigned:0          Offered:0
|   |    Consumed:0
|   |
|   |    [Above CIR Level 0 Weight 0]
|   |    Assigned:0          Offered:0
|   |    Consumed:0
|   |
|   |
|   |    TotalConsumed:0
|   |    OperPIR:200000
|   |
|   |    [As Parent]
|   |    Rate:200000
|   |    ConsumedByChildren:0
|   |
|   |
|   |--(Q) : 1->1/1/1:1->1
|   |   |    AdminPIR:10000      AdminCIR:10000
|   |   |    Parent Limit Unused Bandwidth: not-found
|   |   |    CBS:15360 B
|   |   |    MBS:66048 B
|   |   |    Depth:0 B
|   |   |    HighPlus Drop Tail:66048 B
|   |   |    High Drop Tail:66048 B
|   |   |    Low Drop Tail:58368 B
|   |   |    Exceed Drop Tail:52224 B
|   |   |
|   |   |    [Within CIR Level 6 Weight 1]
|   |   |    Assigned:10000      Offered:0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |   |    Consumed:0
|   |   |
|   |   |    [Above CIR Level 6 Weight 1]
|   |   |    Assigned:10000      Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    TotalConsumed:0
|   |   |    OperPIR:10000       OperCIR:10000
|   |   |
|   |   |    PktByteOffset:add 0*
|   |   |    OnTheWireRates:false
|   |   |    ATMOnTheWireRates:false
|   |   |    LastMileOnTheWireRates:false
|   |   |
|

===============================================================================
```

Table 494: Output fields: QoS scheduler hierarchy SAP

Label	Description
Admin CIR/PIR	Specifies the configured value of CIR/PIR.
Assigned CIR/ PIR	Specifies the PIR/CIR rate given to a member by that parent level.
Offered CIR/ PIR	Specifies the offered load on that member.
Consumed CIR/ PIR	Specifies the amount of scheduler bandwidth used by this member.
S	Displays the scheduler name and information.
Q	Displays the queue ID and information.
P	Displays the policer ID and information.

sap

Syntax

sap *sap-id* [**scheduler** *scheduler-name*] [{**ingress** | **egress**}]

sap *sap-id* **encap-group** *group-name* [**scheduler** *scheduler-name*] [**member** *encap-id*]

Context

[Tree] (show>qos>scheduler-stats sap)

Full Context

show qos scheduler-stats sap

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information about the scheduler stats per SAP.

Parameters

sap-id

Displays information about the SAP and encapsulation value used to identify the SAP.

Values The following values apply to the 7750 SR and 7950 XRS:

sap-id	null	[*port-id* | *lag-id*]	
	dot1q	[*port-id* | *lag-id*]:*qtag1*	
	qinq	[*port-id* | *lag-id*]:*qtag1.qtag2*	
	lag-id	lag-id	
		lag	keyword
		id	1 to 800
	qtag1	0 to 4094	
	qtag2	*, 0 to 4094	
	ipsec-id	ipsec-*id*.[private | public]:*tag*	
		ipsec	keyword
		id	1 to 4
		tag	0 to 4094

Values The following values apply to the 7750 SR only:

sap-id	null	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*]	
	dot1q	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*]:*qtag1*	
	qinq	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id*]: *qtag1.qtag2*	
	cem	*slot/mda/port.channel*	
	ima-grp	[*bundle-id*[:vpi/vci | vpi | *vpi1.vpi2*]	
	port-id	*slot/mda/port*[.*channel*]	
	aps-id	aps-*group-id*[.*channel*]	
		aps	keyword
		group-id	1 to 64
	ccag-id	ccag-*id.path-id*[*cc-type*]:*cc-id*	
		ccag	keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	id	1 to 8
	path-id	a, b
	cc-type	.sap-net, .net-sap
	cc-id	0 to 4094
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap*-id]	
	id:	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	lag-id	
	lag	keyword
	id	1 to 800
qtag1	0 to 4094	
qtag2	*, 0 to 4094	
ipsec-id	ipsec-*id*.[private | public]:*tag*	

Values The following values apply to the 7450 ESS:

sap-id	null	[*port-id* | *lag-id*]
	dot1q	[*port-id* | *lag-id*]:*qtag1*
	qinq	[*port-id* | *lag-id*]:*qtag1.qtag2*
	port-id	slot/mda/port[.channel]
	aps-id	aps-*group-id*[.*channel*]
	aps	keyword
	group-id	1 to 64
	ccag-id	ccag-*id*.*path-id*[*cc-type*]:*cc-id*
	ccag	keyword
	id	1 to 8
	path-id	a, b]
	cc-type	.sap-net, .net-sap]
	cc-id	0 to 4094
	eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap*-id]
	id:	1 to 1024

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	eth-tun-sap-id	0 to 4094
lag-id	lag-*id*	
	lag	keyword
	id	1 to 800
qtag1	0. to 4094	
qtag2	*, 0 to 4094	

scheduler-name

Displays information about the specified schedule.

ingress

Display only the policy displayed on the ingress SAP.

egress

Display only the policy displayed on the egress SAP.

group-name

Specifies the name of the encap-group and can be up to 32 ASCII characters.

encap-id

Specifies the value of the single encap-id.

Values 1 to 16777215

Platforms

All

Output

The following output is an example of scheduler-stats SAP information, and Table 495: Output fields: QoS scheduler stats SAP describes the scheduler-stats SAP fields.

Output Example

```
A:ALA-12# show qos scheduler-stats sap 1/1/4.1:0
===============================================================================
Scheduler Stats
===============================================================================
Scheduler                       Forwarded Packets        Forwarded Octets
-------------------------------------------------------------------------------
Ingress Schedulers
All_traffic                     0                        0
NetworkControl                  0                        0
Egress Schedulers
All_traffic                     0                        0
Internet_be                     0                        0
Internet_priority               0                        0
Internet_voice                  0                        0
NetworkControl                  0                        0
NonVoice                        0                        0
VPN_be                          0                        0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
VPN_nc                          0                       0
VPN_priority                    0                       0
VPN_reserved                    0                       0
VPN_video                       0                       0
VPN_voice                       0                       0
Voice                           0                       0
===============================================================================
A:ALA-12#


A:ALA-12# show qos scheduler-stats sap 1/1/5:0 scheduler 1
===============================================================================
Scheduler Stats
===============================================================================
Scheduler                       Forwarded Packets       Forwarded Octets
-------------------------------------------------------------------------------
Ingress Schedulers
No Matching Entries.
Egress Schedulers
No Matching Entries.
===============================================================================
A:ALA-12#


A:ALA-12# show qos scheduler-stats sap 1/1/4.1:0 scheduler All_traffic
===============================================================================
Scheduler Stats
===============================================================================
Scheduler                       Forwarded Packets       Forwarded Octets
-------------------------------------------------------------------------------
Ingress Schedulers
All_traffic                     0                       0
Egress Schedulers
All_traffic                     0                       0
===============================================================================
A:ALA-12#
```

Table 495: Output fields: QoS scheduler stats SAP

Label	Description
Scheduler	Displays the scheduler policy name.
Forwarded Packets	Displays the number of packets forwarded.
Forwarded Octet	Displays the number of octets forwarded.
Ingress Schedulers	Displays the egress scheduler name(s).
Egress Schedulers	Displays the ingress scheduler name(s).

sap

Syntax

sap *sap-id* [**egress**] [**detail**]

sap *sap-id* **encap-group** *group-name* [**member** *encap-id*] [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>qos>agg-rate sap)

Full Context

show qos agg-rate sap

Description

This command displays the H-QoS aggregate rate limit per SAP or encap group.

Parameters

sap *sap-id*

The port number and encapsulation value used to identify the SAP.

Values

null	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*]	
dot1q	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*]:*qtag1*	
qinq	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id*]:*qtag1.qtag2*	
cem	*slot/mda/port.channel*	
ima-grp	[*bundle-id*[:vpi/vci | vpi | *vpi1.vpi2* | *cp.conn-prof-id*]	
	cp	keyword
	conn-prof-id	[1to8000]
port-id	*slot/mda/port*[.*channel*]	
aps-id	aps-*group-id*[.*channel*]	
	aps	keyword
	group-id	1 to 64
ccag-id	ccag-*id.path-id*[*cc-type*]:*cc-id*	
	ccag	keyword
	id	1 to 8
	path-id	a, b
	cc-type	.sap-net, .net-sap
	cc-id	0 to 4094
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id:	1 to 128
	eth-tun-sap-id	0 to 4094
lag-id	lag-id	
	lag	keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	id	1 to 800
pw-id	pw-*id*	
	pw	keyword
	id	1to 10239
qtag1	0 to 4094	
qtag2	*, null, 0 to 4094	
tunnel-id	tunnel-*id*.[private | public]:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094

egress

Displays egress SAP customer scheduler stats.

group-name

Specifies the name of the encap-group and can be up to 32 ASCII characters.

encap-id

Specifies the value of the single encap-id.

Values 1 to 16777215

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of H-QoS aggregate rate limit per SAP output, and Table 496: Output fields: H-QoS aggregate rate limit per SAP describes the H-QoS aggregate rate limit per SAP fields.

Output Example

```
*A:PE# show qos agg-rate sap 1/1/1:1 egress
===============================================================================
Aggregate Rate Information - Sap 1/1/1:1
===============================================================================
-------------------------------------------------------------------------------
Root (Egr)
| slot(1)
|    AdminRate              : 10000
|    OperRate               : 0
|    Limit Unused Bandwidth : disabled
|    OnTheWireRates         : false
|    LastMileOnTheWireRates : false
|
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:PE#
```

Table 496: Output fields: H-QoS aggregate rate limit per SAP

Label	Description
AdminRate	Displays the configured aggregate rate in the subscriber profile.
OperRate	Displays the actual downstream rate.
Limit Unused Bandwidth	Indicates whether the **limit-unused-bandwidth** command is enabled to protect against exceeding the aggregated bandwidth
OnTheWireRates	Indicates whether the displayed rates are on-the-wire rates.
LastMileOnTheWireRates	Indicates whether the displayed rates are on-the-wire rates for the last mile only.

sap

Syntax

sap *sap-id* [**scheduler** *scheduler-name*] [{**ingress** | **egress**}]

Context

[Tree] (clear>qos>scheduler-stats sap)

Full Context

clear qos scheduler-stats sap

Description

This command clears scheduler statistics.

Parameters

sap-id

Specifies the SAP assigned to the service.

Values The following values apply to the 7750 SR and 7950 XRS:

null	[*port-id* | *lag-id*]
dot1q	[*port-id* | *lag-id*]:*qtag1*
qinq	[*port-id* | *lag-id*]:*qtag1.qtag2*
cem	*slot/mda/port.channel*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ima-grp	[*bundle-id*[:vpi/vci | vpi | *vpi1.vpi2*]
port-id	*slot/mda/port*[*.channel*]
lag-id	lag-id
	lag keyword
	id 1 to 800
qtag1	0 to 4094
qtag2	*, 0 to 4094

Values The following values apply to the 7750 SR:

null	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*]
dot1q	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*]:*qtag1*
qinq	[*port-id* | *bundle-id* | *bpgrp-id* | *lag-id*]:*qtag1.qtag2*
cem	*slot/mda/port.channel*
ima-grp	[*bundle-id*[:vpi/vci | vpi | *vpi1.vpi2*]
port-id	*slot/mda/port*[*.channel*]
aps-id	aps-*group-id*[*.channel*]
	aps keyword
	group-id 1 to 64
ccag-id	ccag-*id.path-id*[*cc-type*]:*cc-id*
	ccag keyword
	id 1 to 8
	path-id a, b
	cc-type .sap-net, .net-sap
	cc-id 0 to 4094
lag-id	lag-id
	lag keyword
	id 1 to 800
qtag1	0 to 4094
qtag2	*, 0 to 4094
ipsec-id	ipsec-*id*.[private | public]:*tag*
	ipsec keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

id	1 to 4
tag	0 to 4094

Values The following values apply to the 7450 ESS:

null	[*port-id* | *lag-id*]	
dot1q	[*port-id* | *lag-id*]:*qtag1*	
qinq	[*port-id* | *lag-id*]:*qtag1.qtag2*	
port-id	slot/mda/port[.channel]	
aps-id	aps-*group-id*[.*channel*]	
	aps	keyword
	group-id	1 to 64
ccag-id	ccag-*id.path-id*[*cc-type*]:*cc-id*	
	ccag	keyword
	id	1 to 8
	path-id	a, b
	cc-type	.sap-net, .net-sap
	cc-id	0 to 4094
lag-id	lag-*id*	
	lag	keyword
	id	1 to 800
qtag1	0. to 4094	
qtag2	*, 0 to 4094	

scheduler-name

Displays the scheduler name.

Values Valid names consist of any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

ingress

Display only the policy displayed on the ingress SAP.

egress

Display only the policy displayed on the egress SAP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

sap

Syntax

sap *sap-id* **start** *mode* [**mac-swap**] [**mac** *ieee-address*] [**all**]

sap *sap-id* **stop**

Context

[Tree] (tools>perform>service>id>loopback>eth sap)

Full Context

tools perform service id loopback eth sap

Description

This command places and removes the specific SAP in loopback mode for reflecting Ethernet traffic back in the direction of the received stream. This is only applicable to Ethernet-based SAPs.

Parameters

sap-id

Specifies the SAP ID.

Values

null	*port-id* | lag-*id*	
dot1q	{*port-id* | lag-*id*}:{*qtag1* | cp-*conn-prof-id*	
qinq	{*port-id* | lag-*id*}:{*qtag1* | cp-*conn-prof-id*}.{*qtag2* | cp- *conn-prof-id*}	
	cp: keyword	
	conn-prof-id: 1..8000	
port-id	slot/mda/port [.channel]	
	eth-sat-id	esat-id/slot/port
		esat: keyword
		id: 1 to 20
	pxc-id	pxc-id.sub-port
		pxc pxc-id.sub-port
		pxc: keyword
		id: 1 to 64

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sub-port: a, b

lag-id	lag-*id* lag*:* keyword *id*: 1..800
qtag1	0..4094
qtag2	* | null | 0..4094

start

Keyword that places the sap in loopback mode.

mode

Keywords that specify the location on the loopback in relation to the SAP.

Values **ingress** — Traffic arriving at the sap-ingress will be reflected back out the same SAP.

egress — Traffic arriving at the sap-egress will be reflected back into the service in the direction of the original source.

stop

Removes the SAP from loopback mode.

mac-swap

Enable source address and destination address swapping for the reflected packets when the arriving packet is unicast. Any broadcast and multicast packets arriving on a looped point will be dropped.

mac *ieee-address*

Optionally configures the source MAC address used in the reflected packet when the arriving packet is a broadcast or multicast. This does not apply to arriving unicast packets.

6-byte unicast mac-address in the form xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

all

Configured *ieee-address* is used as the source address for all reflected packets regardless of the arriving destination.

Platforms

All

sap

Syntax

sap *sap-id* [**arbiter** {**root** | *name*}] [**ingress** | **egress**] [**interval** *seconds*] [**repeat** repeat] [**absolute** | **rate**]

Context

[Tree] (monitor>qos>arbiter-stats sap)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

monitor qos arbiter-stats sap

Description

This command monitors arbiter statistics for a SAP.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

name

Specifies the name of the policer control policy arbiter, up to 32 characters. This parameter is mandatory if the SAP resides on a LAG in adapt-qoslink or port-fair mode.

root

Specifies the arbiter to which this queue would be feeding.

ingress

Displays *scheduler-name* statistics applied on the ingress SAP.

egress

Displays *scheduler-name* statistics applied on the egress SAP.

seconds

Configures the interval for each display in seconds.

Values 11 to 60

Default 11 seconds

repeat

Configures the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sap

Syntax

sap *sap-id* [**scheduler** *scheduler-name*] [**ingress** | **egress**] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>qos>scheduler-stats sap)

Full Context

monitor qos scheduler-stats sap

Description

Use this command to monitor scheduler statistics for a SAP at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified SAP. The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

scheduler-name

Specifies an existing *scheduler-name,* up to 32 characters. Scheduler names are configured in the **config>qos>scheduler-policy>tier** *level* context. This parameter is mandatory if the SAP resides on a LAG in adapt-qoslink or port-fair mode.

ingress

Displays *scheduler-name* statistics applied on the ingress SAP.

egress

Displays *scheduler-name* statistics applied on the egress SAP.

seconds

Configures the interval for each display in seconds.

Values 11 to 60

Default 11 seconds

repeat

Configures how many times the command is repeated.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

sap

Syntax

sap *sap-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

sap *sap-id* **encap-group** *group-name* [**member** *encap-id*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>service>id sap)

Full Context

monitor service id sap

Description

This command monitors statistics for a SAP associated with this service.

This command displays statistics for a specific SAP, identified by the *port-id* and encapsulation value, at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the SAP. The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

Values null *port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id*:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-conn-prof-id]	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
	esat-*id*/*slot*/*port*	
	pxc-*id*.*sub-port*	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
ccag-id	**ccag**-*id*.*path-id*[*cc-type*]:*cc-id*	
	ccag	keyword
	id	1 to 8
	path-id	a | b
	cc-type	.sap-net | .net-sap
	cc-id	1 to 4094
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id*	
	lag	keyword
	id	1 to 800
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 10239
qtag1	* | 0 to 4094	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094

port-id

Specifies the physical port ID in the *slot/mda/port*, **esat**-*id*/*slot*/ *port* or **pxc**-*id*.*sub-port* format.

If the card in the slot has XMAs/MDAs installed, the *port-id* must be in the slot_number/MDA_number/port_number format. For example, 6/2/3 specifies port 3 on XMA/MDA 2 in slot 6.

bundle-id

Specifies the multilink bundle to be associated with this IP interface. The **bundle** keyword must be entered at the beginning of the parameter. This parameter applies to the 7750 SR.

The command syntax must be configured as follows:

bundle-id: **bundle**-type-slot-id/mda-slot.bundle-num

bundle-id value range: 1 to 128

For example:

```
*A:ALA-12>config#  port bundle-ppp-5/1.1
*A:ALA-12>config>port# multilink-bundle
```

bgprp-id

Specifies the bundle protection group ID to be associated with this IP interface. The **bpgrp** keyword must be entered at the beginning of the parameter. This parameter applies to the 7750 SR.

The command syntax must be configured as follows:

bpgrp-id:	bpgrp-*type-bpgrp-num*
type:	ima
bpgrp-num value range:	1 to 1280

Example:

```
*A:ALA-12>config# port bpgrp-ima-1
*A:ALA-12>config>service>vpls$ sap bpgrp-ima-1
```

qtag1, qtag2

Specifies the encapsulation value used to identify the SAP on the port or sub-port. If this parameter is not specifically defined, the default value is 0.

Values

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

qtag1: 0 to 4094

qtag2 : * | 0 to 4094

The values depends on the encapsulation type configured for the interface. Table 497: qtag values by port and encapsulation type describes the allowed values for the port and encapsulation types.

Table 497: qtag values by port and encapsulation type

Port Type	Encap-Type	Allowed Values	Comments
Ethernet	Null	0	The SAP is identified by the port.
Ethernet	Dot1q	0 to 4094	The SAP is identified by the 802.1Q tag on the port. Note that a 0 qtag1 value also accepts untagged packets on the dot1q port.
Ethernet	QinQ	qtag1: 0 to 4094 qtag2: 0 to 4094	The SAP is identified by two 802.1Q tags on the port. Note that a 0 qtag1 value also accepts untagged packets on the dot1q port.

group-name

Specifies the name of the encap group, up to 32 characters.

encap-id

Specifies the value of the encapsulation ID to be displayed.

Values 0 to 16777215

seconds

Configures the interval for each display, in seconds.

Values 11 to 60

Default 11

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays absolute rate-per-second value for each statistic.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of SAP information.

Output Example

```
*A:cses-A13# monitor service id 88  sap 1/1/2:0
===============================================================================
Monitor statistics for Service 88 SAP 1/1/2:0
===============================================================================
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Sap Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A
                        Packets                 Octets
Forwarding Engine Stats
Dropped               : 0                       0
Off. HiPrio           : 0                       0
Off. LowPrio          : 0                       0
Off. Uncolor          : 0                       0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0

Queueing Stats(Egress QoS Policy 1)
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0
-------------------------------------------------------------------------------
Sap per Queue Stats
-------------------------------------------------------------------------------
                        Packets                 Octets

Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                       0
Off. LoPrio           : 0                       0
Dro. HiPrio           : 0                       0
Dro. LoPrio           : 0                       0
For. InProf           : 0                       0
For. OutProf          : 0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sap

Syntax

sap *sap-id* [**arbiter** {*name* | *root*}] [**ingress | egress**]

Context

[Tree] (clear>qos>arbiter-stats sap)

Full Context

clear qos arbiter-stats sap

Description

This command clears the arbiter statistics per SAP.

Parameters

sap-id

Specifies the port ID portion of the SAP definition.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | eth-sat-id	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id* | eth-sat-id:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id* | *eth-sat-id:[qtag1* | *cp-conn-prof-id].[qtag2* | ***cp****-conn-prof-id]*	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lag-id	**lag**-*id* | lag-string	
	lag	keyword
	id	1 to 800
	string	23 characters max.
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	null | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094
eth-sat-id	**esat**-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

sap

Syntax

sap *sap-id* [**arbiter** *name* | *root*] [**ingress | egress**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>qos>arbiter-stats sap)

Full Context

show qos arbiter-stats sap

Description

This command displays the arbiter statistics per SAP.

Parameters

sap-id

Specifies the SAP ID.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | eth-sat-id	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id* | eth-sat-id:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id* | *eth-sat-id:[qtag1* | *cp-conn-prof-id].[qtag2* | ***cp****-conn-prof-id]*	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | lag-string	
	lag	keyword
	id	1 to 800
	string	23 characters max.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	null | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094
eth-sat-id	**esat**-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

sap

Syntax

sap *sap-id* [**ingress** | **egress**] [**detail**] [**port** *port-id*]

Context

[Tree] (show>qos>policer sap)

Full Context

show qos policer sap

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the policer per SAP.

Parameters

sap-id

Specifies the SAP ID.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | eth-sat-id	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id* | eth-sat-id:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id* | *eth-sat-id:[qtag1* | *cp-conn-prof-id].[qtag2* | ***cp****-conn-prof-id]*	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | lag-string	
	lag	keyword
	id	1 to 800
	string	23 characters max.
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	null | 0 to 4094	
qtag2	* | null | 0 to 4094	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094
eth-sat-id	**esat**-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

port-id

Specifies the port ID.

Values *slot*/*mda*/*port*

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

23.6 sap-egress

sap-egress

Syntax

sap-egress [*policy-id*] [**association** | **match-criteria** | **detail**]

sap-egress summary

Context

[Tree] (show>qos sap-egress)

Full Context

show qos sap-egress

Description

This command displays SAP egress QoS policy information.

© 2026 Nokia.

Use subject to Terms available at: www.nokia.com/terms.

Parameters

policy-id

Displays information about the specific policy ID.

Values 1 to 65535

detail

Displays detailed policy information including policy associations.

summary

Displays SAP egress policy summary.

Platforms

All

Output

The following output is an example of QoS SAP egress information, and Table 498: Output fields: QoS SAP egress describes the output fields.

Output Example

```
*A:PE# show qos sap-egress

===============================================================================
Sap Egress Policies
===============================================================================
Policy-Id  Scope     Name                    Description
-------------------------------------------------------------------------------
1          Template  default                 Default SAP egress QoS policy.
-------------------------------------------------------------------------------
Number of Policies : 1
-------------------------------------------------------------------------------
===============================================================================
*A:PE# show qos sap-egress 1 detail

===============================================================================
QoS Sap Egress
===============================================================================

-------------------------------------------------------------------------------
Sap Egress Policy (1)
-------------------------------------------------------------------------------
Policy-id               : 1             Scope              : Template
Ethernet-ctag           : False         Parent-loc         : default
Name                    : default
Description             : Default SAP egress QoS policy.
Policy Active           : True          Plcrs HQoS Managed : False
Post Plcr Mapping Policy: (Not Specified)
HS Attachment Policy    : default

-------------------------------------------------------------------------------
Dynamic Configuration Information
-------------------------------------------------------------------------------
PccRule Insert Point : n/a              DynPlcr Insert Point : n/a
CBS                  : Def              MBS                  : Def
Parent               : (Not Specified)
Level                : 1                Weight               : 1
Packet Byte Offset   : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Stat Mode            : minimal
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Queue Information
-------------------------------------------------------------------------------
Queue-Id             : 1               Queue-Type           : auto-expedite
Admin PIR            : max             Admin CIR            : 0
PIR Percent          : def             CIR Percent          : def
PIR Rule             : closest         CIR Rule             : closest
CBS                  : Def             MBS                  : Def
Avg Frame Overhead   : 0.00            Packet Byte Offset   : add 0
Adv Config Policy    : (Not Specified)
Parent               : (Not Specified)
PIR Level/Weight     : 1/1             CIR Level/Weight     : 0/1
Burst Limit          : default
Wred Queue Mode      : none            Wred Queue SlopeUsage: not-applicable
Slope Policy         : default
High-Plus Drop Tail  : def             High Drop Tail       : def
Low Drop Tail        : def             Exceed Drop Tail     : def

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
HS Queue Information
-------------------------------------------------------------------------------
Queue-Id             : 1
Admin PIR            : max
PIR Percent          : def
PIR Rule             : closest
MBS                  : Def
Packet Byte Offset   : add 0
Burst Limit          : default
HS Class Weight      : 1               HS Wrr Weight        : 1
HS Wred-Q Slope Plcy : _tmnx_hs_default
HS Alt Class Pool    : False

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
HS Wrr Group Information
-------------------------------------------------------------------------------
HS Wrr Group Id    : 1                 Class Weight       : 1
Rate               : max               Percent Rate       : 100.00
PIR Adaptation Rule: closest
HS Wrr Group Id    : 2                 Class Weight       : 1
Rate               : max               Percent Rate       : 100.00
PIR Adaptation Rule: closest

-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Forwarding Class (FC) Classification and Remarking Information
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
FC  Queue  Queue-Group                      InstanceId   SapBReDir  Plcr
-------------------------------------------------------------------------------
No Matching Entries


-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Associations
------------------------------------------------------------------------------
Service-Name   : 1
Service-Id     : 1 (VPLS)              Customer-Id        : 1
 - SAP : 2/1/1
 - SAP : 5/1/1

------------------------------------------------------------------------------
Mirror SAPs
------------------------------------------------------------------------------
No Mirror SAPs Found.


------------------------------------------------------------------------------
DSCP            Cntr Id   Profile   fc
------------------------------------------------------------------------------
No DSCP-Map Entries Found.


------------------------------------------------------------------------------
Prec Value      Cntr Id   Profile   fc
------------------------------------------------------------------------------
No Prec-Map Entries Found.


------------------------------------------------------------------------------
Dot1p           fc        Profile
------------------------------------------------------------------------------
No Dot1p-Map Entries Found.

------------------------------------------------------------------------------
Match Criteria
------------------------------------------------------------------------------
No Matching Criteria.

*A:PE#
```

Table 498: Output fields: QoS SAP egress

Label	Description
Policy-Id	The ID that uniquely identifies the policy.
Scope	Exclusive — Specifies that this policy can only be applied to a single SAP. Template — Specifies that this policy can be applied to multiple SAPs on the router.
Description	A text string that helps identify the policy context in the configuration file.
Queue	
CIR Admin	Specifies the administrative Committed Information Rate (CIR) parameters for the queue. The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
CIR Oper	The operational value derived by computing the CIR value from the administrative CIR and PIR values and their corresponding adaptation rules.
CIR Rule	min — The operational CIR for the queue will be equal to or greater than the administrative rate specified using the rate command except where the derived operational CIR is greater than the operational PIR. If the derived operational CIR is greater than the derived operational PIR, the operational CIR will be made equal to the operational PIR. max — The operational CIR for the queue will be equal to or less than the administrative rate specified using the rate command. closest — The operational CIR for the queue will be the rate closest to the rate specified using the rate command without exceeding the operational CIR.
PIR Admin	Specifies the administrative Peak Information Rate (PIR) parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets through the switch fabric (for SAP ingress queues) or out an egress interface (for SAP egress queues).
PIR Oper	The administrative PIR specified by the user.
PIR Rule	min — The operational PIR for the queue will be equal to or greater than the administrative rate specified using the rate command. max — The operational PIR for the queue will be equal to or less than the administrative rate specified using the rate command. closest — The operational PIR for the queue will be the rate closest to the rate specified using the rate command.
CBS	def — Specifies that the CBS value reserved for the queue. value — Specifies the value to override the default reserved buffers for the queue.
MBS	def — Specifies that the MBS value is set by the def-mbs function. value — Specifies the value to override the default maximum size for the queue.
HiPrio	Specifies the percentage of buffer space for the queue, used exclusively by high-priority packets.
PIR Lvl/Wt	Specifies the priority level of the scheduler when compared to other child schedulers and queues vying for bandwidth on the parent schedulers during the above-CIR distribution phase of bandwidth allocation.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Weight defines the relative weight of this scheduler in comparison to other child schedulers and queues at the same level.
CIR Lvl/Wt	Specifies the level of hierarchy when compared to other schedulers and queues when vying for bandwidth on the parent scheduler. Weight defines the relative weight of this queue in comparison to other child schedulers and queues while vying for bandwidth on the parent scheduler.
Parent	Specifies the parent scheduler that governs the available bandwidth given the queue aside from the queue's PIR setting.
FC Name	Specifies the forwarding class queue mapping or dot1p marking is to be edited.
Queue-id	Specifies the *queue-id* that uniquely identifies the queue within the policy.
Explicit/Default	Explicit — Specifies the egress IEEE 802.1p (dot1p) bits marking for *fc-name*. Default — Specifies that the default dot1p value (0) is used.
Service Association	
Service-Id	The unique service ID number that identifies the service in the service domain.
Customer-Id	Specifies the customer ID that identifies the customer to the service.
SAP	Specifies the Service Access Point (SAP) within the service where the policy is applied.
Mirror SAPs	
Mirror Dest	Specifies the mirror service ID that identifies the service in the service domain.
SAP	Specifies the Service Access Point (SAP) within the service where the SAP egress policy is applied.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.7 sap-ingress

sap-ingress

Syntax

sap-ingress [*policy-id*] [**association** | **match-criteria** | **detail**]

sap-ingress summary

Context

[Tree] (show>qos sap-ingress)

Full Context

show qos sap-ingress

Description

This command displays SAP ingress QoS policy information.

Parameters

policy-id

Displays information about the specific policy ID.

Values 1 to 65535

Default all SAP ingress policies

detail

Displays detailed policy information including policy associations.

summary

Displays SAP ingress policy summary.

Platforms

All

Output

The following output is an example of QoS SAP ingress information, and Table 499: Output fields: QoS SAP ingress describes the output fields.

Output Example

```
*A:PE# show qos sap-ingress

===============================================================================
Sap Ingress Policies
===============================================================================
Policy-Id  Scope     Name                      Description
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1          Template  default                 Default SAP ingress QoS policy.
-------------------------------------------------------------------------------
Number of Policies : 1
-------------------------------------------------------------------------------
===============================================================================
*A:PE#
*A:PE# show qos sap-ingress 1 detail

===============================================================================
QoS Sap Ingress
===============================================================================
-------------------------------------------------------------------------------
Sap Ingress Policy (1)
-------------------------------------------------------------------------------
Policy-id      : 1                           Scope        : Template
Default FC     : be                          Priority     : Low
Criteria-type  : None
Name           : default
Description    : Default SAP ingress QoS policy.
Policy Active  : True

-------------------------------------------------------------------------------
Dynamic Configuration Information
-------------------------------------------------------------------------------
PccRule Insert Point : n/a              DynPlcr Insert Point : n/a
CBS                  : Def              MBS                  : Def
Parent               : (Not Specified)
Level                : 1                Weight               : 1
Packet Byte Offset   : 0
Stat Mode            : minimal
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Q  Mode    CIR Admin  PIR Admin  CBS                  PIR Lvl/Wt Parent
           CIR Rule   PIR Rule   MBS                  CIR Lvl/Wt BurstLimit(B)
           CIR Prcnt  PIR Prcnt  Low Drop Tail
                                 Pkt Bt Ofst          Adv Config Policy Name
           FIR Admin  FIR Rule   Cir-non-profiling
           FIR Prcnt
-------------------------------------------------------------------------------
1  Prio    0          max        def                  1/1        None
           closest    closest    def                  0/1        default
           def        def        def
           (not-assigned)        add 0                (not-assigned)
           0          closest    disabled
           def
11 Prio    0          max        def                  1/1        None
           closest    closest    def                  0/1        default
           def        def        def
           (not-assigned)        add 0                (not-assigned)
           0          closest    disabled
           def

===============================================================================
Sap-Ingress FC (Detail)
===============================================================================
No FC-Map Entries Found.
===============================================================================

-------------------------------------------------------------------------------
FC   DE-1-out-profile   Profile    In-Remark     Out-Remark    Egr-Override-FC
-------------------------------------------------------------------------------
No SubFC Map Entries Found.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Dot1p           FC                              Priority
-------------------------------------------------------------------------------
No Dot1p-Map Entries Found.


-------------------------------------------------------------------------------
DSCP            FC                              Priority
-------------------------------------------------------------------------------
No DSCP-Map Entries Found.


-------------------------------------------------------------------------------
Prec Value      FC                              Priority
-------------------------------------------------------------------------------
No Prec-Map Entries Found.

-------------------------------------------------------------------------------
Match Criteria
-------------------------------------------------------------------------------
No Matching Criteria.

-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
Service-Name   : 1
Service-Id     : 1 (VPLS)                    Customer-Id  : 1
 - SAP : 2/1/1
 - SAP : 5/1/1
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
LSP EXP         FC                              Priority
-------------------------------------------------------------------------------
No LspExp-Map Entries Found.

===============================================================================
*A:PE#
```

Table 499: Output fields: QoS SAP ingress

Label	Description
Policy-Id	The ID that uniquely identifies the policy.
Scope	Exclusive — Specifies that this policy can only be applied to a single SAP. Template - Specifies that this policy can be applied to multiple SAPs on the router.
Description	A text string that helps identify the policy context in the configuration file.
Default FC	Specifies the default forwarding class for the policy.
Priority	Specifies the enqueuing priority when a packet is marked with a *dot1p-value* specified.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Criteria-type	IP — Specifies that an IP criteria-based SAP ingress policy is used to select the appropriate ingress queue and corresponding forwarding class for matched traffic. MAC — Specifies that a MAC criteria-based SAP is used to select the appropriate ingress queue and corresponding forwarding class for matched traffic.
Mode	Specifies the configured mode of the meter (trTcm or srTcm).
CIR Admin	Specifies the administrative Committed Information Rate (CIR) parameters for the queue. The CIR defines the rate at which the system prioritizes the queue over other queues competing for the same bandwidth.
CIR Oper	The operational value derived by computing the CIR value from the administrative CIR and PIR values and their corresponding adaptation rules.
CIR Rule	min — The operational CIR for the queue will be equal to or greater than the administrative rate specified using the rate command. max — The operational CIR for the queue will be equal to or less than the administrative rate specified using the rate command. closest —The operational CIR for the queue will be the rate closest to the rate specified using the rate command without exceeding the operational CIR.
PIR Admin	Specifies the administrative Peak Information Rate (PIR) parameters for the queue. The PIR defines the maximum rate that the queue can transmit packets through the switch fabric (for SAP ingress queues) or out an egress interface (for SAP egress queues).
PIR Oper	The administrative PIR specified by the user.
PIR Rule	min — The operational PIR for the queue will be equal to or greater than the administrative rate specified using the rate command. max — The operational PIR for the queue will be equal to or less than the administrative rate specified using the rate command. closest — The operational PIR for the queue will be the rate closest to the rate specified using the rate command.
CBS	def — Specifies the default CBS value for the queue. value — Specifies the value to override the default reserved buffers for the queue.
MBS	def — Specifies the default MBS value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	value — Specifies the value to override the default MBS for the queue.
HiPrio	Specifies the percentage of buffer space for the queue, used exclusively by high-priority packets.
PIR Lvl/Wt	Specifies the priority level of the scheduler when compared to other child schedulers and queue vying for bandwidth on the parent schedulers during the above-CIR distribution phase of bandwidth allocation. Weight defines the relative weight of this scheduler in comparison to other child schedulers and queue at the same level.
CIR Lvl/Wt	Specifies the level of hierarchy when compared to other schedulers and queue when vying for bandwidth on the parent scheduler. Weight defines the relative weight of this queue in comparison to other child schedulers and queue while vying for bandwidth on the parent scheduler.
Parent	Specifies the parent scheduler that governs the available bandwidth given the queue, aside from the queue's PIR setting.
Dot1p	Specifies the forwarding class or enqueuing priority when a packet is marked with a *dot1p-value* specified.
FC	Specifies the forwarding class overrides.
Priority	The optional priority setting overrides the default enqueuing priority for the packets received on an ingress SAP that uses the policy that matches this rule. High — Specifies that the high enqueuing parameter for a packet increases the likelihood of enqueuing the packet when the ingress queue is congested. Low —Specifies that the low enqueuing parameter for a packet decreases the likelihood of enqueuing the packet when the ingress queue is congested.
DSCP	Specifies the forwarding class or enqueuing priority when a packet is marked with the DiffServ Code Point (DSCP) value.
FC	Specifies one of the predefined forwarding classes in the system. When a packet matches the rule, the forwarding class is only overridden when the **fc** *fc-name* parameter is defined on the rule.
Priority	This parameter specifies the default enqueuing priority overrides for all packets received on an ingress SAP using this policy that matches this rule.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	High — Specifies that the high enqueuing parameter for a packet increases the likelihood of enqueuing the packet when the ingress queue is congested. Low — Specifies that the low enqueuing parameter for a packet decreases the likelihood of enqueuing the packet when the ingress queue is congested.
Prec	Specifies the forwarding class or enqueuing priority when a packet is marked with an IP precedence value (*ip-prec-value)*.
UCastQ	Specifies the default unicast forwarding type queue mapping.
MCastQ	Specifies the overrides for the default multicast forwarding type queue mapping.
BCastQ	Specifies the default broadcast forwarding type queue mapping.
UnknownQ	Specifies the default unknown unicast forwarding type queue mapping.
Match Criteria	Specifies an IP or MAC criteria entry for the policy.
Entry	
Source IP	Specifies a source IP address range used for an ingress SAP QoS policy match.
Source Port	Specifies a source TCP or UDP port number or port range used for an ingress SAP QoS policy match.
Protocol	Specifies the IP protocol number to be used for an ingress SAP QoS policy match.
DSCP	Specifies a DiffServ Code Point (DSCP) name used for an ingress SAP QoS policy match.
Fragment	True — Configures a match on all fragmented IP packets. False — Configures a match on all non-fragmented IP packets.
FC	Specifies the entry's forwarding class.
Priority	Specifies the default enqueuing priority overrides for all packets received on an ingress SAP using this policy.
Src MAC	Specifies a source MAC address or range to be used as a Service Ingress QoS policy match.
Dst MAC	Specifies a destination MAC address or range to be used as a Service Ingress QoS policy match.
Dot1p	Specifies a IEEE 802.1p value to be used as the match.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Snap-pid	Specifies an IEEE 802.3 LLC SNAP Ethernet Frame PID value to be used as a Service Ingress QoS policy match.
Ethernet-type	Specifies an Ethernet type II Ethertype value to be used as a Service Ingress QoS policy match.
ESnap-oui-zero	Specifies an IEEE 802.3 LLC SNAP Ethernet Frame OUI zero or non-zero value to be used as a Service Ingress QoS policy match.
DSAP	Specifies an Ethernet 802.2 LLC DSAP value or range for an ingress SAP QoS policy match.
SSAP	Specifies an Ethernet 802.2 LLC DSAP value or range for an ingress SAP QoS policy match.
FC	Specifies the entry's forwarding class.
Priority	Specifies the default enqueuing priority overrides for all packets received on an ingress SAP using this policy.
Service Association	
Service-Id	The unique service ID number that identifies the service in the service domain.
Customer-Id	Specifies the customer ID that identifies the customer to the service.
SAP	Specifies the Service Access Point (SAP) within the service where the SAP ingress policy is applied.

23.8 sap-template

sap-template

Syntax

sap-template *template-name* **idle-saps**

Context

[Tree] (clear>subscr-mgmt sap-template)

Full Context

clear subscriber-mgmt sap-template

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command deletes any SAPs created with the specified SAP template that are no longer in use by any subscriber sessions.

Parameters

template-name

Specifies the name of a template, up to 256 characters, configured under **configure subscriber-mgmt sap-template**.

idle-saps

Keyword that specifies to delete any idle SAPs associated with this template.

Platforms

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

23.9 sap-using

sap-using

Syntax

sap-using [**msap**] [**dyn-script**] [**description**]

sap-using [**sap** *sap-id*] [**vlan-translation** | **anti-spoof**] [**description**]

sap-using {**ingress** | **egress**} **filter** *any-filter-id*

sap-using {**ingress** | **egress**} **qos-policy** *qos-policy-id* [**msap**]

sap-using etree

Context

[Tree] (show>service sap-using)

Full Context

show service sap-using

Description

This command displays SAP information.

If no optional parameters are specified, the command displays a summary of all defined SAPs.The optional pa rameters restrict output to only SAPs matching the specified properties.

Parameters

ingress

Specifies matching an ingress policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

egress

Specifies matching an egress policy.

qos-policy-id

The ingress or egress QoS Policy ID for which to display matching SAPs.

Values 1 to 65535, or name of up to 64 characters

any-filter-id

Specifies the ingress or egress filter policy ID for which to display matching SAPs.

Values 1 to 65535, or name of up to 64 characters

sap-id

Specifies the physical port identifier portion of the SAP definition.

dyn-script

Displays dynamic service SAPs information.

msap

Displays MSAPs.

vlan-translation

Displays VLAN translation information.

anti-spoof

Displays anti-spoof information.

Platforms

All

Output

The following output is an example of sap-using using information, and Table 500: Output fields: service SAP describes the output fields.

Output Example

```
*A:Dut-A# show service sap-using

===============================================================================
Service Access Points
===============================================================================
PortId                          SvcId      Ing.  Ing.    Egr.  Egr.   Adm  Opr
                                           QoS   Fltr    QoS   Fltr
-------------------------------------------------------------------------------
1/1/1:1                         1          1     none    1     none   Up   Up
2/1/2:10/11                     1          1     none    1     none   Up   Up
2/1/2:10/12                     1          1     none    1     none   Up   Up
2/1/2:20/11                     1          1     none    1     none   Up   Up
2/1/2:20/12                     1          1     none    1     none   Up   Up
2/1/4:cp.10                     10         1     none    1     none   Up   Up
2/1/4:cp.20                     20         1     none    1     none   Up   Up
-------------------------------------------------------------------------------
Number of SAPs : 7
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following output is an example of SAP information for a specific SAP for the 7450 ESS or 7750 SR.

```
A:ALA-42#
*A:ALA-48# show service sap-using sap 1/1/21:0
===============================================================================
Service Access Points Using Port 1/1/21:0
===============================================================================
PortId                  SvcId      Ing.  Ing.    Egr.  Egr.    Anti   Adm  Opr
                                   QoS   Fltr    QoS   Fltr    Spoof
-------------------------------------------------------------------------------
1/1/21:0                1          1     none    1     none    none   Up   Down
-------------------------------------------------------------------------------
Number of SAPs : 1
===============================================================================
*A:ALA-48#
```

The following output is an example of SAP information for the egress traffic policy for the 7750 SR.

```
*A:ALA-12#  show service sap-using egress atm-td-profile 2
===============================================================================
Service Access Point Using ATM Traffic Profile 2
===============================================================================
PortId SvcId I.QoS I.Fltr E.QoS E.Fltr A.Pol Adm Opr
-------------------------------------------------------------------------------
5/1/1:0/11 511111 2 none 2 none none Up Up
5/1/1:0/12 511112 2 none 2 none none Up Up
5/1/1:0/13 511113 2 none 2 none none Up Up
5/1/1:0/14 511114 2none 2 none none Up Up
5/1/1:0/15 511115 2 none 2 none none Up Up
5/1/1:0/16 511116 2 none 2 none none Up Up
5/1/1:0/17 511117 2 none 2 none none Up Up
5/1/1:0/18 511118 2 none 2 none none Up Up
5/1/1:0/19 511119 2 none 2 none none Up Up
5/1/1:0/20 511120 2 none 2 none none Up Up
5/1/1:0/21 511121 2 none 2 none none Up Up
5/1/1:0/22 511122 2 none 2 none none Up Up
5/1/1:0/23 511123 2 none 2 none none Up Up
5/1/1:0/24 511124 2 none 2 none none Up Up
5/1/1:0/25 511125 2 none 2 none none Up Up
...
===============================================================================
*A:ALA-12#
```

The following output is an example of squelch ingress levels information.

```
show service sap-using eth-cfm squelch-ingress-levels
===============================================================================
ETH-CFM Squelching
===============================================================================
SapId                   SvcId                    Squelch Level
-------------------------------------------------------------------------------
1/1/9:2.*               2                        0 1 2
1/1/9:3.*               3                        0 1 2 3 4
-------------------------------------------------------------------------------
Number of SAPs: 2
===============================================================================

show service sap-using eth-cfm squelch-ingress-levels ctag-space
===============================================================================
ETH-CFM Squelching CTAG Space
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
SapId                   SvcId                   Squelch Level
-------------------------------------------------------------------------------
1/1/9:3.*               3                       0 1 2 3
-------------------------------------------------------------------------------
Number of SAPs: 1
===============================================================================

show service sap-using eth-cfm squelch-ingress-levels all
===============================================================================
ETH-CFM Squelching
===============================================================================
SapId                   SvcId                   Squelch Level
-------------------------------------------------------------------------------
1/1/9:2.*               2                       0 1 2
1/1/9:3.*               3                       0 1 2 3 4
-------------------------------------------------------------------------------
Number of SAPs: 2
===============================================================================
===============================================================================
ETH-CFM Squelching CTAG Space
===============================================================================
SapId                   SvcId                   Squelch Level
-------------------------------------------------------------------------------
1/1/9:3.*               3                       0 1 2 3
-------------------------------------------------------------------------------
Number of SAPs: 1
===============================================================================

show service sap-using eth-cfm squelch-ingress-levels sap 1/1/9:3.*
===============================================================================
ETH-CFM Squelching
===============================================================================
SapId                   SvcId                   Squelch Level
-------------------------------------------------------------------------------
1/1/9:3.*               3                       0 1 2 3 4
-------------------------------------------------------------------------------
Number of SAPs: 1
===============================================================================
```

Table 500: Output fields: service SAP

Label	Description
Port ID	The ID of the access port where the SAP is defined
Svc ID	The service identifier
Sap MTU	The SAP MTU value
Ing. QoS	The SAP ingress QoS policy number specified on the ingress SAP
Ing Fltr	The MAC or IP filter policy ID applied to the ingress SAP
Egr. QoS	The SAP egress QoS policy number specified on the egress SAP for the 7450 ESS and 7750 SR only
Egr. Fltr	The MAC or IP filter policy ID applied to the egress SAP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Adm	The administrative state of the SAP
Opr	The operational state of the SAP
SapId	The ID that displays SAPs for the service
Squelch Level	The CFM levels configured for silent discard

23.10 sap-using aarp

sap-using aarp

Syntax

sap-using aarp *aarp-id*

Context

[Tree] (show>service sap-using aarp)

Full Context

show service sap-using aarp

Description

This command displays SAP information for a specific AARP ID.

Parameters

aarp-id

Specifies the AARP ID.

Values 1 to 65535

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.11 sap-using app-profile

sap-using app-profile

Syntax

sap-using app-profile *app-profile-name*

Context

[Tree] (show>service sap-using app-profile)

Full Context

show service sap-using app-profile

Description

This command displays information about SAPs using the specified application profile.

Parameters

app-profile-name

Specifies an existing application profile name created in the **config>app-assure>group>policy** context.

Platforms

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

Output

The following output is an example of the **sap-using app profile** command information.

Output Example

```
*A:ALA-48# show service sap-using app-profile test
===============================================================================
Service Access Point Using Application Profile 'test'
===============================================================================
PortId                          SvcId      Ing.  Ing.    Egr.  Egr.   Adm  Opr
                                           QoS   Fltr    QoS   Fltr
-------------------------------------------------------------------------------
1/1/18:0                        89         1     none    1     none   Up   Down
-------------------------------------------------------------------------------
Number of SAPs : 1
-------------------------------------------------------------------------------
===============================================================================
*A:ALA-48#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.12 sap-using transit-policy

sap-using transit-policy

Syntax

sap-using transit-policy ip *transit-ip-policy*

sap-using transit-policy prefix *transit-prefix-policy*

Context

[Tree] (show>service sap-using transit-policy)

Full Context

show service sap-using transit-policy

Description

This command displays SAP information for a specific transit IP policy or transit prefix policy.

Parameters

transit-ip-policy

Specifies the transit IP policy ID.

Values 1 to 65535

transit-prefix-policy

Specifies a transit prefix policy ID.

Values 1 to 65535

Platforms

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

23.13 saps

saps

Syntax

saps [**control-session** *acct-session-id*] [**port** *port-id*] [**dynsvc-policy** *policy-name*] [**summary**] [**sap** *sap-id*] [**svc-id** *service-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>dynsvc saps)

Full Context

show service dynamic-services saps

Description

This command displays Dynamic Services SAPs (instances) details.

Note:
This command is not available in the MD-CLI.

Parameters

summary

Displays a summary view only.

acct-session-id

Specifies control session accounting session id.

port-id

Specifies Ethernet port.

policy-name

Specifies dynamic services policy.

sap sap-id

Specifies dynamic services SAP id.

service-id

The service ID of the dynamic service.

Platforms

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

Output

The following output is an example of dynamic service SAP information.

Output Example

```
# show service dynamic-services saps
===============================================================================
Dynamic Services SAP's
===============================================================================
SAP                          : 1/1/1:1.901
-------------------------------------------------------------------------------
Acct session-ID              : 242FFF000001AE512CE4B6
Acct session-ID control      : 242FFF000001AB512CE4B6
Service                      : [100000]
Dynamic Services policy      : dynsvc-policy-1
Number of scripts executed   : 1
Number of scripts w success  : 1
Last script action           : setup
Time of last script action   : 2013/02/26 16:37:10
Parameters of last action    : vprn_1={'t':('VRF-1',65000,1000,'cpe-int-1','192.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                            : 168.20.1/24','2001:db8:cafe::1/64',901,901,910,92
                            : 0,'192.168.20.0/24','192.168.20.2')}

Accounting instance 1
Status                      : enabled
Stats type                  : volume-time
Update interval (minutes)   : 30

Accounting instance 2
Status                      : enabled
Stats type                  : time
Update interval (minutes)   : 0

-------------------------------------------------------------------------------
No. of SAP's: 1
===============================================================================


# show service dynamic-services saps summary
===============================================================================
Dynamic Services SAP's summary
===============================================================================
SAP                           Acct-Session-ID        Acct-Session-ID-Ctrl
-------------------------------------------------------------------------------
1/1/1:1.901                   242FFF000001AE512CE4B6 242FFF000001AB512CE4B6
-------------------------------------------------------------------------------
No. of SAP's: 1
===============================================================================
```

Table 501: Output fields: dynamic services SAP describes Dynamic Services SAP fields.

Table 501: Output fields: dynamic services SAP

Output field	Description
SAP	The dynamic service SAP ID.
Acct session-ID	The dynamic service accounting session ID.
Acct session-ID control	The control channel accounting session ID.
Service	The dynamic service ID.
Dynamic Services policy	The policy referenced to setup the dynamic service.
Number of scripts executed	The number of times the script was executed for this dynamic service (setup, modify, revert or teardown).
Number of scripts w success	The number of times the script was executed successfully for this dynamic service.
Last script action	The setup, modify, revert, teardown.
Time of last script action	The timestamp of the last script action.
Parameters of last action	The content of the Dynamic Services Script Parameters attribute corresponding with the last action.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output field	Description
Status	RADIUS accounting is enabled or disabled.
Stats type	The type of statistics reported in accounting.
Update interval (minutes)	The time, in minutes, between Accounting Interim Update messages.

23.14 satellite

satellite

Syntax

satellite

Context

[Tree] (clear>system satellite)

Full Context

clear system satellite

Description

Commands in this context clear satellite information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

satellite

Syntax

satellite

Context

[Tree] (show>system satellite)

Full Context

show system satellite

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays a list of configured satellites including information about the satellite's esat-ID or tsat-ID, satellite type, and state.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of satellite information.

Output Example

```
A:Dut-A# show system satellite

===============================================================================
Satellite Information
===============================================================================
SatID     Provisioned Type                        Admin         Oper
              Equipped Type (if different)        State         State
-------------------------------------------------------------------------------
esat-1    es48-1gb-sfp                            up            provisioned
              (not equipped)
esat-20   es48-1gb-sfp                            up            up
-------------------------------------------------------------------------------
No. of Satellites: 4
===============================================================================
```

satellite

Syntax

satellite

Context

[Tree] (tools>perform satellite)

Full Context

tools perform satellite

Description

Commands in this context perform satellite operations.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.15 schedule

schedule

Syntax

schedule [*schedule-name*] [**owner** *owner-name*]

Context

[Tree] (show>system>cron schedule)

Full Context

show system cron schedule

Description

This command displays cron schedule parameters.

Parameters

schedule-name

Specifies the scheduler name, up to 32 characters.

owner-name

Specifies the scheduler owner name, up to 32 characters.

Platforms

All

Output

The following output is an example of cron schedule information. The following table describes the output fields.

Output Example

```
A:sim1>show>cron schedule test
===============================================================================
CRON Schedule Information
===============================================================================
Schedule                    : test
Schedule owner              : TiMOS CLI
Description                 : none
Administrative status       : enabled
Operational status          : enabled
Action                      : test
Action owner                : TiMOS CLI
Script                      : test
Script Owner                : TiMOS CLI
Script source location      : ftp://*****:******@192.168.15.1/home/testlab_bgp
                              /cron/test1.cfg
Script results location     : ftp://*****:******@192.168.15.1/home/testlab_bgp
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                /cron/res
Schedule type                : periodic
Interval                     : 0d 00:01:00 (60 seconds)
Next scheduled run           : 0d 00:00:42
Weekday                      : tuesday
Month                        : none
Day of month                 : none
Hour                         : none
Minute                       : none
Number of schedule runs      : 10
Last schedule run            : 2008/01/01 17:20:52
Number of schedule failures  : 0
Last schedule failure        : no error
Last failure time            : never
===============================================================================
A:sim1>show>cron
```

Table 502: Output fields: cron schedule

Label	Description
Schedule	Displays the schedule name.
Schedule owner	Displays the owner name of the action.
Description	Displays the schedule's description.
Administrative status	Enabled — The administrative status is enabled. Disabled — Administratively disabled.
Operational status	Enabled — The operational status is enabled. Disabled — Operationally disabled.
Action	Displays the action name.
Action owner	Displays the name of action owner.
Script	Displays the name of the script.
Script owner	Displays the name of the script.
Script owner	Displays the name of the of script owner.
Script source location	Displays the location of scheduled script.
Script results location	Displays the location where the script results have been sent.
Schedule type	Periodic — Displays a schedule which ran at a given interval. Calendar — Displays a schedule which ran based on a calendar. Oneshot — Displays a schedule which ran one time only.
Interval	Displays the interval between runs of an event.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Next scheduled run	Displays the time for the next scheduled run.
Weekday	Displays the configured weekday.
Month	Displays the configured month.
Day of Month	Displays the configured day of month.
Hour	Displays the configured hour.
Minute	Displays the configured minute.
Number of scheduled runs	Displays the number of scheduled sessions.
Last scheduled run	Displays the last scheduled session.
Number of scheduled failures	Displays the number of scheduled sessions that failed to execute.
Last scheduled failure	Displays the last scheduled session that failed to execute.
Last failure time	Displays the system time of the last failure.

23.16 scheduler-hierarchy

scheduler-hierarchy

Syntax

scheduler-hierarchy

Context

[Tree] (show>qos scheduler-hierarchy)

Full Context

show qos scheduler-hierarchy

Description

This command displays scheduler-hierarchy information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.17 scheduler-name

scheduler-name

Syntax

scheduler-name *scheduler-name*

Context

[Tree] (show>qos scheduler-name)

Full Context

show qos scheduler-name

Description

This command displays the scheduler policies using the specified scheduler.

Parameters

scheduler-name

The name of a scheduler configured in the **config>qos>scheduler-policy>tier** context.

Platforms

All

Output

The following output is an example of scheduler name information.

Output Example

```
A:ALA-12# show qos scheduler-name NetworkControl
===============================================================
Scheduler : NetworkControl
===============================================================
Scheduler Policy   : SLA1
Scheduler Policy   : alpha
Scheduler Policy   : beta
===============================================================
A:ALA-12#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.18 scheduler-policy

scheduler-policy

Syntax

scheduler-policy [*scheduler-policy-name*] [**association** | **sap-ingress** *policy-id* | **sap-egress** *policy-id*]

scheduler-policy *scheduler-policy-name* { **ingress** | **egress**} **queue-group** *queue-grp-name*

Context

[Tree] (show>qos scheduler-policy)

Full Context

show qos scheduler-policy

Description

Use this command to display scheduler policy information.

Parameters

scheduler-policy-name

The name of a scheduler policy configured in the **config>qos>scheduler-policy** context.

association

Displays the associations related to the specified scheduler name.

sap-ingress *policy-id*

Specifies the SAP ingress QoS policy information.

sap-egress *policy-id*

Specifies the SAP egress QoS policy information.

{ingress | egress}

Specifies the direction to display and are mutually exclusive.

queue-grp-name

Displays information for the specified queue group.

Platforms

All

Output

The following output is an example of scheduler policy information, and Table 503: Output fields: QoS scheduler policy describes the customer scheduler hierarchy fields.

Output Example

```
A:ALA-12# show qos scheduler-policy SLA1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
QoS Scheduler Policy
===============================================================================
Policy-Name    : SLA1
Description    : NetworkControl(3), Voice(2) and NonVoice(1) have strict priorities
-------------------------------------------------------------------------------
Tier/Scheduler                      Lvl/Wt     PIR       Parent
                                    CIR Lvl/Wt CIR
-------------------------------------------------------------------------------
1 All_traffic                       1/1         11000     None
                                    -/-         max
2 NetworkControl                    3/1         100       All_traffic
                                    3/-         max
2 NonVoice                          1/1         11000     All_traffic
                                    1/-         max
2 Voice                             2/1         5500      All_traffic
                                    2/-         max
3 Internet_be                       1/1         max       NonVoice
                                    1/-         max
3 Internet_priority                 2/1         max       NonVoice
                                    2/-         max
3 Internet_voice                    1/1         max       Voice
                                    -/-         max
3 VPN_be                            1/1         max       NonVoice
                                    1/-         max
3 VPN_nc                            1/1         100       NetworkControl
                                    -/-         36
3 VPN_priority                      2/1         max       NonVoice
                                    2/-         max
3 VPN_reserved                      3/1         max       NonVoice
                                    3/-         max
3 VPN_video                         5/1         1500      NonVoice
                                    5/-         1500
3 VPN_voice                         1/1         2500      Voice
                                    -/-         2500
===============================================================================

A:ALA-12# show qos scheduler-policy SLA1 association
===============================================================================
QoS Scheduler Policy
===============================================================================
Policy-Name    : SLA1
Description    : NetworkControl(3), Voice(2) and NonVoice(1) have strict priorities
-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
Service-Id     : 6000 (Epipe)               Customer-Id  : 274
 - SAP : 1/1/3.1:0 (Egress)
Service-Id     : 7000 (VPLS)                Customer-Id  : 7
 - SAP : 1/1/5:0 (Egress)
 - Multi Service Site : west  (Ingress)
===============================================================================

A:ALA-12# show qos scheduler-policy SLA1 sap-egress 101
===============================================================================
Compatibility : Scheduler Policy SLA1 & Sap Egress 101
===============================================================================
Orphan Queues :

None Found

Hierarchy     :

Root
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|
|---(S) : All_traffic
|   |
|   |---(S) : NetworkControl
|   |   |
|   |   |---(S) : VPN_nc
|   |
|   |---(S) : NonVoice
|   |   |
|   |   |---(S) : Internet_be
|   |   |
|   |   |---(S) : Internet_priority
|   |   |
|   |   |---(S) : VPN_be
|   |   |
|   |   |---(S) : VPN_priority
|   |   |
|   |   |---(S) : VPN_reserved
|   |   |
|   |   |---(S) : VPN_video
|   |
|   |---(S) : Voice
|   |   |
|   |   |---(S) : Internet_voice
|   |   |
|   |   |---(S) : VPN_voice
===============================================================================
```

```
show qos scheduler-policy "sched1" sap-ingress 100
===============================================================================
Compatibility : Scheduler Policy sched1 & Sap Ingress 100
===============================================================================
Orphan Queues :
None Found
Orphan Policers :
None Found
Hierarchy     :
Root
|
|---(S) : sch1
|   |
|   |---(S) : sch21
|   |   |
|   |   |---(Q) : 2
|   |   |
|   |   |---(P) : 16
|   |
|   |---(S) : sch22
|   |   |
|   |   |---(Q) : 3
|   |   |
|   |   |---(Q) : 17
|
|---(S) : sch2
|   |
|   |---(S) : sch23
|   |   |
|   |   |---(Q) : 4
|   |   |
|   |   |---(Q) : 18
|   |
|   |---(S) : sch24
|   |   |
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |   |---(Q) : 5
|   |   |
|   |   |---(P) : 19
|
|---(Q) : 1
|
|---(Q) : 6
|
|---(Q) : 7
|
|---(Q) : 11
|
|---(Q) : 16
|
|---(Q) : 19
|
|---(P) : 17
|
|---(P) : 18
===============================================================================
```

Table 503: Output fields: QoS scheduler policy

Label	Description
Policy-Name	Specifies the scheduler policy name.
Description	Specifies a text string that helps identify the policy context in the configuration file.
Tier	Specifies the level of hierarchy that a group of schedulers are associated with.
Scheduler	Specifies the scheduler name.
Lvl/Wt	Specifies the priority level of the scheduler when compared to other child schedulers and queues vying for bandwidth on the parent schedulers during the above-CIR distribution phase of bandwidth allocation. Weight defines the relative weight of this scheduler in comparison to other child schedulers and queues at the same level.
Cir Lvl/Wt	Specifies the level of hierarchy when compared to other schedulers and queues when vying for bandwidth on the parent scheduler. Weight defines the relative weight of this queue in comparison to other child schedulers and queues while vying for bandwidth on the parent scheduler.
PIR	Specifies the PIR rate.
CIR	Specifies the CIR rate.
Parent	Specifies the parent scheduler that governs the available bandwidth given the queue aside from the PIR setting of the queue.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Service-Id	Specifies the ID that uniquely identifies the policy.
Customer-Id	Specifies the ID that uniquely identifies the customer.
SAP	Specifies the Service Access Point (SAP) within the service where the policy is applied.
Multi Service Site	Specifies the multiservice site name.
Orphan Queues	Specifies the number of queues in an orphaned state.
Hierarchy	Displays the scheduler policy tree structure.

23.19 scheduler-stats

scheduler-stats

Syntax

scheduler-stats

Context

[Tree] (clear>qos scheduler-stats)

Full Context

clear qos scheduler-stats

Description

This command clears scheduler statistics.

Platforms

All

scheduler-stats

Syntax

scheduler-stats

Context

[Tree] (show>qos scheduler-stats)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
show qos scheduler-stats

Description
This command displays scheduler statistics information.

Platforms
All

scheduler-stats

Syntax
scheduler-stats

Context
[Tree] (monitor>qos scheduler-stats)

Full Context
monitor qos scheduler-stats

Description
Commands in this context configure monitor commands for scheduler statistics.

Platforms
All

23.20 screen

screen

Syntax
screen

Context
[Tree] (clear screen)

Full Context
clear screen

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command allows an operator to clear the Telnet or console screen.

Platforms

All

23.21 script

script

Syntax

script

Context

[Tree] (show>service>dynsvc script)

Full Context

show service dynamic-services script

Description

Commands in this context show dynamic services script information.

Note:
These commands are not available in the MD-CLI.

Platforms

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

script

Syntax

script [*script-name*] [**owner** *script-owner*]

Context

[Tree] (show>system>script-control script)

Full Context

show system script-control script

Description

This command displays script parameters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

script-name

Displays information for the specified script. 32 characters maximum.

script-owner

Displays information for the specified script owner. 32 characters maximum.

Platforms

All

Output

The following output is an example of show script command information, and Table 504: Output fields: script describes the output fields.

Output Example

```
A:sim1>show>system>script-control# script
===============================================================================
Script Information
===============================================================================
Script                      : test
Owner name                  : TiMOS CLI
Description                 : asd
Administrative status       : enabled
Operational status          : enabled
Script source location      : ftp://*****:******@192.168.100.1/home/testlab_bgp
                              /test1.cfg
Last script error           : none
Last change                 : 2015/01/07 17:10:03
===============================================================================
A:sim1>show>cron#
```

Table 504: Output fields: script

Label	Description
Script	Displays the name of the script.
Script owner	Displays the owner name of script.
Administrative status	Enabled — Administrative status is enabled. Disabled — Administratively disabled.
Operational status	Enabled — Operational status is enabled. Disabled — Operationally disabled.
Script source location	Displays the location of scheduled script.
Last script error	Displays the system time of the last error.
Last change	Displays the system time of the last change.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.22 script-control

script-control

Syntax

script-control

Context

[Tree] (show>system script-control)

Full Context

show system script-control

Description

Commands in this context display script information.

Platforms

All

script-control

Syntax

script-control

Context

[Tree] (tools>perform>system script-control)

Full Context

tools perform system script-control

Description

This command performs script-control operations.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

script-control

Syntax

script-control

Context

[Tree] (clear>system script-control)

Full Context

clear system script-control

Description

Commands in this context clear script information.

Platforms

All

23.23 script-policy

script-policy

Syntax

script-policy *script-policy-name* [**owner** *owner-name*]

script-policy run-history [*run-state*]

Context

[Tree] (show>system>script-control script-policy)

Full Context

show system script-control script-policy

Description

This command displays script policy information.

Parameters

script-policy-name

Displays policy information for the specified script. 32 characters maximum.

owner-name

Displays information for the specified script owner. 32 characters maximum.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default TiMOS CLI

run-state

Displays information for script policies in the specified state.

Values executing, initializing, terminated

Platforms

All

Output

The following output is an example of script policy information, and Table 505: Output fields: script policy describes the output fields.

Output Example

```
*A:Redundancy# show system script-control script-policy run-history terminated
===============================================================================
Script-policy Run History
===============================================================================
Script policy "test"
Owner "TiMOS CLI"
-------------------------------------------------------------------------------
Script Run #17
-------------------------------------------------------------------------------
Start time : 2006/11/06 20:30:09 End time : 2006/11/06 20:35:24
Elapsed time : 0d 00:05:15 Lifetime : 0d 00:00:00
State : terminated Run exit code : noError
Result time : 2006/11/06 20:35:24 Keep history : 0d 00:49:57
Error time : never
Results file : ftp://*:*@192.168.15.18/home/testlab_bgp/cron/_20061106-203008.
out
Run exit : Success
-------------------------------------------------------------------------------
Script Run #18
-------------------------------------------------------------------------------
Start time : 2006/11/06 20:35:24 End time : 2006/11/06 20:40:40
Elapsed time : 0d 00:05:16 Lifetime : 0d 00:00:00
State : terminated Run exit code : noError
Result time : 2006/11/06 20:40:40 Keep history : 0d 00:55:13
Error time : never
Results file : ftp://*:*@192.168.15.18/home/testlab_bgp/cron/_20061106-203523.
out
Run exit : Success
-------------------------------------------------------------------------------
*A:Redundancy#

*A:Redundancy# show system script-control script-policy run-history executing
===============================================================================
Script-policy Run History
===============================================================================
Script policy "test"
Owner "TiMOS CLI"
-------------------------------------------------------------------------------
Script Run #20
-------------------------------------------------------------------------------
Start time : 2006/11/06 20:46:00 End time : never
Elapsed time : 0d 00:00:56 Lifetime : 0d 00:59:04
State : executing Run exit code : noError
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Result time : never Keep history : 0d 01:00:00
Error time : never
Results file : ftp://*:*@192.168.15.18/home/testlab_bgp/cron/_20061106-204559.
out
===============================================================================
*A:Redundancy#

*A:Redundancy# show system script-control script-policy run-history initializing
===============================================================================
Script-policy Run History
===============================================================================
Script policy "test"
Owner "TiMOS CLI"
-------------------------------------------------------------------------------
Script Run #21
-------------------------------------------------------------------------------
Start time : never End time : never
Elapsed time : 0d 00:00:00 Lifetime : 0d 01:00:00
State : initializing Run exit code : noError
Result time : never Keep history : 0d 01:00:00
Error time : never
Results file : none
-------------------------------------------------------------------------------
Script Run #22
-------------------------------------------------------------------------------
Start time : never End time : never
Elapsed time : 0d 00:00:00 Lifetime : 0d 01:00:00
State : initializing Run exit code : noError
Result time : never Keep history : 0d 01:00:00
Error time : never
Results file : none
-------------------------------------------------------------------------------
Script Run #23
-------------------------------------------------------------------------------
Start time : never End time : never
Elapsed time : 0d 00:00:00 Lifetime : 0d 01:00:00
State : initializing Run exit code : noError
Result time : never Keep history : 0d 01:00:00
Error time : never
Results file : none
===============================================================================
*A:Redundancy#
```

Table 505: Output fields: script policy

Label	Description
Script policy	Displays the name of the script policy.
Script policy owner	Displays the name of the script policy owner.
Administrative status	Enabled — Administrative status is enabled. Disabled — Administrative status is disabled.
Script	Displays the name of the script.
Script owner	Displays the name of the script owner.
Script source location	Displays the location of scheduled script.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Max running allowed	Displays the maximum number of allowed sessions.
Max completed run histories	Displays the maximum number of sessions previously run.
Max lifetime allowed	Displays the maximum amount of time the script may run.
Completed run histories	Displays the number of completed sessions.
Executing run histories	Displays the number of sessions in the process of executing.
Initializing run histories	Displays the number of sessions ready to run/queued but not executed.
Max time tun history saved	Displays the maximum amount of time to keep the results from a script run.
Last change	Displays the system time a change was made to the configuration.
Script start error	Displays the error found while executing the script.
Max row empire time	Reserved for SNMP.
Last application	Displays the last application used to execute the script.
Last auth. user account	Displays the last user used to execute the script. If no user is specified in "configure system cli-script authorization event-handler/cron" then the user is not specified.

script-policy

Syntax

script-policy

Context

[Tree] (tools>perform>system>script-control script-policy)

Full Context

tools perform system script-control script-policy

Description

This command performs script-policy operations.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

script-policy

Syntax

script-policy

Context

[Tree] (clear>system>script-control script-policy)

Full Context

clear system script-control script-policy

Description

Commands in this context clear script policy information.

Platforms

All

23.24 scripts

scripts

Syntax

scripts

Context

[Tree] (show>log>event-handling scripts)

Full Context

show log event-handling scripts

Description

This command displays handler configuration and script run queue information.

Platforms

All

Output

The following output is an example of log event handling script information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
===============================================================================
Event Handling System - Script Policy Association
===============================================================================
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
Event Handling System - Script Association
===============================================================================
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
Event Handling System - Script Launched List
===============================================================================
Run #     Script owner               Script name                 Script state
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```

23.25 sctp-filter

sctp-filter

Syntax

sctp-filter *sctp-filter-name*

Context

[Tree] (show>app-assure>group sctp-filter)

Full Context

show application-assurance group sctp-filter

Description

This command displays Stream Control Transmission Protocol (SCTP) filter information

Parameters

sctp-filter-name

Specifies an SCTP filter, up to 256 characters. When a filter is specified, all traffic is examined as described in the tmnxBsxSctpFltrTable.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.26 sdp

sdp

Syntax

sdp all | *sdp-id:vc-id*

Context

[Tree] (show>subscr-mgmt>errors sdp)

Full Context

show subscriber-mgmt errors sdp

Description

This command sorts all the subscriber errors by SDP.

Parameters

all

Shows all errors beginning with the lowest SDP index.

sdp-id:vc-id

Shows only the error of a specific SDP index.

Platforms

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

Output

Table 506: Output fields: subscriber management SDP error describes subscriber management SDP error output fields.

Table 506: Output fields: subscriber management SDP error

Field	Description
SDP	The SDP ID associated with the error
Time	The time this error was reported to the subscriber management errors subsystem
Service	The service ID associated with the error
MAC	The MAC address associated with the error
Error	The error that occurred on the SDP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Extra	Extra information about the error that occurred

sdp

Syntax

sdp [*sdp-id* [*:vc-id*]] [**detail**]

sdp far-end {*ip-address* | *ipv6-address*} [**detail**]

sdp *sdp-id* [*vc-id*] **l2tpv3**

sdp *sdp-id* [*:vc-id*] **static-isids** [**range-id** *range-id*]

sdp *sdp-id* [*:vc-id*] **static-isids mfib**

sdp *sdp-id* [*:vc-id*] [**detail**] **vccv-bfd** [**session**]

sdp *sdp-id* [*:vc-id*] **mrp**

Context

[Tree] (show>service>id sdp)

Full Context

show service id sdp

Description

Displays information for the SDPs associated with the service. If no optional parameters are specified, a summary of all associated SDPs is displayed.

Parameters

sdp-id [:vc-id]

Displays only information for the specified SDP ID.

Values sdp-id: 1 to 17407
vc-id: 1 to 4294967295

Default all SDPs

detail

Displays detailed SDP information.

ip-address* | *ipv6-address

Displays only SDPs matching the specified far-end IP address; 64 characters maximum.

Default SDPs with any far-end IP address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

l2tpv3

Indicates that the user wants to display L2TPv3-specific information for SDPs that are of type l2tpv3.

static-isids

Specifies the I-Component service IDs created on the SDP.

range-id

Displays the service using the specified I-component Service ID (ISID).

Values 1 to 4294967295

mfib

Display MFIB-related information. This parameter applies only to the 7450 ESS or 7750 SR only.

vccv-bfd

Displays detailed information about the VCCV BFD session for a spoke SDP.

session

Displays a summary of all VCCV sessions.

mrp

Displays detailed MRP information.

Platforms

All

Output

The following command displays SDP information and Table 507: Output fields: service ID SDP describes the output fields.

```
show service id sdp
```

Output Example

```
===============================================================================
Services: Service Destination Points
===============================================================================
SdpId            Type     Far End addr    Adm     Opr       I.Lbl     E.Lbl
-------------------------------------------------------------------------------
32767:4294967294 VplsPmsi not applicable  Up      Up        None      3
32767:4294967295 VplsPmsi not applicable  Up      Up        None      3
32767:4294967296 VplsPmsi not applicable  Up      Up        None      3
-------------------------------------------------------------------------------
Number of SDPs : 3
-------------------------------------------------------------------------------
===============================================================================
```

The following command displays SDP details information and Table 507: Output fields: service ID SDP describes the output fields.

```
show service id sdp detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
===============================================================================
Services: Service Destination Points Details
===============================================================================
 Sdp Id 1:1  -(10.20.1.2)
-------------------------------------------------------------------------------
Description     : Default sdp description
SDP Id             : 1:1                       Type             : Spoke
VC Type            : Ether                     VC Tag           : n/a
Admin Path MTU     : 0                         Oper Path MTU    : 9186
Far End            : 10.20.1.2                 Delivery         : MPLS

Admin State        : Up                        Oper State       : Up
Acct. Pol          : None                      Collect Stats    : Disabled
Ingress Label      : 2048                      Egress Label     : 2048
Ing mac Fltr       : n/a                       Egr mac Fltr     : n/a
Ing ip Fltr        : n/a                       Egr ip Fltr      : n/a
Ing ipv6 Fltr      : n/a                       Egr ipv6 Fltr    : n/a
Admin ControlWord  : Not Preferred             Oper ControlWord : False
Last Status Change : 05/31/2007 00:45:43       Signaling        : None
Last Mgmt Change   : 05/31/2007 00:45:43
Class Fwding State : Up
Flags              : None
Peer Pw Bits       : None
Peer Fault Ip      : None
Peer Vccv CV Bits  : None
Peer Vccv CC Bits  : None
Max Nbr of MAC Addr: No Limit                  Total MAC Addr   : 0
Learned MAC Addr   : 0                         Static MAC Addr  : 0

MAC Learning       : Enabled                   Discard Unkwn Srce: Disabled
MAC Aging          : Enabled
L2PT Termination   : Disabled                  BPDU Translation : Disabled
MAC Pinning        : Disabled

KeepAlive Information :
Admin State        : Disabled                  Oper State       : Disabled
Hello Time         : 10                        Hello Msg Len    : 0
Max Drop Count     : 3                         Hold Down Time   : 10

Statistics           :
I. Fwd. Pkts.      : 0                         I. Dro. Pkts.    : 0
I. Fwd. Octs.      : 0                         I. Dro. Octs.    : 0
E. Fwd. Pkts.      : 0                         E. Fwd. Octets   : 0
MCAC Policy Name   :
MCAC Max Unconst BW: no limit                  MCAC Max Mand BW : no limit
MCAC In use Mand BW: 0                         MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                         MCAC Avail Opnl BW: unlimited

Associated LSP LIST :
Lsp Name           : A_B_1
Admin State        : Up                        Oper State       : Up
Time Since Last Tr*: 00h26m35s

Lsp Name           : A_B_2
Admin State        : Up                        Oper State       : Up
Time Since Last Tr*: 00h26m35s

Lsp Name           : A_B_3
Admin State        : Up                        Oper State       : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_4
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_5
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_6
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_7
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_8
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m35s

Lsp Name           : A_B_9
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s

Lsp Name           : A_B_10
Admin State        : Up                       Oper State        : Up
Time Since Last Tr*: 00h26m34s
-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : enabled
Default LSP        : A_B_10                   Multicast LSP     : A_B_9
===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
af                  A_B_3
be                  A_B_1
ef                  A_B_6
h1                  A_B_7
h2                  A_B_5
l1                  A_B_4
l2                  A_B_2
nc                  A_B_8
===============================================================================
Stp Service Destination Point specifics
-------------------------------------------------------------------------------
Mac Move           : Blockable
Stp Admin State    : Up                       Stp Oper State    : Down
Core Connectivity  : Down
Port Role          : N/A                      Port State        : Forwarding
Port Number        : 2049                     Port Priority     : 128
Port Path Cost     : 10                       Auto Edge         : Enabled
Admin Edge         : Disabled                 Oper Edge         : N/A
Link Type          : Pt-pt                    BPDU Encap        : Dot1d
Root Guard         : Disabled                 Active Protocol   : N/A
Last BPDU from     : N/A
Designated Bridge  : N/A                      Designated Port Id: 0

Fwd Transitions    : 0                        Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                        Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                        TCN BPDUs tx      : 0
RST BPDUs rcvd     : 0                        RST BPDUs tx      : 0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Number of SDPs : 1
------------------------------------------------------------------------------
* indicates that the corresponding row element may have been truncated.
------------------------------------------------------------------------------
```

The following command displays SDP details information and Table 507: Output fields: service ID SDP describes the output fields.

```
show service id sdp detail
```

Output Example

```
===============================================================================
Service Destination Point (Sdp Id : 130:1) Details
===============================================================================
-------------------------------------------------------------------------------
Sdp Id 130:1  -(10.20.1.1)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id            : 130:1                   Type              : Spoke
Spoke Descr     : (Not Specified)
VC Type           : VLAN
VC Tag            : 22                      Oper VC Tag       : 123
Admin Path MTU    : 1600                    Oper Path MTU     : 1600
Delivery          : MPLS
Far End           : 10.20.1.1               Tunnel Far End    :
Oper Tunnel Far End: 10.20.1.1
LSP Types         : LDP
Hash Label        : Disabled                Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled
Entropy Label     : Disabled

Admin State       : Up                      Oper State        : Up
MinReqd SdpOperMTU : n/a
Adv Service MTU : 1500
Acct. Pol         : None                    Collect Stats     : Disabled
Ingress Label     : 524236                  Egress Label      : 524257
Ingr Mac Fltr-Id  : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id   : n/a                     Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id : n/a                     Egr IPv6 Fltr-Id  : n/a
Admin ControlWord : Not Preferred           Oper ControlWord  : False
BFD Template      : BFD_VCCV
BFD-Enabled       : yes                     BFD-Encap         : ipv4
BFD Fail Action   : down                    BFD Oper State    : connected
BFD WaitForUpTimer : 0 secs
Last Status Change : 11/09/2020 17:04:44    Signaling         : n/a
Last Mgmt Change  : 11/09/2020 17:04:43
Class Fwding State : Down
Flags             : None
Local Pw Bits     : None
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits  : lspPing bfdFaultDet
Peer Vccv CC Bits  : mplsRouterAlertLabel
Application Profile: None
Transit Policy    : None
AARP Id           : None

Ingress Qos Policy : (none)                 Egress Qos Policy : (none)
Ingress FP QGrp   : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst  : (none)                  Egr Port QGrp Inst: (none)
KeepAlive Information :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin State        : Disabled                Oper State        : Disabled
Hello Time         : 10                      Hello Msg Len     : 0
Max Drop Count     : 3                       Hold Down Time    : 10
Statistics            :
I. Fwd. Pkts.      : 0                       I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                       I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 804                     E. Fwd. Octets    : 41892

-------------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------------
PW Status          : disabled                Refresh Timer     : <none>
Peer Status Expire : false
Request Timer      : <none>
Acknowledgement    : false

-------------------------------------------------------------------------------
ETH-CFM SDP-Bind specifics
-------------------------------------------------------------------------------
Squelch Levels     : None
Collect Lmm Stats  : Disabled
LMM FC Stats       : None
LMM FC In Prof     : None

-------------------------------------------------------------------------------
LDP Information :
-------------------------------------------------------------------------------
LDP LSP Id         : 65537

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated
-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn
Multicast LSP      : None

===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings
-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
ISIS               : disabled
OSPF               : disabled
TE-LSP             : disabled
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 507: Output fields: service ID SDP

Label	Description
Sdp Id	The SDP identifier
Type	Indicates whether the SDP is a spoke or a mesh
Split Horizon Group	Name of the split-horizon group that the SDP belongs to
VC Type	Displays the VC type: ether or vlan
VC Tag	Displays the explicit dot1Q value used when encapsulating to the SDP far end
Oper VC Tag	Displays the operational VLAN VC tag in use on the SDP binding. This value can differ from the configured VC Tag.
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP
Admin Path MTU	The operating path MTU of the SDP is equal to the admin path MTU (when one is set) or the dynamically computed tunnel MTU, when no admin path MTU is set (the default case)
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented
Far End addr/Far End	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP
Delivery	Specifies the type of delivery used by the SDP: GRE or MPLS
Adm/Admin State	The administrative state of this SDP
Adv Service MTU	Displays the configured advertise service MTU value (for Epipe services only)
Opr/Oper State	The operational state of this SDP
I.Lbl/Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP
E.Lbl/Egress Label	The label used by this device to send packets to the far-end device in this service by the SDP
BFD Template	The BFD template name
BFD-Enabled	The BFD enabled status
BFD-Encap	The BFD encapsulation type
BFD Fail Action	The BFD fail action
BFD Oper State	The BFD operational state

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
BFD WaitFor UpTimer	The BFD wait for up timer value
Last Changed	The date and time of the most recent change to the SDP
Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP
Admin State	The administrative state of the keepalive process
Oper State	The operational state of the keepalive process
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP
Max Drop Count	Specifies the maximum number of consecutive SDP echo request messages that can be unacknowledged before the keepalive protocol reports a fault
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP
Hold Down Time	Specifies the amount of time to wait before the keepalive operating status is eligible to enter the alive state
I. Fwd. Pkts.	Specifies the number of forwarded ingress packets
I. Dro. Pkts.	Specifies the number of dropped ingress packets
E. Fwd. Pkts.	Specifies the number of forwarded egress packets
Associated LSP List	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the far end field If the SDP type is GRE, then the following message displays: SDP delivery mechanism is not MPLS

sdp

Syntax

sdp *sdp-id* **pw-port** [*pw-port-id*] [**statistics**]

sdp [**consistent** | **inconsistent** | **na**] **egressifs**

sdp *sdp-id* **keep-alive-history**

sdp far-end {*ip-address* | *ipv6-address*} **keep-alive-history**

sdp [*sdp-id*] [**detail**]

sdp far-end {*ip-address* | *ipv6-address*} [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service sdp)

Full Context

show service sdp

Description

This command displays SDP information.

If no optional parameters are specified, a summary SDP output for all SDPs is displayed.

Parameters

sdp-id

Specifies the SDP ID for which to display information.

Values 1 to 32767

Default all SDPs

far-end *ip-address*

Displays only SDPs matching with the specified far-end IPv4 address.

Default SDPs with any far-end IP address

far-end *ipv6-address*

Displays only SDPs matching with the specified far-end IPv6 address.

Default SDPs with any far-end IP address

detail

Displays detailed SDP information.

Default SDP summary output

keep-alive-history

Displays the last fifty SDP keepalive events for the SDP.

Default SDP summary output

consistent

Specifies that the network domain for all egress network interfaces that can carry traffic on this SDP are consistent.

inconsistent

Specifies that the network domain for one or more egress network interfaces that can carry traffic on this SDP are inconsistent.

na

Specifies that there is no egress network interface that can carry traffic on this SDP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

egressifs

Specifies whether all egress network interfaces that can carry traffic on this SDP are associated with the network domain configured on this SDP.

pw-port *pw-port-id*

Displays the SAP identifier for PW-SAPs.

Platforms

All

Output

The following output is an example of SDP information, and Table 508: Output fields: service SDP describes the output fields.

Output Example

```
*A:Dut-D# show service id 1 sdp 17407:4294967294 detail
===============================================================================
Service Destination Point (Sdp Id : 17407:4294967294) Details
===============================================================================
-------------------------------------------------------------------------------
 Sdp Id 17407:4294967294  -(not applicable)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id            : 17407:4294967294        Type              : VplsPmsi
Split Horiz Grp   : (Not Specified)
VC Type           : Ether                   VC Tag            : n/a
Admin Path MTU    : 9194                    Oper Path MTU     : 9194
Delivery          : MPLS
Far End           : not applicable
Tunnel Far End    : n/a                     LSP Types         : None
Hash Label        : Disabled                Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled

Admin State       : Up                      Oper State        : Up
Acct. Pol         : None                    Collect Stats     : Disabled
Ingress Label     : 0                       Egress Label      : 3
Ingr Mac Fltr-Id  : n/a                     Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id   : n/a                     Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id : n/a                     Egr IPv6 Fltr-Id  : n/a
Admin ControlWord : Not Preferred           Oper ControlWord  : False
Last Status Change : 12/14/2012 12:42:22    Signaling         : None
Last Mgmt Change  : 12/14/2012 12:42:19     Force Vlan-Vc     : Disabled
Endpoint          : N/A                     Precedence        : 4
PW Status Sig     : Enabled
Class Fwding State : Down
Flags             : None
Time to RetryReset : never                  Retries Left      : 3
Mac Move          : Blockable               Blockable Level   : Tertiary
Local Pw Bits     : None
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits : None
Peer Vccv CC Bits : None
Application Profile: None
Max Nbr of MAC Addr: No Limit               Total MAC Addr    : 0
Learned MAC Addr  : 0                       Static MAC Addr   : 0

MAC Learning      : Enabled                 Discard Unkwn Srce: Disabled
MAC Aging         : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
BPDU Translation   : Disabled
L2PT Termination   : Disabled
MAC Pinning        : Disabled
Ignore Standby Sig : False                  Block On Mesh Fail: False
Oper Group         : (none)                 Monitor Oper Grp  : (none)
Rest Prot Src Mac  : Disabled
Auto Learn Mac Prot: Disabled               RestProtSrcMacAct : Disable

Ingress Qos Policy : (none)                 Egress Qos Policy : (none)
Ingress FP QGrp    : (none)                 Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                 Egr Port QGrp Inst: (none)
-------------------------------------------------------------------------
ETH-CFM SDP-Bind specifics
-------------------------------------------------------------------------
V-MEP Filtering    : Disabled

KeepAlive Information :
Admin State        : Disabled               Oper State        : Disabled
Hello Time         : 10                     Hello Msg Len     : 0
Max Drop Count     : 3                      Hold Down Time    : 10

Statistics            :
I. Fwd. Pkts.      : 0                      I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                      I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 2979761                E. Fwd. Octets    : 476761760
-------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------
PW Status          : disabled               Refresh Timer     : <none>
Peer Status Expire : false                  Clear On Timeout  : true

MCAC Policy Name   :
MCAC Max Unconst BW: no limit               MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0                      MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                      MCAC Avail Opnl BW: unlimited
-------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated
-------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------
Class forwarding   : Disabled               EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn                  Multicast LSP     : None
=========================================================================
FC Mapping Table
=========================================================================
FC Name             LSP Name
-------------------------------------------------------------------------
No FC Mappings
-------------------------------------------------------------------------
Stp Service Destination Point specifics
-------------------------------------------------------------------------
Stp Admin State    : Down                   Stp Oper State    : Down
Core Connectivity  : Down
Port Role          : N/A                    Port State        : Forwarding
Port Number        : 0                      Port Priority     : 128
Port Path Cost     : 10                     Auto Edge         : Enabled
Admin Edge         : Disabled               Oper Edge         : N/A
Link Type          : Pt-pt                  BPDU Encap        : Dot1d
Root Guard         : Disabled               Active Protocol   : N/A
Last BPDU from     : N/A
Designated Bridge  : N/A                    Designated Port Id: N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Fwd Transitions    : 0                       Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                       Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                       TCN BPDUs tx      : 0
TC bit BPDUs rcvd  : 0                       TC bit BPDUs tx   : 0
RST BPDUs rcvd     : 0                       RST BPDUs tx      : 0
-------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------
=========================================================================


A:Dut-F# show service sdp 1600 detail
===============================================================================
Service Destination Point (Sdp Id : 1600) Details
===============================================================================
-------------------------------------------------------------------------------
Sdp Id 1600  -2.2.2.2
-------------------------------------------------------------------------------
Description           : (Not Specified)
SDP Id               : 1600                  SDP Source         : manual
Admin Path MTU       : 0                     Oper Path MTU      : 1532
Delivery             : GRE
Far End              : 2.2.2.2               Tunnel Far End     : n/a
Oper Tunnel Far End  : 2.2.2.2
Local End            : 6.6.6.6
LSP Types            : n/a

Admin State          : Up                    Oper State         : Up
Signaling            : TLDP                  Metric             : 0
Acct. Pol            : None                  Collect Stats      : Disabled
Last Status Change   : 10/04/2018 21:18:06   Adv. MTU Over.     : No
Last Mgmt Change     : 10/04/2018 21:17:59   VLAN VC Etype      : 0x8100
Bw BookingFactor     : 100
Oper Max BW(Kbps)    : 0                     Avail BW(Kbps)     : 0
Net-Domain           : default               Egr Interfaces     : Consistent
Allow Fragmentation  : No
FPE LSP Id           : 0
Weighted ECMP        : Disabled
Flags                : None
Mixed LSP Mode Information :
Mixed LSP Mode       : n/a                   Active LSP Type    : n/a
KeepAlive Information :
Admin State          : Disabled              Oper State         : Disabled
Hello Time           : 10                    Hello Msg Len      : 0
Hello Timeout        : 5                     Unmatched Replies  : 0
Max Drop Count       : 3                     Hold Down Time     : 10
Tx Hello Msgs        : 0                     Rx Hello Msgs      : 0
-------------------------------------------------------------------------------
MPLS-TP LSPs
-------------------------------------------------------------------------------
Associated LSP List :
SDP Delivery Mechanism is not MPLS
-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
ISIS                 : disabled
OSPF                 : disabled
TE-LSP               : disabled
===============================================================================


*A:Dut-B# show service sdp
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Services: Service Destination Points
===============================================================================
SdpId  AdmMTU  OprMTU  Far End          Adm  Opr         Del     LSP   Sig
-------------------------------------------------------------------------------
230    0       1582    10.20.1.3        Up   Up          MPLS    I     TLDP
10000  0       1552    fpe_1.b          Up   Up          MPLS    F     None
10001  0       1552    fpe_1.a          Up   Up          MPLS    F     None
-------------------------------------------------------------------------------
Number of SDPs : 3
-------------------------------------------------------------------------------
Legend: R = RSVP, L = LDP, B = BGP, M = MPLS-TP, n/a = Not Applicable
        I = SR-ISIS, O = SR-OSPF, T = SR-TE, F = FPE

===============================================================================

*A:Dut-B# show service sdp detail
===============================================================================
Services: Service Destination Points Details
===============================================================================
-------------------------------------------------------------------------------
 Sdp Id 230  -10.20.1.3
-------------------------------------------------------------------------------
Description           : (Not Specified)
SDP Id                : 230                   SDP Source         : manual
Admin Path MTU        : 0                     Oper Path MTU      : 1582
Delivery              : MPLS
Far End               : 10.20.1.3
Tunnel Far End        : n/a                   LSP Types          : SR-ISIS

Admin State           : Up                    Oper State         : Up
Signaling             : TLDP                  Metric             : 0
Acct. Pol             : None                  Collect Stats      : Disabled
Last Status Change    : 01/28/2015 22:00:07   Adv. MTU Over.     : No
Last Mgmt Change      : 01/28/2015 21:59:53   VLAN VC Etype      : 0x8100
Bw BookingFactor      : 100                   PBB Etype          : 0x88e7
Oper Max BW(Kbps)     : 0                     Avail BW(Kbps)     : 0
Net-Domain            : default               Egr Interfaces     : Consistent
Flags                 : None

Mixed LSP Mode Information :
Mixed LSP Mode        : Disabled              Active LSP Type    : SR-ISIS

KeepAlive Information :
Admin State           : Disabled              Oper State         : Disabled
Hello Time            : 10                    Hello Msg Len      : 0
Hello Timeout         : 5                     Unmatched Replies  : 0
Max Drop Count        : 3                     Hold Down Time     : 10
Tx Hello Msgs         : 0                     Rx Hello Msgs      : 0

Src B-MAC LSB         : <none>                Ctrl PW VC ID      : <none>
Ctrl PW Active        : n/a
-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated
-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding      : Disabled              EnforceDSTELspFc   : Disabled
Default LSP           : Uknwn                 Multicast LSP      : None
===============================================================================
FC Mapping Table
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings
-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
ISIS                : enabled              LSP Id             : 524289
Oper Instance Id    : 0
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
===============================================================================
*A:Dut-B#


*A:Dut-B> show service sdp
===============================================================================
Services: Service Destination Points
===============================================================================
SdpId  AdmMTU  OprMTU  Far End          Adm  Opr         Del     LSP   Sig
-------------------------------------------------------------------------------
230    0       1582    10.20.1.3        Up   Up          MPLS    O     TLDP
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
Legend: R = RSVP, L = LDP, B = BGP, M = MPLS-TP, n/a = Not Applicable
        I = SR-ISIS, O = SR-OSPF
===============================================================================


*A:Dut-B> show service sdp 230 detail
===============================================================================
Service Destination Point (Sdp Id : 230) Details
===============================================================================
-------------------------------------------------------------------------------
 Sdp Id 230  -10.20.1.3
-------------------------------------------------------------------------------
Description           : (Not Specified)
SDP Id              : 230                  SDP Source         : manual
Admin Path MTU      : 0                    Oper Path MTU      : 1582
Delivery            : MPLS
Far End             : 10.20.1.3
Tunnel Far End      : n/a                  LSP Types          : SR-OSPF

Admin State         : Up                   Oper State         : Up
Signaling           : TLDP                 Metric             : 0
Acct. Pol           : None                 Collect Stats      : Disabled
Last Status Change  : 05/27/2015 03:08:37  Adv. MTU Over.     : No
Last Mgmt Change    : 05/27/2015 03:05:36  VLAN VC Etype      : 0x8100
Bw BookingFactor    : 100                  PBB Etype          : 0x88e7
Oper Max BW(Kbps)   : 0                    Avail BW(Kbps)     : 0
Net-Domain          : default              Egr Interfaces     : Consistent
Flags               : None

Mixed LSP Mode Information :
Mixed LSP Mode      : Disabled             Active LSP Type    : SR-OSPF

KeepAlive Information :
Admin State         : Disabled             Oper State         : Disabled
Hello Time          : 10                   Hello Msg Len      : 0
Hello Timeout       : 5                    Unmatched Replies  : 0
Max Drop Count      : 3                    Hold Down Time     : 10
Tx Hello Msgs       : 0                    Rx Hello Msgs      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Src B-MAC LSB        : <none>               Ctrl PW VC ID      : <none>
Ctrl PW Active       : n/a

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated

-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding     : Disabled             EnforceDSTELspFc   : Disabled
Default LSP          : Uknwn                Multicast LSP      : None

===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings

-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
OSPF                 : enabled              LSP Id             : 524289
Oper Instance Id     : 0
===============================================================================
*A:Dut-B>config>service>sdp#


*A:ALA-12# show service sdp 8
===============================================================================
Service Destination Point (Sdp Id : 8)
===============================================================================
SdpId    Adm MTU   Opr MTU   IP address       Adm  Opr         Deliver Signal
-------------------------------------------------------------------------------
8        4462      4462      10.10.10.104     Up   Dn NotReady MPLS    TLDP
===============================================================================
*A:ALA-12#

*A:ALA-12#
===============================================================================
Service Destination Point (Sdp Id : 8) Details
===============================================================================
Sdp Id 8  -(10.10.10.104)
-------------------------------------------------------------------------------
Description           : MPLS-10.10.10.104
SDP Id               : 8
Admin Path MTU       : 0                    Oper Path MTU      : 0
Far End              : 10.10.10.104         Delivery           : MPLS
Admin State          : Up                   Oper State         : Down
Flags                : SignalingSessDown TransportTunnDown
Signaling            : TLDP                 VLAN VC Etype      : 0x8100
Last Status Change   : 02/01/2007 09:11:39  Adv. MTU Over.     : No
Last Mgmt Change     : 02/01/2007 09:11:46
KeepAlive Information :
Admin State          : Disabled             Oper State         : Disabled
Hello Time           : 10                   Hello Msg Len      : 0
Hello Timeout        : 5                    Unmatched Replies  : 0
Max Drop Count       : 3                    Hold Down Time     : 10
Tx Hello Msgs        : 0                    Rx Hello Msgs      : 0
Associated LSP LIST :
Lsp Name             : to-104
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin State          : Up                    Oper State         : Down
Time Since Last Tran*: 01d07h36m
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:ALA-12#


*A:MV-SR12> show service sdp 10 detail
===============================================================================
Service Destination Point (Sdp Id : 10) Details
===============================================================================
Sdp Id 10  -(203.20.1.201)
-------------------------------------------------------------------------------
Description           : (Not Specified)
SDP Id               : 10                    SDP Source         : manual
Admin Path MTU       : 0                     Oper Path MTU      : 9182
Far End              : 203.20.1.201          Delivery           : MPLS/LDP
Admin State          : Up                    Oper State         : Up
Signaling            : TLDP                  Metric             : 0
Acct. Pol            : None                  Collect Stats      : Disabled
Last Status Change   : 02/12/2010 22:37:08   Adv. MTU Over.     : No
Last Mgmt Change     : 02/12/2010 22:37:03   VLAN VC Etype      : 0x8100
Bw BookingFactor     : 100                   PBB Etype          : 0x88e7
Oper Max BW(Kbps)    : 0                     Avail BW(Kbps)     : 0
Net-Domain           : default               Egr Interfaces     : Consistent
Mixed LSP Mode       : Enabled
Revert Time          : 0                     Revert Count Down  : n/a
Flags                : None

KeepAlive Information :
Admin State          : Disabled              Oper State         : Disabled
Hello Time           : 10                    Hello Msg Len      : 0
Hello Timeout        : 5                     Unmatched Replies  : 0
Max Drop Count       : 3                     Hold Down Time     : 10
Tx Hello Msgs        : 0                     Rx Hello Msgs      : 0
-------------------------------------------------------------------------------
LDP Information :
-------------------------------------------------------------------------------
LDP LSP Id           : 65539                 LDP Active         : No
-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP LIST :
Lsp Name             : To_7710
Admin State          : Up                    Oper State         : Up
Time Since Last Tran*: 01h20m56s
-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding     : Disabled              EnforceDSTELspFc   : Disabled
Default LSP          : Uknwn                 Multicast LSP      : None
===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:MV-SR12>config>service>vprn#


*B:Dut-B>config>router>mpls>lsp# /show service sdp
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Services: Service Destination Points
===============================================================================
SdpId  AdmMTU  OprMTU  Far End          Adm  Opr         Del     LSP   Sig
-------------------------------------------------------------------------------
230    0       1578                     Up   Up          MPLS    I     TLDP
                      2001:db8::
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
Legend: R = RSVP, L = LDP, B = BGP, M = MPLS-TP, n/a = Not Applicable
        I = SR-ISIS, O = SR-OSPF, T = SR-TE, F = FPE
===============================================================================


*B:Dut-B>config>router>mpls>lsp# /show service sdp detail
===============================================================================
Services: Service Destination Points Details
===============================================================================
-------------------------------------------------------------------------------
Sdp Id 230  2001:db8::
-------------------------------------------------------------------------------
Description           : Default sdp description
SDP Id               : 230                   SDP Source         : manual
Admin Path MTU       : 0                     Oper Path MTU      : 1578
Delivery             : MPLS
Far End              : 2001:db8::
Tunnel Far End       : n/a                   LSP Types          : SR-ISIS
Admin State          : Up                    Oper State         : Up
Signaling            : TLDP                  Metric             : 0
Acct. Pol            : None                  Collect Stats      : Disabled
Last Status Change   : 07/12/2016 19:40:17   Adv. MTU Over.     : No
Last Mgmt Change     : 07/12/2016 19:40:04   VLAN VC Etype      : 0x8100
Bw BookingFactor     : 100                   PBB Etype          : 0x88e7
Oper Max BW(Kbps)    : 0                     Avail BW(Kbps)     : 0
Net-Domain           : default               Egr Interfaces     : Consistent
FPE LSP Id           : 0
Flags                : None
Mixed LSP Mode Information :
Mixed LSP Mode       : Disabled              Active LSP Type    : SR-ISIS
KeepAlive Information :
Admin State          : Disabled              Oper State         : Disabled
Hello Time           : 10                    Hello Msg Len      : 0
Hello Timeout        : 5                     Unmatched Replies  : 0
Max Drop Count       : 3                     Hold Down Time     : 10
Tx Hello Msgs        : 0                     Rx Hello Msgs      : 0
Src B-MAC LSB        : <none>                Ctrl PW VC ID      : <none>
Ctrl PW Active       : n/a

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated
-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding     : Disabled              EnforceDSTELspFc   : Disabled
Default LSP          : Uknwn                 Multicast LSP      : None
===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
ISIS                : enabled              LSP Id             : 524355
Oper Instance Id    : 0
OSPF                : disabled
TE-LSP              : disabled
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
===============================================================================


*B:Dut-B>config>router>mpls>lsp# /show service id 1 sdp detail
===============================================================================
Services: Service Destination Points Details
===============================================================================
-------------------------------------------------------------------------------
Sdp Id 230:1  -(2001:db8::)
-------------------------------------------------------------------------------
Description     : Default sdp description
SDP Id             : 230:1                    Type             : Spoke
Spoke Descr     : Description for Sdp Bind 230 for Svc ID 1
VC Type            : VLAN                     VC Tag           : 0
Admin Path MTU     : 0                        Oper Path MTU    : 1578
Delivery           : MPLS
Far End            : 2001:db8::
Tunnel Far End     : n/a                      LSP Types        : SR-ISIS
Hash Label         : Disabled                 Hash Lbl Sig Cap : Disabled
Oper Hash Label    : Disabled
Entropy Label      : Disabled

Admin State        : Up                       Oper State       : Up
MinReqd SdpOperMTU : 1514
Adv Service MTU : n/a
Acct. Pol          : None                     Collect Stats    : Disabled
Ingress Label      : 262134                   Egress Label     : 262134
Ingr Mac Fltr-Id   : n/a                      Egr Mac Fltr-Id  : n/a
Ingr IP Fltr-Id    : n/a                      Egr IP Fltr-Id   : n/a
Ingr IPv6 Fltr-Id  : n/a                      Egr IPv6 Fltr-Id : n/a
Admin ControlWord  : Not Preferred            Oper ControlWord : False
Admin BW(Kbps)     : 0                        Oper BW(Kbps)    : 0
BFD Template       : None
BFD-Enabled        : no                       BFD-Encap        : ipv4
Last Status Change : 07/12/2016 19:40:18      Signaling        : TLDP
Last Mgmt Change   : 07/12/2016 19:40:04
Endpoint           : N/A                      Precedence       : 4
PW Status Sig      : Enabled
Force Vlan-Vc      : Disabled                 Force Qinq-Vc    : Disabled
Class Fwding State : Down
Flags              : None
Local Pw Bits      : None
Peer Pw Bits       : None
Peer Fault Ip      : None
Peer Vccv CV Bits  : lspPing bfdFaultDet
Peer Vccv CC Bits  : mplsRouterAlertLabel
Application Profile: None
Transit Policy     : None
Standby Sig Slave  : False
Block On Peer Fault: False
Use SDP B-MAC      : False
Ingress Qos Policy : (none)                   Egress Qos Policy : (none)
Ingress FP QGrp    : (none)                   Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                   Egr Port QGrp Inst: (none)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
KeepAlive Information :
Admin State        : Disabled                Oper State        : Disabled
Hello Time         : 10                      Hello Msg Len     : 0
Max Drop Count     : 3                       Hold Down Time    : 10
Statistics           :
I. Fwd. Pkts.      : 0                       I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                       I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 0                       E. Fwd. Octets    : 0
-------------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------------
PW Status          : disabled                Refresh Timer     : <none>
Peer Status Expire : false
Request Timer      : <none>
Acknowledgement    : false
-------------------------------------------------------------------------------
ETH-CFM SDP-Bind specifics
-------------------------------------------------------------------------------
Squelch Levels     : None

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
No LSPs Associated
-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn                   Multicast LSP     : None
===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings
-------------------------------------------------------------------------------
Segment Routing
-------------------------------------------------------------------------------
ISIS               : enabled                 LSP Id            : 524355
Oper Instance Id   : 0
OSPF               : disabled
TE-LSP             : disabled
-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
===============================================================================
```

When network domains are configured, the SDP egress interface state can be verified by using the following command.

```
*A:Dut-T# show service sdp egressifs
===============================================================================
SDP Egress Ifs State Table
===============================================================================
SDP Id              Network Domain                  State
-------------------------------------------------------------------------------
100                 net1                            consistent
-------------------------------------------------------------------------------
SDPs : 1
===============================================================================
*A:Dut-Tr#
*A:Dut-C># show service sdp 1 pw-port
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Service Destination Point (Sdp Id 1 Pw-Port )
===============================================================================
SDP Binding port     : 1/1/3

SDP: 1 Pw-port: 11
-------------------------------------------------------------------------------
VC-Id                : 11                   Admin Status       : up
Encap                : dot1q                Oper Status        : up
VC Type              : vlan                 Vlan VC Tag        : 0
Oper Flags           : (Not Specified)


SDP: 1 Pw-port: 44
-------------------------------------------------------------------------------
VC-Id                : 2                    Admin Status       : up
Encap                : dot1q                Oper Status        : up
VC Type              : ether
Oper Flags           : (Not Specified)

-------------------------------------------------------------------------------
Entries found: 2
-------------------------------------------------------------------------------
*A:Dut-C> #


*A:Dut-C> # show service sdp 1 pw-port 44
===============================================================================
Service Destination Point (Sdp Id 1 Pw-Port 44)
===============================================================================
SDP Binding port     : 1/1/3
VC-Id                : 2                    Admin Status       : up
Encap                : dot1q                Oper Status        : up
VC Type              : ether
Oper Flags           : (Not Specified)
===============================================================================
*A:Dut-C> #
```

The following output is an example that shows the source-bmac-lsb and control PW information used for a specified SDP.

```
A:bksim1613# show service sdp 1 detail
===============================================================================
Service Destination Point (Sdp Id : 1) Details
===============================================================================
-------------------------------------------------------------------------------
Sdp Id 1  -2.2.2.2
-------------------------------------------------------------------------------
Description           : (Not Specified)
SDP Id               : 1                    SDP Source         : manual
Admin Path MTU       : 0                    Oper Path MTU      : 1556
Delivery             : MPLS
Far End              : 2.2.2.2
Tunnel Far End       : n/a                  LSP Types          : RSVP

Admin State          : Up                   Oper State         : Up
Signaling            : TLDP                 Metric             : 0
Acct. Pol            : None                 Collect Stats      : Disabled
Last Status Change   : 08/12/2013 06:33:57  Adv. MTU Over.     : No
Last Mgmt Change     : 08/12/2013 06:32:47  VLAN VC Etype      : 0x8100
Bw BookingFactor     : 100                  PBB Etype          : 0x88e7
Oper Max BW(Kbps)    : 0                    Avail BW(Kbps)     : 0
Net-Domain           : default              Egr Interfaces     : Consistent
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Flags               : None

Mixed LSP Mode Information :
Mixed LSP Mode      : Disabled              Active LSP Type    : RSVP

KeepAlive Information :
Admin State         : Disabled              Oper State         : Disabled
Hello Time          : 10                    Hello Msg Len      : 0
Hello Timeout       : 3                     Unmatched Replies  : 0
Max Drop Count      : 3                     Hold Down Time     : 10
Tx Hello Msgs       : 0                     Rx Hello Msgs      : 0
Src B-MAC LSB       : 00-13                 Ctrl PW VC ID      : 550
```

The following output is an example that shows whether use-sdp-bmac is applied to a specified PW.

```
A:bksim1613# show service id 550 sdp 1:550 detail
===============================================================================
Service Destination Point (Sdp Id : 1:550) Details
===============================================================================
-------------------------------------------------------------------------------
Sdp Id 1:550  -(2.2.2.2)
-------------------------------------------------------------------------------
Description     : (Not Specified)
SDP Id             : 1:550                  Type              : Spoke
Spoke Descr     : (Not Specified)
VC Type            : Ether                  VC Tag            : n/a
Admin Path MTU     : 0                      Oper Path MTU     : 1556
Delivery           : MPLS
Far End            : 2.2.2.2
Tunnel Far End     : n/a                    LSP Types         : RSVP
Hash Label         : Disabled               Hash Lbl Sig Cap  : Disabled
Oper Hash Label    : Disabled

Admin State        : Up                     Oper State        : Up
MinReqd SdpOperMTU : 1514
Adv Service MTU : n/a
Acct. Pol          : None                   Collect Stats     : Disabled
Ingress Label      : 131048                 Egress Label      : 131063
Ingr Mac Fltr-Id   : n/a                    Egr Mac Fltr-Id   : n/a
Ingr IP Fltr-Id    : n/a                    Egr IP Fltr-Id    : n/a
Ingr IPv6 Fltr-Id  : n/a                    Egr IPv6 Fltr-Id  : n/a
Admin ControlWord  : Not Preferred          Oper ControlWord  : False
Admin BW(Kbps)     : 0                      Oper BW(Kbps)     : 0
Last Status Change : 08/12/2013 06:33:57    Signaling         : TLDP
Last Mgmt Change   : 08/12/2013 06:32:47    Force Vlan-Vc     : Disabled
Endpoint           : N/A                    Precedence        : 4
PW Status Sig      : Enabled
Class Fwding State : Down
Flags              : None
Local Pw Bits      : None
Peer Pw Bits       : None
Peer Fault Ip      : None
Peer Vccv CV Bits  : lspPing
Peer Vccv CC Bits  : mplsRouterAlertLabel

Application Profile: None
Transit Policy     : None
Standby Sig Slave  : False
Block On Peer Fault: False
Use sdp B-MAC      : True

Ingress Qos Policy : (none)                 Egress Qos Policy : (none)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ingress FP QGrp    : (none)                  Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                  Egr Port QGrp Inst: (none)

KeepAlive Information :
Admin State        : Disabled                Oper State        : Disabled
Hello Time         : 10                      Hello Msg Len     : 0
Max Drop Count     : 3                       Hold Down Time    : 10

Statistics            :
I. Fwd. Pkts.      : 0                       I. Dro. Pkts.     : 0
I. Fwd. Octs.      : 0                       I. Dro. Octs.     : 0
E. Fwd. Pkts.      : 0                       E. Fwd. Octets    : 0

-------------------------------------------------------------------------------
Control Channel Status
-------------------------------------------------------------------------------
PW Status          : disabled                Refresh Timer     : <none>
Peer Status Expire : false
Request Timer      : <none>
Acknowledgement    : false

-------------------------------------------------------------------------------
RSVP/Static LSPs
-------------------------------------------------------------------------------
Associated LSP List :
Lsp Name           : to-bksim1611-1
Admin State        : Up                      Oper State        : Up
Time Since Last Tr*: 05h44m54s

-------------------------------------------------------------------------------
Class-based forwarding :
-------------------------------------------------------------------------------
Class forwarding   : Disabled                EnforceDSTELspFc  : Disabled
Default LSP        : Uknwn                   Multicast LSP     : None

===============================================================================
FC Mapping Table
===============================================================================
FC Name             LSP Name
-------------------------------------------------------------------------------
No FC Mappings

-------------------------------------------------------------------------------
Number of SDPs : 1
-------------------------------------------------------------------------------
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Table 508: Output fields: service SDP

Label	Description
SDP Id	The SDP identifier
Description	Text string describing the SDP
Admin Path MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end ESR, without requiring the packet to be fragmented. The default value of zero indicates that the path MTU should be computed dynamically from the corresponding MTU of the tunnel.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Opr Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end ESR, without requiring the packet to be fragmented. To be able to bind this SDP to a specific service, the value of this object minus the control word size (if applicable) must be equal to or larger than the MTU of the service, as defined by its service MTU.
Far End	The far end IP address.
Local End	The local end IP address
Delivery	The type of delivery used by the SDP: GRE or MPLS
IP address	The IP address of the remote end of the GRE or MPLS tunnel defined by this SDP
Adm Admin State	The desired state of the SDP
Opr Oper State	The operating state of the SDP
Flags	All the conditions that affect the operating status of this SDP
Signal Signaling	The signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on the SDP
Last Status Change	The time of the most recent operating status change to this SDP.
Adv. MTU Over	Specifies whether the advertised MTU of a VLL spoke SDP bind includes the 14-byte Layer 2 header, so that it is backward compatible with pre-2.0 software
Last Mgmt Change	The time of the most recent management-initiated change to this SDP
KeepAlive Information	This section displays Keepalive information.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP
Hello Msg Len	The length of the SDP echo request messages transmitted on this SDP
Hello Timeout	The number of seconds to wait for an SDP echo response message before declaring a timeout
Unmatched Replies	The number of SDP unmatched message replies timer expired
Max Drop Count	The maximum number of consecutive SDP echo request messages that can be unacknowledged before the keepalive protocol reports a fault
Hold Down Time	The amount of time to wait before the keepalive operating status is eligible to enter the alive state

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
TX Hello Msgs	The number of SDP echo request messages transmitted since the keepalive was administratively enabled or the counter was cleared
Rx Hello Msgs	The number of SDP echo request messages received since the keepalive was administratively enabled or the counter was cleared
Associated LSP List	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the far-end field. If the SDP type is GRE, the following message displays: SDP Delivery Mechanism is not MPLS.
Lsp Name	The LSP name
Time Since Last Transaction	The time of the last transaction
Signaling	The signaling type
Collect Stats	Specifies whether the agent collects accounting statistics for this SDP. When the value is true, the agent collects accounting statistics on this SDP.
VLAN VC Etype	The VLAN VC type
BW Booking Factor	The value used to calculate the max SDP available bandwidth. The value specifies the percentage of the SDP max available bandwidth for VLL call admission. When the value of is set to zero (0), no new VLL spoke-SDP bindings with non-zero bandwidth are permitted with this SDP. Overbooking, >100% is allowed.
PBB Etype	The Ethertype used in frames sent out on this SDP when specified as **vlan** for Provider Backbone Bridging frames
Oper Max BW (Kbps)	The operational bandwidth in kilobits per seconds (kb/s) available for this SDP. The value is determined by the sum of the bandwidth of all the RSVP LSPs used by the SDP.
Avail BW (Kbps)	The bandwidth that is still free for booking by the SDP bindings on the SDP
Net-Domain	The network-domain name configured on this SDP. The default value of this object is the default network-domain.
Egr Interface	Indicates whether all the egress network interfaces that can carry traffic on this SDP are associated with the network-domain configured on this SDP. Not applicable — Indicates that there is no egress network interface that can carry traffic on this SDP. Consistent — Indicates that the network-domains for all the egress network interfaces that can carry traffic on this SDP are consistent.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Inconsistent — Indicates that the network-domain for one or more egress network interfaces that can carry traffic on this SDP are inconsistent.
Revert Time	The time to wait before reverting back from LDP to the configured LSPs, after having failed over to LDP
Revert Count Down	The timer countdown before reverting back from LDP on this SDP. The timer countdown begins after the first configured LSP becomes active.
Flags	Displays all the conditions that affect the operating status of this SDP.
Class Forwarding	Indicates the admin state of class-based forwarding on this SDP. When the value is "true", class-based forwarding is enabled.
EnforceDSTELspFc	Specifies whether service manager must validate with RSVP the support of the FC by the LSP
Default LSP	The LSP ID that is used as a default when class-based forwarding is enabled on this SDP. This object must be set when enabling class-based forwarding.
Multicast LSP	The LSP ID that all multicast traffic will be forwarded on when class-based forwarding is enabled on this SDP. When this object has its default value, multicast traffic will be forwarded on an LSP according to its forwarding class mapping.
Number of SDPs	The metric to be used within the Tunnel Table Manager for decision making purposes. When multiple SDPs going to the same destination exist, this value is used as a tie-breaker by Tunnel Table Manager users like MP-BGP to select a route with lower value.

sdp

Syntax

sdp *sdp-id* **keep-alive**

sdp *sdp-id* **pw-port** *sdp-id*

Context

[Tree] (clear>service>statistics sdp)

Full Context

clear service statistics sdp

Description

This command clears keep-alive statistics associated with the SDP ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sdp-id

The SDP ID for which to clear keepalive statistics.

Values 1 to 32767

keep-alive

Clears keep-alive information associated with the SDP ID. The keep-alive history is not cleared.

Platforms

All

sdp

Syntax

sdp [*sdp-id*[*:vc-id*]] [**level** *level*] [**primary-vlan-enabled** *vlan-id*]

Context

[Tree] (show>eth-cfm>mip-instantiation sdp)

Full Context

show eth-cfm mip-instantiation sdp

Description

This command displays MIP creation information for SDP bindings.

Parameters

sdp-id

Specifies the value identifying the SDP.

Values 1 to 32767

vc-id

Specifies the value identifying the virtual circuit identifier.

Values 1 to 4294967295

level

Displays the MD level of the maintenance point.

Values 0 to 7

vlan-id

Specifies the Dot1Q VLAN ID.

Values T0 to 4095, all

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sdp

Syntax

sdp *sdp-id:vc-id* [**test-service-id** *service-id*] **start**

sdp *sdp-id:vc-id* **stop**

Context

[Tree] (tools>perform>service>id>admin-lock>pw sdp)

Full Context

tools perform service id admin-lock pw sdp

Description

This command specifies the spoke SDP binding to which an administrative lock will be applied for the MPLS-TP pseudowire. The administrative lock can be placed on a spoke SDP that is bound to a VLL SAP, another spoke SDP or a VPLS interface. Once the pseudowire is locked it may be put into loopback mode. The command must be executed at both ends of the pseudowire or MS-PW represented by the spoke SDP. Test traffic can then be injected using a configured test SAP on an Epipe, Apipe or Cpipe.

Parameters

sdp-id:vc-id

Specifies the SDP-ID and VC-ID.

Values sdp-id 1 to 17407]
vc-id1 to 4294967295]

test-service-id

Keyword that specifies the ID of a test service (SAP) to which the SDP is bound.

Platforms

All

sdp

Syntax

sdp *sdp-id:vc-id* **start** *mode* [**mac-swap**] [**mac** *ieee-address*] [**all**]

sdp *sdp-id:vc-id* **stop**

Context

[Tree] (tools>perform>service>id>loopback>eth sdp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform service id loopback eth sdp

Description

This command places the specific MPLS SDP binding in loopback mode for reflecting Ethernet traffic back in the direction of the received stream. This is only applicable to MPLS SDP Bindings.

Parameters

sdp-id:vc-id

Specifies the SDP ID and VC-ID.

Values sdp-id 1 to 17407

vc-id1 to 4294967295

start *mode*

Specifies the loopback in relation to the MPLS SDP Binding.

Values **ingress** — Traffic arriving at the sap-ingress will be reflected back out the same **sap**.

egress — Traffic arriving at the sap-egress will be reflected back into the service in the direction of the original source.

stop

Keyword that removes the MPLS SD-binding from loopback mode.

mac-swap

Enable source address and destination address swapping for the reflected packets when the arriving packet is unicast. Any broadcast and multicast packets arriving on a looped point will be dropped.

mac *ieee-address*

Optionally configure the source MAC address used in the reflected packet when the arriving packet is a broadcast or multicast. This does not apply to arriving unicast packets.

Values 6-byte unicast mac-address in the form

xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

all

Configured ieee-address is used as the source address for all reflected packets regardless of the arriving destination.

mac-swap

No swapping of MAC addresses are performed without specifying this option and any non-unicast destined packets will not be reflected back to the source.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sdp

Syntax

sdp *sdp-id:vc-id* {**start** | **stop**}

Context

[Tree] (tools>perform>service>id>loopback>pw sdp)

Full Context

tools perform service id loopback pw sdp

Description

This command places or removes the specified MPLS-TP SDP binding in loopback mode for the purpose of an MPLS-TP pseudowire test service.

Note:
The loopback is created at the PW level so everything under the PW label is looped back. It is recommended to configure an administrative lock for the MPLS-TP pseudowire for the specified test service prior to configuring the loopback.

Parameters

sdp-id:vc-id

Specifies the SDP-ID and VC-ID.

Values sdp-id 1 to 17407
vc-id1 to 4294967295

start

Keyword that places the specified MPLS-TP PW in loopback mode for the purpose of an MPLS_TP PW test service.

stop

Keyword that removes the SDP binding from the loopback mode for the MPLS-TP pseudowire test service.

Platforms

All

sdp

Syntax

sdp {*sdp-id* [*:vc-id*] | **far-end** *ip-address*} [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (monitor>service>id sdp)

Full Context

monitor service id sdp

Description

This command monitors statistics for an SDP binding associated with this service.

Parameters

sdp-id

Specifies the SDP identifier.

Values sdp-id: 1 to 17407
vc-id: 1 to 4294967295

ip-address

Specifies the system address of the far-end router for the SDP in dotted decimal notation. The string may be up to 32 characters.

seconds

Configures the interval for each display, in seconds.

Values 11 to 60

Default 11

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays absolute rate-per-second value for each statistic.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of SDP information.

Output Example

```
A:ALA-12# monitor service id 100 sdp 10 repeat 3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Monitor statistics for Service 100 SDP binding 10
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
I. Fwd. Pkts.   : 0                    I. Dro. Pkts.   : 0
E. Fwd. Pkts.   : 0                    E. Fwd. Octets  : 0
-------------------------------------------------------------------------------
At time t = 11 sec (Mode: Delta)
-------------------------------------------------------------------------------
I. Fwd. Pkts.   : 0                    I. Dro. Pkts.   : 0
E. Fwd. Pkts.   : 0                    E. Fwd. Octets  : 0
-------------------------------------------------------------------------------
At time t = 22 sec (Mode: Delta)
-------------------------------------------------------------------------------
I. Fwd. Pkts.   : 0                    I. Dro. Pkts.   : 0
E. Fwd. Pkts.   : 0                    E. Fwd. Octets  : 0
-------------------------------------------------------------------------------
At time t = 33 sec (Mode: Delta)
-------------------------------------------------------------------------------
I. Fwd. Pkts.   : 0                    I. Dro. Pkts.   : 0
E. Fwd. Pkts.   : 0                    E. Fwd. Octets  : 0
===============================================================================
A:ALA-12#
```

23.27 sdp-group

sdp-group

Syntax

sdp-group [*group-name*]

Context

[Tree] (show>service sdp-group)

Full Context

show service sdp-group

Description

This show command will display the SDPs and the PW templates that are associated with the group-name.

Platforms

All

Output

The following output is an example of SDP group information.

Output Example

```
*A:Dut-B# show service sdp-group
================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
SDP Group Information
================================================
Group                           Value
------------------------------------------------
red                             1
blue                            2
------------------------------------------------
Entries found: 2
================================================
*A:Dut-B#


*A:Dut-B#  show service sdp-group "red"
===============================================================================
SDP-Group Information
===============================================================================
Name               : red                Value              : 1

Associated SDPs
===============================================================================
SdpId              : 204                Sdp-Group          : red
SdpId              : 205                Sdp-Group          : red
-------------------------------------------------------------------------------
Number of Entries: 2
===============================================================================
Associated pw-template included
===============================================================================
Pw-Template        : 1                  Sdp-Group          : red
-------------------------------------------------------------------------------
Number of Entries: 1
===============================================================================
Associated pw-template excluded
===============================================================================
No Entries found
===============================================================================
*A:Dut-B#
```

23.28 sdp-group-using

sdp-group-using

Syntax

sdp-group-using

Context

[Tree] (show>service sdp-group-using)

Full Context

show service sdp-group-using

Description

This command displays groups using SDP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of information pertaining to objects using SDP groups.

Output Example

```
*A:Dut-D#  show service sdp-group-using
===============================================================================
SDP-Group Information
===============================================================================
SdpId              : 402               Sdp-Group          : red
SdpId              : 405               Sdp-Group          : red
SdpId              : 4021              Sdp-Group          : blue
SdpId              : 4051              Sdp-Group          : blue

Associated pw-template included
===============================================================================
Pw-Template        : 1                 Sdp-Group          : red
Pw-Template        : 2                 Sdp-Group          : blue

Associated pw-template excluded
===============================================================================
No Entries found
===============================================================================
*A:Dut-D#
```

23.29 sdp-using

sdp-using

Syntax

sdp-using etree

sdp-using node-id *node-id* [**global-id** *global-id*]

sdp-using aarp *aarpID*

sdp-using app-profile *app-profile-name*

sdp-using far-end {*ip-address* | *ipv6-address*}

sdp-using [*sdp-id*[:*vc-id*]]

sdp-using transit-policy ip *transit-ip-policy*

sdp-using transit-policy prefix *transit-prefix-policy*

Context

[Tree] (show>service sdp-using)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service sdp-using

Description

This command displays services using SDP or far-end address options.

Parameters

node-id

Specifies the node ID.

Values a.b.c.d, 1 to 4294967295

global-id

Specifies the global ID.

Values 1 to 4294967295

aarpID

Specifies the AARP instance ID.

Values 1 to 65535

app-profile-name

32 characters max.

sdp-id

Displays only services bound to the specified SDP ID.

Values 1 to 17407

vc-id

The virtual circuit identifier.

Values 1 to 4294967295

ip-address

Displays only services matching with the specified far-end IP address. 64 characters maximum.

Default Services with any far-end IP address.

ipv6-address

Displays only services matching with the specified far-end IPv6 address. 64 characters maximum.

transit-ip-policy

Specifies a transit IP policy ID.

Values 1 to 65535

transit-prefix-policy

Specifies a transit prefix policy ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 65535

Platforms

All

Output

The following output is an example of SDP using information, and Table 509: Output fields: service SDP using describes the output fields.

Output Example

```
*A:ALA-1# show service sdp-using 300
===============================================================================
Service Destination Point (Sdp Id : 300)
===============================================================================
SvcId       SdpId               Type Far End        Opr State I.Label  E.Label
-------------------------------------------------------------------------------
1           300:1               Mesh 10.0.0.13      Up        131071   131071
2           300:2               Spok 10.0.0.13      Up        131070   131070
100         300:100             Mesh 10.0.0.13      Up        131069   131069
101         300:101             Mesh 10.0.0.13      Up        131068   131068
102         300:102             Mesh 10.0.0.13      Up        131067   131067
-------------------------------------------------------------------------------
Number of SDPs : 5
-------------------------------------------------------------------------------
*A:ALA-1#
```

The following output is an example of VPLS E-Tree configured SDP bindings.

```
*A:DutA# show service sdp-using etree
===============================================================================
Etree SDP-BIND Information
===============================================================================
Svc Id      SDP-BIND Information            Type        Root-    Leaf-Ac
                                                        leaf-tag
-------------------------------------------------------------------------------
2005        12:2005                         Spoke       Enabled  N/A
2005        12:2006                         Spoke       Disabled Enabled
2005        12:2007                         Spoke       Disabled Enabled
-------------------------------------------------------------------------------
Number of etree sdp-binds: 3
===============================================================================
```

Table 509: Output fields: service SDP using

Label	Description
Svc ID	The service identifier.
Sdp ID	The SDP identifier.
Type	Type of SDP: spoke or mesh.
Far End	The far end address of the SDP.
Oper State	The operational state of the service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.
Egress Label	The label used by this device to send packets to the far-end device in this service by this SDP.
Etree SDP Bind Information	
Svc ID	The service identifier.
SDP-Bind	The leaf tag SDP bind identifier.
Type	The type SDP bind.
Root-Leaf-Tag	The state of the root leaf tag SDP bind,
Leaf-AC	The state of the leaf AC SDP bind.

23.30 seamless-bfd

seamless-bfd

Syntax

seamless-bfd

Context

[Tree] (show>router>bfd seamless-bfd)

Full Context

show router bfd seamless-bfd

Description

This command displays Seamless-BFD information.

Platforms

All

seamless-bfd

Syntax

seamless-bfd

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>router>bfd seamless-bfd)

Full Context

clear router bfd seamless-bfd

Description

Commands in this context clear Seamless-BFD session and statistics information.

Platforms

All

23.31 secure-boot

secure-boot

Syntax

secure-boot

Context

[Tree] (tools>dump>system>security secure-boot)

Full Context

tools dump system security secure-boot

Description

This command displays secure boot settings.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

23.32 security

security

Syntax

security

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context
[Tree] (show>system security)

Full Context
show system security

Description
Commands in this context display security configuration information.

Platforms
All

security

Syntax
security

Context
[Tree] (tools>dump security)

Full Context
tools dump security

Description
Commands in this context display tools for system security.

Platforms
All

security

Syntax
security

Context
[Tree] (tools>dump>system security)

Full Context
tools dump system security

Description
Commands in this context display tools for system security.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

security

Syntax

security

Context

[Tree] (tools>perform security)

Full Context

tools perform security

Description

This command enables tools for testing security.

Platforms

All

security

Syntax

security

Context

[Tree] (tools>perform>system security)

Full Context

tools perform system security

Description

Commands in this context perform system security operations.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.33 security-policy

security-policy

Syntax

security-policy router [**Base**] [**security-policy-id** *security-policy-id*]

security-policy service *service-id* [**security-policy-id** *security-policy-id*]

Context

[Tree] (show>ipsec security-policy)

Full Context

show ipsec security-policy

Description

This command displays

Parameters

service-id

Specifies the service-id of the tunnel delivery service.

Values 1 to 214748364

svc-name: 64 char max

security-policy-id

Specifies the IPsec security policy entry that this tunnel will use.

Values 1 to 8192

Platforms

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

Output

The following output is an example of the **show ipsec security-policy** command.

Output Example

```
*A:ALA-48>show>ipsec# security-policy 1
===============================================================================
Security Policy Param Entries
===============================================================================
SvcId      Security   Policy     LocalIp             RemoteIp
           PlcyId     ParamsId
-------------------------------------------------------------------------------
1          1          1          0.0.0.0/0           0.0.0.0/0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of IPsec Security Policy Param Entries: 1
===============================================================================
*A:ALA-48>show>ipsec#
```

23.34 seen-ip

seen-ip

Syntax

seen-ip transit-ip-policy *ip-policy-id*

seen-ip transit-ip-policy *ip-policy-id* **clear**

Context

[Tree] (tools>dump>app-assure seen-ip)

Full Context

tools dump application-assurance seen-ip

Description

This command dumps application-assurance seen-ip information for a specified transit-ip policy.

Parameters

ip-policy-id

An integer that identifies a transit IP profile entry.

Values 1 to 65535

clear

Clears the seen IP information after reading.

Platforms

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

23.35 segment-routing

segment-routing

Syntax

segment-routing

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>router segment-routing)

Full Context

clear router segment-routing

Description

Commands in this context clear segment routing statistics.

Platforms

All

segment-routing

Syntax

segment-routing

Context

[Tree] (show>router segment-routing)

Full Context

show router segment-routing

Description

Commands in this context display segment routing information.

Platforms

All

segment-routing

Syntax

segment-routing

Context

[Tree] (tools>dump>router segment-routing)

Full Context

tools dump router segment-routing

Description

Commands in this context display segment routing information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms
All

segment-routing

Syntax
segment-routing

Context
[Tree] (monitor>router segment-routing)

Full Context
monitor router segment-routing

Description
Commands in this context monitor Segment Routing Statistics.

Platforms
All

23.36 segment-routing-v6

segment-routing-v6

Syntax
segment-routing-v6 [summary]

Context
[Tree] (show>router segment-routing-v6)

Full Context
show router segment-routing-v6

Description
Commands in this context display SRv6 information.

Parameters
summary
Displays information in a summarized format.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

Output

Use the following command to display SRv6 information.

```
show router segment-routing-v6 summary
```

Output Example

```
===============================================================================
Segment Routing v6
===============================================================================
Origination FPE              : 1
Source IPv6 Address          :
-------------------------------------------------------------------------------
Micro Segment
-------------------------------------------------------------------------------
Block Length                 : 48 bits
Global Entries               : 12 (16384 uNs)
SID Length                   : 16 bits
===============================================================================
Locator                                                         Admin State
    Prefix
-------------------------------------------------------------------------------
C1                                                              Up
    3333:3:3:3::/64
-------------------------------------------------------------------------------
Locators : 1
-------------------------------------------------------------------------------
===============================================================================
Micro Segment Locator                                           Admin/Oper St
    Prefix
-------------------------------------------------------------------------------
msl1                                                            Up/Up
    3333:3:3:3::/64
-------------------------------------------------------------------------------
Micro Segment Locators : 1
-------------------------------------------------------------------------------
===============================================================================
```

segment-routing-v6

Syntax

segment-routing-v6

Context

[Tree] (show>router>isis segment-routing-v6)

Full Context

show router isis segment-routing-v6

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display IS-IS SRv6 information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

segment-routing-v6 [*ip-address*]

Context

[Tree] (show>service segment-routing-v6)

Full Context

show service segment-routing-v6

Description

This command displays SRv6 information.

Parameters

ip-address

Specifies the IP address.

Values *ipv4-address* — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — [0 to FFFF] H

d — [0 to 255] D

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

segment-routing-v6

Syntax

segment-routing-v6 [**instance** *instance*] [**locator** *locator-name*] [**end-dt4**] [**end-dt6**] [**end-dt46**] [**end-dx2**] [**end-dt2u**] [**end-dt2m**]

segment-routing-v6 detail

segment-routing-v6 [**instance** *instance*] **destinations**

segment-routing-v6 [**instance** *instance*] **esi** *esi*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

segment-routing-v6 [**instance** *instance*] **micro** [**micro-segment-locator** *ms-locator-name*] [**udx2**] [**udt2m**] [**udt2u**] [**udt4**] [**udt6**] [**udt46**]

Context

[Tree] (show>service>id segment-routing-v6)

Full Context

show service id segment-routing-v6

Description

This command displays SRv6 service information.

Parameters

instance

Specifies the instance ID for display.

Values 1 to 2

locator-name

Specifies the locator name for display, up to 64 characters.

end-dt4

Displays the End.DT4 function associated with the SRv6 instance in the service.

end-dt6

Displays the End.DT6 function associated with the SRv6 instance in the service.

end-dt46

Displays the End.DT46 function associated with the SRv6 instance in the service.

end-dx2

Displays the End.DX2 function associated with the SRv6 instance in the service.

end-dt2u

Displays the End.DT2U function associated with the SRv6 instance in the service.

end-dt2m

Displays the End.DT2M function associated with the SRv6 instance in the service.

destinations

Specifies that all destinations for display are included.

esi

Specifies a 10-byte ESI by which to filter the displayed information. For example,ESI-0 | ESI-MAX or 00-11-22-33-44-55-66-77-88-99 with any of these separators ('-',':',' ').

ms-locator-name

Specifies the micro-segment locator name for display, up to 64 characters.

udt4

Displays the uDT4 function associated with the SRv6 instance in the service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

udt6

Displays the uDT6 function associated with the SRv6 instance in the service.

udt46

Displays the uDT46 function associated with the SRv6 instance in the service.

udx2

Displays the uDX2 function associated with the SRv6 instance in the service.

udt2u

Displays the uDT2U function associated with the SRv6 instance in the service.

udt2m

Displays the uDT2M function associated with the SRv6 instance in the service.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

Output

Table 510: Output fields: SRv6 instance describes the SRv6 instance field descriptions.

Output Example

Use the following command to display SRv6 instance and destination information.

```
show service id "bd-1900-srv6" segment-routing-v6 instance 1 destinations
```

```
===============================================================================
TEP, SID (Instance 1)
===============================================================================
TEP Address               Segment Id                          Oper  Mcast Num
                                                              State       MACs
-------------------------------------------------------------------------------
192.0.2.3                 cafe:1:0:3:7b1c:9000::              Up    BUM   0
192.0.2.4                 cafe:1:0:4:7:b1ca::                 Up    BUM   0
192.0.2.5                 cafe:1:0:5:7b1c:e000::              Up    BUM   0
192.0.2.5                 cafe:1:0:5:7b1c:f000::              Up    -     1
-------------------------------------------------------------------------------
Number of TEP, SID: 4
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
Segment Routing v6 Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                                 Num. Macs     Last Update
-------------------------------------------------------------------------------
```

```
show service id "bd-1900-srv6" segment-routing-v6 instance 1 destinations detail
```

```
===============================================================================
TEP, SID (Instance 1)
===============================================================================
TEP Address               Segment Id                          Oper  Mcast Num
                                                              State       MACs
-------------------------------------------------------------------------------
192.0.2.3                 cafe:1:0:3:7b1c:9000::              Up    BUM   0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 02/23/2023 11:12:29
192.0.2.4                 cafe:1:0:4:7:b1ca::                Up    BUM   0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 02/23/2023 11:12:29
192.0.2.5                 cafe:1:0:5:7b1c:e000::             Up    BUM   0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 02/23/2023 11:12:29
192.0.2.5                 cafe:1:0:5:7b1c:f000::             Up    -     1
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 02/23/2023 11:12:29
-------------------------------------------------------------------------------
Number of TEP, SID: 4
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
Segment Routing v6 Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                                 Num. Macs     Last Update
-------------------------------------------------------------------------------
```

Table 510: Output fields: SRv6 instance

Field	Description
Locator	The locator name
Type	The type
Function	The function
SID	The segment ID
Status	The status
Instance	The instance
Mcast	The multicast value
TEP Address	The tunnel endpoint IP address
Segment Id	The segment ID
L2 PBR	The layer 2 policy based routing value
EvpnStatic	The EVPN static value
SupBcasDom	The Sup BCast Domain value
Num MACs	The number of MACs
Number of TEP, SID	The total number of TEP and SIDs

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
No Matching Entries	The number of matching entries

segment-routing-v6

Syntax

segment-routing-v6

Context

[Tree] (show>service>id>bgp-evpn segment-routing-v6)

Full Context

show service id bgp-evpn segment-routing-v6

Description

This command displays BGP-EVPN SRv6 information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of the BGP-EVPN SRv6 information, and Table 511: Output fields: BGP-EVPN SRv6 summary describes the output fields.

Output Example: BGP-EVPN SRv6 summary

```
show service id 1 bgp-evpn segment-routing-v6
===============================================================================
Service 1 BGP-EVPN Segment-Routing-V6 Information
===============================================================================

Admin State    : Down         Oper State     : Down
EVI        : <default>
VRF Import     : None
VRF Export     : None
Route Dist.    : None
Oper Route Dist  : 0:0
Oper RD Type    : none
Route Target    : None
Route Target Expor: None
Route Target Impor: None
Def Route Tag   : 0x0
Route Resolution  : route-table
UPA Trig Next Hop : None

Srv6 Instance   : 0
Default Locator  : N/A
Source Address   :
Domain-Id     : None

Advertise     : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Weighted ECMP   : Disabled

===============================================================================
```

Table 511: Output fields: BGP-EVPN SRv6 summary

Label	Description
Admin State	Displays the administrative state
Oper State	Displays the LAG template description
EVI	Displays the EVPN instance identifier
VRF Import	Displays the VRF import
VRF Export	Displays the VRF export
Route Dist.	Displays the route distinguisher
Oper Route Dist	Displays the operational route distinguisher
Oper RD Type	Displays the operational route distinguisher type
Route Target	Displays the route target
Route Target Export	Displays the route target export
Route Target Import	Displays the route target import
Def Route Tag	Displays the default route tag
Route Resolution	Displays the route resolution type
UPA Trig Next Hop	Displays the UPA trigger handling for the next hop
Srv6 Instance	Displays the SRv6 instance ID
Default Locator	Displays the default locator
Source Address	Displays the source IP address
Domain-Id	Displays the domain ID
Advertise	Displays the advertisement state
Weighted ECMP	Displays the weighted ECMP state

segment-routing-v6

Syntax

segment-routing-v6

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id>bgp-ipvpn segment-routing-v6)

Full Context

show service id bgp-ipvpn segment-routing-v6

Description

This command displays BGP-IPVPN SRv6 information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of the BGP-IPVPN SRv6 information, and Table 512: Output fields: BGP-IPVPN SRv6 summary describes the output fields.

Output Example: BGP-IPVPN SRv6 summary

```
show service id 1 bgp-ipvpn segment-routing-v6

===============================================================================
Service 1 BGP-IPVPN Segment-Routing-V6 Information
===============================================================================

Admin State    : Down         Oper State     : Down
VRF Import     : None
VRF Export     : None
Route Dist.    : None
Oper Route Dist  : 0:0
Oper RD Type    : none
Route Target    : None
Route Target Expor: None
Route Target Impor: None
Def Route Tag   : 0x0
Route Resolution  : route-table
UPA Trig Next Hop : None

Srv6 Instance   : 0
Default Locator  : N/A
Source Address   :
Domain-Id     : None

=============================================================================== -
```

Table 512: Output fields: BGP-IPVPN SRv6 summary

Label	Description
Admin State	Displays the administrative state
Oper State	Displays the operational state
VRF Import	Displays the VRF import

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
VRF Export	Displays the VRF export
Route Dist.	Displays the route distinguisher
Oper Route Dist	Displays the operational route distinguisher
Oper RD Type	Displays the operational route distinguisher type
Route Target	Displays the route target
Route Target Export	Displays the route target export
Route Target Import	Displays the route target import
Def Route Tag	Displays the default route tag
Route Resolution	Displays the route resolution type
UPA Trig Next Hop	Displays the UPA trigger handling for the next hop
Srv6 Instance	Displays the SRv6 instance ID
Default Locator	Displays the default locator
Source Address	Displays the source IP address
Domain-Id	Displays the domain ID

23.37 selective-fib-log

selective-fib-log

Syntax

selective-fib-log

Context

[Tree] (tools>dump>router selective-fib-log)

Full Context

tools dump router selective-fib-log

Description

This command configures the dump tools for selective FIB log information for a specific IOM.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

Output

The following output is an example of selective FIB log information.

Output Example

```
*A:Dut-C# /tools dump router selective-fib-log
  1 : 2020/01/08 13:32:59.100 : Creating Base router
  2 : 2020/01/08 13:32:59.101 : Adding port system to if=system Base router
  2 : 2020/01/08 13:32:59.103 : Creating management router
  3 : 2020/01/08 13:32:59.103 : Creating vpls-management instance
  4 : 2020/01/08 13:32:59.103 : Adding port A/1 to if=management management router
  4 : 2020/01/08 13:40:55.404 : Adding port 1/1/5 to if=ip-10.10.5.5 Base router
  4 : 2020/01/08 13:40:55.407 : Adding port 2/1/6 to if=ip-10.10.7.7 Base router
  4 : 2020/01/08 13:40:55.411 : Adding port 2/1/2 to if=ip-10.10.11.11 Base router
  4 : 2020/01/08 13:40:55.414 : Adding port 2/1/2 to if=ip-10.10.13.13 Base router
  4 : 2020/01/08 13:40:55.417 : Adding port 2/1/2 to if=ip-10.10.15.15 Base router
  4 : 2020/01/08 13:40:55.420 : Adding port 1/1/1 to if=ip-10.10.17.18 Base router
  4 : 2020/01/08 13:40:55.423 : Adding port 1/1/3 to if=ip-10.10.21.22 Base router
  4 : 2020/01/08 13:40:55.427 : Adding port 2/1/3 to if=ip-10.10.23.24 Base router
  4 : 2020/01/08 13:40:55.430 : Adding port 2/1/4 to if=ip-10.10.25.26 Base router
  4 : 2020/01/08 13:40:55.433 : Adding port 1/1/2 to if=ip-10.10.27.28 Base router
  4 : 2020/01/08 13:40:55.436 : Adding port 2/1/1 to if=ip-10.10.31.31 Base router
  4 : 2020/01/08 13:40:55.440 : Adding port 3/1/3 to if=ip-10.10.39.40 Base router
  4 : 2020/01/08 13:40:55.443 : Adding port 3/1/1 to if=ip-10.10.43.44 Base router
  4 : 2020/01/08 13:40:55.446 : Adding port 3/1/2 to if=ip-10.10.45.45 Base router
  4 : 2020/01/08 13:40:55.449 : Adding port 2/2/2 to if=ip-10.10.47.47 Base router
  4 : 2020/01/08 13:40:55.453 : Adding port 2/2/1 to if=ip-10.10.49.49 Base router
  4 : 2020/01/08 13:40:55.456 : Adding port 1/1/4 to if=ip-10.10.61.61 Base router
  4 : 2020/01/08 13:40:55.459 : Adding port 2/1/5 to if=ip-10.10.63.63 Base router
  4 : 2020/01/08 13:40:55.465 : Creating router 10105151
  5 : 2020/01/08 13:40:55.470 : Adding port 1/2/1 to if=vprn-10.10.51.51 router 10105151
  5 : 2020/01/08 13:40:55.475 : Creating router 10105152
  6 : 2020/01/08 13:40:55.480 : Adding port 1/2/2 to if=vprn-10.10.51.52 router 10105152
  6 : 2020/01/08 13:41:10.678 : Removing port 1/1/4 from if=ip-10.10.61.61 Base router
  6 : 2020/01/08 13:41:10.681 : Removing port 1/2/1 from if=vprn-10.10.51.51 router 10105151
  6 : 2020/01/08 13:41:10.684 : Removing port 1/2/2 from if=vprn-10.10.51.52 router 10105152
  6 : 2020/01/08 13:41:10.690 : Removing port 2/1/2 from if=ip-10.10.11.11 Base router
  6 : 2020/01/08 13:41:10.692 : Removing port 2/1/2 from if=ip-10.10.15.15 Base router
  6 : 2020/01/08 13:41:10.693 : Removing port 2/1/2 from if=ip-10.10.13.13 Base router
  6 : 2020/01/08 13:41:10.698 : Removing port 2/1/5 from if=ip-10.10.63.63 Base router
  6 : 2020/01/08 13:41:10.711 : Removing port 1/1/1 from if=ip-10.10.17.18 Base router
  6 : 2020/01/08 13:41:10.713 : Removing port 1/1/3 from if=ip-10.10.21.22 Base router
  6 : 2020/01/08 13:41:10.715 : Removing port 2/1/3 from if=ip-10.10.23.24 Base router
  6 : 2020/01/08 13:41:10.717 : Removing port 2/1/4 from if=ip-10.10.25.26 Base router
  6 : 2020/01/08 13:41:10.720 : Removing port 1/1/2 from if=ip-10.10.27.28 Base router
  6 : 2020/01/08 13:41:10.722 : Removing port 2/1/1 from if=ip-10.10.31.31 Base router
  6 : 2020/01/08 13:41:10.724 : Removing port 3/1/3 from if=ip-10.10.39.40 Base router
  6 : 2020/01/08 13:41:10.727 : Removing port 3/1/1 from if=ip-10.10.43.44 Base router
  6 : 2020/01/08 13:41:10.729 : Removing port 3/1/2 from if=ip-10.10.45.45 Base router
  6 : 2020/01/08 13:41:10.731 : Removing port 2/2/2 from if=ip-10.10.47.47 Base router
  6 : 2020/01/08 13:41:10.733 : Removing port 2/2/1 from if=ip-10.10.49.49 Base router
  6 : 2020/01/08 13:41:10.735 : Removing port 1/1/5 from if=ip-10.10.5.5 Base router
  6 : 2020/01/08 13:41:10.741 : Removing port 2/1/6 from if=ip-10.10.7.7 Base router
  6 : 2020/01/08 13:41:10.751 : Deleting router 10105151
  6 : 2020/01/08 13:41:10.756 : Deleting router 10105152
  6 : 2020/01/08 13:41:15.713 : Adding port 1/1/4 to if=to_Ixia3 Base router
  6 : 2020/01/08 13:41:15.723 : Adding port 2/1/5 to if=to_Ixia.24 Base router
  6 : 2020/01/08 13:41:22.170 : Removing port 1/1/4 from if=to_Ixia3 Base router
  6 : 2020/01/08 13:41:22.176 : Removing port 2/1/5 from if=to_Ixia.24 Base router
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  6 : 2020/01/08 13:58:37.666 : Enable system selective-fib
  7 : 2020/01/08 13:59:17.668 : Creating router 1
  8 : 2020/01/08 13:59:17.669 : Setting vrf-target on router 1
  8 : 2020/01/08 13:59:17.670 : Enable auto-bind-tunnel for router 1
  8 : 2020/01/08 13:59:17.676 : Adding port 1/1/2 to if=to_Dut-B router 1
  9 : 2020/01/08 14:01:17.851 : Setting disable-selective-fib for router 1
10 : 2020/01/08 14:03:58.104 : Disable system selective-fib
11 : 2020/01/08 14:07:59.686 : Removing port 1/1/2 from if=to_Dut-B router 1
11 : 2020/01/08 14:07:59.699 : Deleting router 1
*A:Dut-C#
```

23.38 send-force-renew

send-force-renew

Syntax

send-force-renew *ip-address*

Context

[Tree] (tools>perform>router>dhcp>server send-force-renew)

Full Context

tools perform router dhcp local-dhcp-server send-force-renew

Description

This command sends a DHCP FORCERENEW message on behalf of the DHCP server to the DHCP client with specified IP address. A DHCP lease with the specified IP address must exist in the DHCP server.

Parameters

ip-address

Specifies the DHCP client's IP address in dotted notation a.b.c.d.

Platforms

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

23.39 sensor-group

sensor-group

Syntax

sensor-group *name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sensor-group

Context

[Tree] (show>system>telemetry sensor-group)

Full Context

show system telemetry sensor-group

Description

This command displays the sensor group information.

Parameters

name

Specifies the sensor group name, up to 32 characters.

Platforms

All

Output

The following output is an example of telemetry sensor group information and Table 513: Output fields: sensor group describes the output fields.

Output Example

```
# show system telemetry sensor-group
===============================================================================
Telemetry sensor-groups
===============================================================================
Name                                                          Valid   Invalid
                                                              paths     paths
-------------------------------------------------------------------------------
miro                                                          1        0
-------------------------------------------------------------------------------
No. of Telemetry sensor-groups: 1
===============================================================================
```

Table 513: Output fields: sensor group

Label	Description
Name	Displays the name of the telemetry sensor group name.
Valid paths	Displays the number of valid sensor group paths.
Invalid paths	Displays the number of invalid sensor group paths.
No. of Telemetry sensor-groups	Displays the total number of telemetry sensor groups.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.40 server

server

Syntax

server all

server capability

server prefix *ip-prefix/prefix-length*

server

Context

[Tree] (show>test-oam>twamp server)

Full Context

show test-oam twamp server

Description

This command displays TWAMP server information.

Parameters

all

Displays all server information.

ip-prefix/prefix-length

Specifies the IP address prefix of the TWAMP server.

Values

ipv4-address:	a.b.c.d (host bits must be 0)
ipv4-prefix-length	0 to 32
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

capability

Displays the modes referenced or supported by the TWAMP server, with an RFC reference where those modes are defined.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of TWAMP server information.

Output Example

```
*A:ALA-48# show test-oam twamp server
===============================================================================
TWAMP Server (port 862)
===============================================================================
Admin State : Up                                Oper State  : Up
Up Time     : 0d 00:00:05
Curr Conn   : 1                                 Max Conn    : 32
ConnTimeout : 1800                              Conn Reject : 2
Curr Sess   : 2                                 Max Sess    : 32
Tests Done  : 5                                 Tests Rej   : 0
Tests Abort : 0
TstPktsRx   : 999                               TstPktsTx   : 999
===============================================================================
Prefix      : 10.0.0.0/8
Tests Abort : 0
TstPktsRx   : 999                               TstPktsTx   : 999
===============================================================================
Prefix      : 10.0.0.0/8
Description : NMS-West
===============================================================================
Admin State : Up                                Oper State  : Up
Curr Conn   : 1                                 Max Conn    : 32
Conn Reject : 0
Curr Sess   : 2                                 Max Sess    : 32
Tests Done  : 5                                 Tests Rej   : 0
Tests Abort : 0
TstPktsRx   : 999                               TstPktsTx   : 999
-------------------------------------------------------------------------------
Client          Sessions              Idle     TstPktsRx    TstPktsTx
                Curr/Done/Rej/Abort
-------------------------------------------------------------------------------
10.1.1.1        2/5/0/0               920      999          999
===============================================================================
===============================================================================
Prefix      : 10.0.0.0/16
Description : NMS-West-Special
===============================================================================
Admin State : Up                                Oper State  : Up
Curr Conn   : 0                                 Max Conn    : 32
Conn Reject : 0
Curr Sess   : 0                                 Max Sess    : 32
Tests Done  : 0                                 Tests Rej   : 0
Tests Abort : 0
TstPktsRx   : 0                                 TstPktsTx   : 0
-------------------------------------------------------------------------------
Client          Sessions              Idle     TstPktsRx    TstPktsTx
                Curr/Done/Rej/Abort
-------------------------------------------------------------------------------
===============================================================================


*A:ALA-48# show test-oam twamp server capability
===============================================================================
TWAMP Server Supported Modes of Operation with RFC Reference
===============================================================================
Bit      Value                              Description                 RFC
-------------------------------------------------------------------------------
  0          1                          Unauthenticated               5357
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  4         16                  Individual Session Control                5938
  5         32                   Reflect Octets Capability                6038
  6         64  Symmetrical Size Sender Test Packet Format                6038
===============================================================================
```

server

Syntax

server

Context

[Tree] (clear>test-oam>twamp server)

Full Context

clear test-oam twamp server

Description

This command clears TWAMP server statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

server

Syntax

server

Context

[Tree] (tools>dump>test-oam>twamp server)

Full Context

tools dump test-oam twamp server

Description

This command dumps TWAMP server information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.41 server-stats

server-stats

Syntax

server-stats

Context

[Tree] (show>router>dhcp>server server-stats)

[Tree] (show>router>dhcp6>server server-stats)

Full Context

show router dhcp local-dhcp-server server-stats

show router dhcp6 local-dhcp-server server-stats

Description

This command displays DHCP or DHCP6 server statistics.

Platforms

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

Output

The following output is an example of server statics information

Output Example

```
*A:SUB-Dut-A# show router dhcp local-dhcp-server dhcpS1 server-stats
===============================================================================
Statistics for DHCP Server dhcpS1 router Base
===============================================================================
Rx Discover Packets           : 0
Rx Request Packets            : 0
Rx Release Packets            : 0
Rx Decline Packets            : 0
Rx Inform Packets             : 0

Tx Offer Packets              : 0
Tx Ack Packets                : 0
Tx Nak Packets                : 0
Tx Forcerenew Packets         : 0

Client Ignored Offers         : 0
Leases Timed Out              : 0

Dropped Bad Packet            : 0
Dropped Invalid Type          : 0
Dropped No User Database      : 0
Dropped Unknown Host          : 0
Dropped User Not Allowed      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dropped Lease Not Ready       : 0
Dropped Lease Not Found       : 0
Dropped Not Serving Pool      : 0
Dropped Invalid User          : 0
Dropped Overload              : 0
Dropped Persistence Overload  : 0
Dropped Generic Error         : 0
Dropped Destined To Other     : 0
Dropped Address Unavailable   : 0
Dropped Max Leases Reached    : 0
Dropped Server Shutdown       : 0
Dropped No Subnet For Fixed IP: 0

===============================================================================
*A:SUB-Dut-A#
```

```
*A:cses-V26>show>router>dhcp6>server# server-stats
===============================================================================
Statistics for DHCPv6 Server test1 router Base
===============================================================================
Rx Solicit Packets            : 0
Rx Request Packets            : 0
Rx Confirm Packets            : 0
Rx Renew Packets              : 0
Rx Rebind Packets             : 0
Rx Decline Packets            : 0
Rx Release Packets            : 0
Rx Information Request Packets: 0
Rx Leasequery Packets         : 0
Tx Advertise Packets          : 0
Tx Reply Packets              : 0
Tx Reconfigure Packets        : 0
Tx Leasequery Reply Packets   : 0
Client Ignored Offers         : 0
Leases Timed Out              : 0
Dropped Bad Packet            : 0
Dropped Invalid Type          : 0
Dropped Lease Not Ready       : 0
Dropped Not Serving Pool      : 0
Dropped Overload              : 0
Dropped Persistence Overload  : 0
Dropped Generic Error         : 0
Dropped Destined To Other     : 0
Dropped Max Leases Reached    : 0
Dropped Server Shutdown       : 0
Dropped Leasequery Not Allowed: 0
Dropped Duplicate             : 0
Dropped busy primary audit    : 0
Rx Int. PPP SLAAC Requests    : 0
Rx Int. IPoE SLAAC Requests   : 0
Rx Int. IPoE WAN Requests     : 0
Rx Int. IPsec                 : 0
Rx Internal Releases          : 0
Dropped Internal w/Failover   : 0
Dropped Internal w/Int-id-map : 0
Dropped Internal w/User-ident : 0
Dropped Internal w/Conflicts  : 0
Failover statistics
-------------------------------------------------------------------------------
Dropped Invalid Packets       : 0
Failover Shutdown             : 0
Lease Already Expired         : 0
Maximum Lease Count Reached   : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Prefix Not Found              : 0
Host Conflict                 : 0
Address Conflict              : 0
Peer conflict                 : 0
Persistence congestion        : 0
No Lease Hold Time Configured : 0
Invalid Prefix Length         : 0
Lease Not Found               : 0
===============================================================================
*A:cses-V26>show>router>dhcp6>server#
```

Table 514: Output fields: server statistics describes server stats show command output fields.

Table 514: Output fields: server statistics

Field	Description
RX Discover Packets	The number of discover packets received by the DHCP server instance
Rx Request Packets	The number of request packets received by the DHCP server instance.
Rx Release Packets	The number of released packets received by the DHCP server instance
Rx Decline Packets	The number of declined packets received by the DHCP server instance
Rx Inform Packets	The number of inform packets received by the DHCP server instance
Tx Offer Packets	The number of offer packets sent by the DHCP server instance
Tx Ack Packets	The number of DHCP ACK packets sent by the DHCP server instance
Tx Nak Packets	The number of DHCP NAK packets sent by the DHCP server instance
Tx Forcerenew Packets	The number of DHCP force renew packets sent by the server instance
Client Ignored Offers	The number of DHCP offer packets sent by the DHCP server instance that were ignored by clients
Leases Timed Out	The number of leases timed out
Dropped Bad Packet	The number of dropped of DHCP packets received that were corrupt
Dropped Invalid Type	The number of DHCP packets received that had an invalid message type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Dropped No User Database	The number of DHCP packets dropped because the value of this server instance is not equal to the default value and a local user database with that name could not be found
Dropped Unknown Host	The number of DHCP packets dropped from hosts which were not found in the user database
Dropped User Not Allowed	The number of DHCP packets dropped from hosts which are found in the user database, but which have no address or pool specified
Dropped Lease Not Ready	The number of DHCP packets dropped by the server instance before the lease database was ready
Dropped Lease Not Found	The number of DHCP packets dropped by the server instance because no (valid) lease was found
Dropped Not Serving Pool	The number of DHCP packets dropped by the server instance because there were no more free addresses in the pool
Dropped Invalid User	The number of DHCP packets dropped by the server instance because the MAC address of the sender or the option 82 didn't match the host lease state
Dropped Overload	The number of DHCP packets dropped by the server instance because they were received more than the server instance can handle
Dropped Persistence Overload	The number of DHCP packets dropped by the server instance because they were received in more than the DHCP persistence system can handle. If this occurs, only releases and declines are still processed.
Dropped Generic Error	The number of DHCP packets dropped by the server instance because of a generic error
Dropped Destined To Other	The number of DHCP requests dropped by the server instance because the (broadcast) request was not destined to this server
Dropped Address Unavailable	The number of DHCP requests dropped by the server instance because the requested address is not available
Dropped Max Leases Reached	The number of DHCP packets dropped by the server instance because the maximum number of leases was reached
Dropped Server Shutdown	The number of DHCP packets dropped by the server instance during server instance shutdown

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Dropped No Subnet for Fixed IP	The number of DHCP packets dropped by the server instance for user-db hosts with a fixed address because the subnet to which the address belongs is not configured

server-stats

Syntax

server-stats

Context

[Tree] (clear>router>dhcp6>server server-stats)

[Tree] (clear>router>dhcp>server server-stats)

Full Context

clear router dhcp6 local-dhcp-server server-stats

clear router dhcp local-dhcp-server server-stats

Description

This command clears all local DHCP or DHCPv6server statistics.

Platforms

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

23.42 server-tls-profile

server-tls-profile

Syntax

server-tls-profile [*server-tls-profile*]

server-tls-profile *server-tls-profile* **association**

Context

[Tree] (show>system>security>tls server-tls-profile)

Full Context

show system security tls server-tls-profile

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays TLS server profile information.

Parameters

server-tls-profile

Specifies the name of a TLS server profile for which to display information, up to 32 characters.

Platforms

All

23.43 servers

servers

Syntax

servers

servers all

Context

[Tree] (show>router>dhcp6 servers)

[Tree] (show>router>dhcp servers)

Full Context

show router dhcp6 servers

show router dhcp servers

Description

This command lists the local DHCP or DHCP6 servers.

Parameters

all

Displays a complete list of local DHCP or DHCP6 servers.

Platforms

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

Output

The following output is an example of local DHCP or DHCP6 server information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:ALA-49>show>router>dhcp# servers
===============================================================
Overview of DHCP Servers
===============================================================
Active Leases:      0
Maximum Leases:     159744

Router              Server                              Admin State
---------------------------------------------------------------
Router: Base        base_router_dhcp_server             outOfService
Service: 3          s1                                  inService
===============================================================
*A:ALA-49>show>router>dhcp#
```

```
*A:cses-V26>show>router>dhcp6# servers
===================================================================
Overview of DHCP Servers
===================================================================
Active Leases:      0
Maximum Leases:     159744
Router              Server                              Admin State
-------------------------------------------------------------------
Router: Base        dhcp6                               inService
Router: Base        test1                               inService
Router: Base        testtest                            outOfService
===================================================================
*A:cses-V26>show>router>dhcp6#
```

23.44 service

service

Syntax

service

Context

[Tree] (clear service)

Full Context

clear service

Description

Commands in this context clear services commands.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

service

Syntax

service

Context

[Tree] (show service)

Full Context

show service

Description

Commands in this context display services related information.

Platforms

All

service

Syntax

service

Context

[Tree] (tools>dump service)

[Tree] (tools>perform service)

Full Context

tools dump service

tools perform service

Description

Commands in this context configure and view tools for service debugging.

Platforms

All

service

Syntax

service *service-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>ipsec service)

Full Context

show ipsec service

Description

This command displays service specific IPsec configuration.

Parameters

service-id

The VPRN service ID or service name.

Values *service-id*: 1 to 2147483647

svc-name: up to 64 characters maximum

Platforms

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

Output

The following output is an example of the **service** command.

```
show ipsec service 100
```

Output Example

```
===============================================================================
Service-specific IPsec configurations
===============================================================================
Reverse Route Override: any-idi
===============================================================================
```

service

Syntax

service

Context

[Tree] (monitor service)

Full Context

monitor service

Description

Commands in this context configure criteria to monitor specific service SAP criteria.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

service

Syntax

service *service-id* [**security-policy-id** *security-policy-id*]

Context

[Tree] (show>ipsec>security-policy service)

Full Context

show ipsec security-policy service

Description

This command displays service security policy information.

Parameters

service-id

Specifies the service ID.

Values *service-id*: 1 to 2148278386
svc-name: Up to 64 characters

Platforms

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

23.45 service-activation-testhead

service-activation-testhead

Syntax

service-activation-testhead

Context

[Tree] (show>test-oam service-activation-testhead)

Full Context

show test-oam service-activation-testhead

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display service activation testhead information.

The **service-test** command shows the results and configuration for one Y.1564 service activation test run.

The **service-tests** command shows a list of all available Y.1564 service activation tests.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

service-activation-testhead

Syntax

service-activation-testhead service-test all

service-activation-testhead service-test *name* [**run** *run-number*]

Context

[Tree] (clear>test-oam service-activation-testhead)

Full Context

clear test-oam service-activation-testhead

Description

This command clears the results of all previous executions for the specified service test.

Parameters

all

Keyword used to specify the deletion of all reports.

name

Specifies the service test name, up to 64 characters, for which to clear results.

run

Specifies a particular instance of the service test for which to clear results.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.46 service-name-using

service-name-using

Syntax

service-name-using [**detail**]

Context

[Tree] (show>service service-name-using)

Full Context

show service service-name-using

Description

This command displays the services defined on the system, ordered by name.

Parameters

detail

This parameter displays all of the services configured on the system along with their descriptions and administrative and operational states.

Platforms

All

Output

The following shows an example of **service name-using** information.

Table 515: Output fields: service name using describes the show command output fields.

Output Example

```
*A:PE-1# show service service-name-using
===============================================================================
Services By Name
===============================================================================
Service Name                                                Type   Service Id
-------------------------------------------------------------------------------
server-3                                                    Vprn            3
server-5                                                    Vprn            5
server-7                                                    Vprn            7
evi-16                                                      Vpls           16
CE-31                                                       Vprn           31
_tmnx_InternalIesService                                    Ies    2147483648
_tmnx_InternalVplsService                                   intV*  2147483649
-------------------------------------------------------------------------------
Matching Services : 7
===============================================================================
*A:PE-1#
*A:PE-1#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:PE-1# show service service-name-using detail
===============================================================================
Services By Name
===============================================================================
Service Name                                                  Type   Service Id
-------------------------------------------------------------------------------
server-3                                                       Vprn            3
Admin/Oper: Up/Up
Customer: 1
Description:

server-5                                                       Vprn            5
Admin/Oper: Up/Up
Customer: 1
Description:

server-7                                                       Vprn            7
Admin/Oper: Up/Up
Customer: 1
Description:

evi-16                                                         Vpls           16
Admin/Oper: Up/Up
Customer: 1
Description:

CE-31                                                          Vprn           31
Admin/Oper: Up/Up
Customer: 1
Description:

_tmnx_InternalIesService                                       Ies    2147483648
Admin/Oper: Up/Down
Customer: 1
Description:
IES Service for internal purposes only

_tmnx_InternalVplsService                                      intV*  2147483649
Admin/Oper: Up/Down
Customer: 1
Description:
VPLS Service for internal purposes only
-------------------------------------------------------------------------------
Matching Services : 7
===============================================================================
```

Table 515: Output fields: service name using

Label	Description
Service Name	Displays the name of the service.
Type	Displays the service type configured for the service ID.
Service Id	Displays the service identifier.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.47 service-reserved-labels

service-reserved-labels

Syntax

service-reserved-labels

Context

[Tree] (show>router>bier service-reserved-labels)

Full Context

show router bier service-reserved-labels

Description

This command displays the BIER service reserved labels.

Platforms

All

Output

The following output is an example of service reserved labels, and Table 516: Output fields: service reserved labels describes the output fields.

Output Example

```
# show router bier service-reserved-labels
============================================================
BIER Service Reserved Labels
============================================================
Label                                    ServiceId
------------------------------------------------------------
100001                                   1
100002                                   2
------------------------------------------------------------
Total BIER Service Reserved Labels: 2
============================================================
```

Table 516: Output fields: service reserved labels

Label	Description
Label	Displays the label name
ServiceId	Displays the service ID of the label
Total BIER Service Reserved Labels	Displays the total BIER service reserved labels

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

23.48 service-test

service-test

Syntax

service-test *service-test-name* **run** *run-number*

Context

[Tree] (show>test-oam>sath service-test)

Full Context

show test-oam service-activation-testhead service-test

Description

This command displays the results and configuration for the specified Y.1564 service activation test run.

Parameters

service-test-name

Specifies the service test name, up to 64 characters.

run-number

Specifies a particular instance of the service test for which to display results.

Values 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

Output

The following outputs are examples of service test configuration information, and Table 517: Output fields: service test describes the output fields:

Output example (service test still running)

```
show test-oam service-activation-testhead service-test "10" run 10
-------------------------------------------------------------------------------
Y.1564 Results for Run 10
Service Test 10
-------------------------------------------------------------------------------
Description       : Service_Test_10
Oper State        : running
Start Time        : 2021/05/07 16:32:17 UTC
End Time          : N/A
Stream Run Type   : parallel
Acct Policy       : (Unspecified)
Acct Policy Status: none
Completion Notif'n: disabled
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Y.1564 Results for Stream 1 Run 10
Service Test 10
-------------------------------------------------------------------------------
Description  : ST10_Service_Stream_1
Oper State   : running
Source MEP   : 100               MEP Domain   : 10
MEP Assoc.   : 10                Source SAP   : 1/1/1:100
Source MAC   : 84:69:91:c7:e7:1a  Dest MAC     : 20:e0:9c:e3:d5:8d
Pattern (Dec): 0                 Pattern (Hex): 0x0
C-Tag Dot1p  : 0                 C-Tag DEI    : false
S-Tag Dot1p  : 0                 S-Tag DEI    : false
Frm Size Tmpl: 1500bytes
Frm Sequence : a                 Frame Size a : 1500 bytes
Frame Size b : 128 bytes         Frame Size c : 256 bytes
Frame Size d : 512 bytes         Frame Size e : 1024 bytes
Frame Size f : 1280 bytes        Frame Size g : 1518 bytes
Frame Size h : 9212 bytes        Frame Size u : 2000 bytes
Confg Tx CIR : 1000000 kbps      Confg Tx PIR : 1100000 kbps
Acp Crit Tmpl: ACT-1
Test Types   : CIR
Complet Notif: enabled
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Y.1564 Results for Stream 1 Run 10 Test Type CIR
Service Test 10
-------------------------------------------------------------------------------
Oper State   : running
Test Duration: 10:20 (mm:ss)           Time Left    : 598 s
Start Time   : 2021/05/07 16:32:18 UTC
End Time     : N/A
Frms Injected: 1874571                 Frms Received: 1874505
Min Delay    : 36 us                   Min Delay Var: 0 us
Max Delay    : 46 us                   Max Delay Var: 7 us
Avg Delay    : 41 us                   Avg Delay Var: 3 us
-------------------------------------------------------------------------------
===============================================================================
Test Compliance Report
===============================================================================
Criteria     Throughput(kbps)         FLR (%)      Delay (us)   Delay Var (us)
-------------------------------------------------------------------------------
Acceptable            1000000          1.0000             200              200
Configured            1000000          1.0000             200              200
M-Factor               100000             N/A             N/A              N/A
Measured              1000155          0.0035              41                3
Result                unknown         unknown         unknown          unknown
===============================================================================
```

Output example (service test run complete)

```
show test-oam service-activation-testhead service-test "10" run 10
-------------------------------------------------------------------------------
Y.1564 Results for Run 10
Service Test 10
-------------------------------------------------------------------------------
Description       : Service_Test_10
Oper State        : passed
Start Time        : 2021/05/07 16:32:17 UTC
End Time          : 2021/05/07 16:42:40 UTC
Stream Run Type   : parallel
Acct Policy       : (Unspecified)
Acct Policy Status: none
Completion Notif'n: disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Y.1564 Results for Stream 1 Run 10
Service Test 10
-------------------------------------------------------------------------------
Description  : ST10_Service_Stream_1
Oper State   : passed
Source MEP   : 100               MEP Domain   : 10
MEP Assoc.   : 10                Source SAP   : 1/1/1:100
Source MAC   : 84:69:91:c7:e7:1a  Dest MAC     : 20:e0:9c:e3:d5:8d
Pattern (Dec): 0                 Pattern (Hex): 0x0
C-Tag Dot1p  : 0                 C-Tag DEI    : false
S-Tag Dot1p  : 0                 S-Tag DEI    : false
Frm Size Tmpl: 1500bytes
Frm Sequence : a                 Frame Size a : 1500 bytes
Frame Size b : 128 bytes         Frame Size c : 256 bytes
Frame Size d : 512 bytes         Frame Size e : 1024 bytes
Frame Size f : 1280 bytes        Frame Size g : 1518 bytes
Frame Size h : 9212 bytes        Frame Size u : 2000 bytes
Confg Tx CIR : 1000000 kbps      Confg Tx PIR : 1100000 kbps
Acp Crit Tmpl: ACT-1
Test Types   : CIR
Complet Notif: enabled
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Y.1564 Results for Stream 1 Run 10 Test Type CIR
Service Test 10
-------------------------------------------------------------------------------
Oper State   : passed
Test Duration: 10:20 (mm:ss)           Time Left    : 0 s
Start Time   : 2021/05/07 16:32:18 UTC
End Time     : 2021/05/07 16:42:38 UTC
Frms Injected: 51576053                Frms Received: 51575773
Min Delay    : 34 us                   Min Delay Var: 0 us
Max Delay    : 55 us                   Max Delay Var: 17 us
Avg Delay    : 41 us                   Avg Delay Var: 3 us
-------------------------------------------------------------------------------
===============================================================================
Test Compliance Report
===============================================================================
Criteria     Throughput(kbps)         FLR (%)      Delay (us)   Delay Var (us)
-------------------------------------------------------------------------------
Acceptable            1000000          1.0000             200              200
Configured            1000000          1.0000             200              200
M-Factor               100000             N/A             N/A              N/A
Measured               999912          0.0005              41                3
Result                   pass            pass            pass             pass
===============================================================================
```

Table 517: Output fields: service test

Label	Description
Description	Displays the service test or service stream description
Oper State	running — the specified service test or service stream is running passed — the specified service test or service stream is complete and has passed

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Start Time	Displays the date and time that the specified service test or service stream was started
End Time	Displays the date and time that the specified service test or service stream was completed
Stream Run Type	Sequential — the streams are run consecutively Parallel — the streams are run in parallel
Acct Policy	Displays the accounting policy
Acct Policy Status	Displays the accounting policy status
Completion Notif'n	disabled — the service test completion notification is disabled enabled — the service test completion notification is enabled
Source MEP	Displays the source MEP
MEP Domain	Displays the MEP domain
MEP Assoc.	Displays MEP associations
Source SAP	Displays the source SAP
Source MAC	Displays the source MAC address
Dest MAC	Displays the destination MAC address
Pattern (Dec)	Displays the data pattern, in decimal notation
Pattern (Hex)	Displays the data pattern, in hexidecimal notation
C-Tag Dot1p	Displays the C-tag dot1p priority value for the VLAN
C-Tag DEI	true — the C-tag DEI is enabled false — the C-tag DEI is disabled
S-Tag Dot1p	Displays the S-tag dot1p priority value for the VLAN
S-Tag DEI	true — the S-tag DEI is enabled false — the S-tag DEI is disabled
Frm Size Tmpl	Displays the frame size template, in bytes
Frm Sequence	Displays the frame sequence
Frame Size a	Displays the frame size, in bytes, for template a
Frame Size b	Displays the frame size, in bytes, for template b

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Frame Size c	Displays the frame size, in bytes, for template c
Frame Size d	Displays the frame size, in bytes, for template d
Frame Size e	Displays the frame size, in bytes, for template e
Frame Size f	Displays the frame size, in bytes, for template f
Frame Size g	Displays the frame size, in bytes, for template g
Frame Size h	Displays the frame size, in bytes, for template h
Frame Size u	Displays the frame size, in bytes, for template u
Confg Tx Cir	Displays the transmitted CIR configured
Confg Tx Pir	Displays the transmitted PIR configured
Acp Crit Templ.	Displays the acceptance criteria template
Test Types	Displays the configured test type
Complet Notif	enabled — the stream completion trap is enabled disabled — the stream completion trap is disabled
Test Duration	Displays the duration, in minutes and seconds, of the test for the service streams
Time Left	Displays the amount of time left to the test for the service stream
Frms Injected	Displays the total number of frames injected
Frms Received	Displays the total number of frames received
Min Delay (us)	Displays the minimum delay
Max Delay (us)	Displays the maximum delay
Avg. Delay (us)	Displays the average delay
Min Delay Var. (us)	Displays the minimum delay variation
Max Delay Var. (us)	Displays the maximum delay variation
Avg. Delay Var. (us)	Displays the average delay variation
M-factor (kbps)	Displays the M-factor, in kb/s
Criteria	thruput (kbps) — the throughput, in kb/s FLR — the frame loss ratio (FLR) Delay (us) — the delay time

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Delay Var. (us) — the delay variation
Acceptable	Displays the allowed values for the criteria
Configured	Displays the configured values for the criteria
M-factor	Displays the m-factor for the criteria
Measured	Displays the measured values for the criteria
Result	Pass — the test has passed for the specific criteria Fail — the test has failed for the specific criteria

23.49 service-tests

service-tests

Syntax

service-tests [*service-test-name*]

Context

[Tree] (show>test-oam>sath service-tests)

Full Context

show test-oam service-activation-testhead service-tests

Description

This command displays the run summary for one or all Y.1564 service activation tests.

Parameters

service-test-name

Specifies the service test name, up to 64 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS

Output

The following output is an example of service test configuration information, and Table 518: Output fields: service tests describes the output fields.

Output example

```
show test-oam service-activation-testhead service-tests
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Y.1564 Service Activation Test Run Summary
===============================================================================
Service Test Name                                        Run     Completed (UTC)
-------------------------------------------------------------------------------
10                                                         1 2021/05/03 19:13:08
10                                                         2 2021/05/03 19:18:35
10                                                         3 2021/05/03 19:23:40
10                                                         4 2021/05/03 19:23:57
10                                                         5 2021/05/03 19:29:05
10                                                         6 2021/05/03 19:33:11
10                                                         7 2021/05/03 19:39:08
10                                                         8 2021/05/03 19:40:48
10                                                         9 2021/05/03 22:20:24
10                                                        10 2021/05/07 16:42:40
-------------------------------------------------------------------------------
No. of Y.1564 Service Activation Test Runs: 10
===============================================================================
```

Table 518: Output fields: service tests

Label	Description
Service Test Name	Displays the name of the service test
Run	Displays the run number
Completed (UTC)	Displays the date and time that the specified service test was completed

23.50 service-using

service-using

Syntax

service-using [**epipe**] [**ies**] [**vpls**] [**vprn**] [**mirror**] [**apipe**] [**fpipe**] [**ipipe**] [**cpipe**] [**etree**] [**b-vpls**] [**i-vpls**] [**m-vpls**] [**sdp** *sdp-id*] [**customer** *customer-id*] [**creation** *creation-origin*]

Context

[Tree] (show>service service-using)

Full Context

show service service-using

Description

This command displays the services matching certain usage properties. Not all syntax options are available for each router type.

If no optional parameters are specified, all services defined on the system are displayed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

epipe

Displays Epipe services.

ies

Displays IES services.

vpls

Displays VPLS services.

vprn

Displays VPRN services.

mirror

Displays mirror services.

apipe

Displays Apipe services.

fpipe

Displays Fpipe services.

ipipe

Displays Ipipe services.

cpipe

Displays Cpipe services.

etree

Displays etree services.

b-vpls

Specifies the B-component instance of the Provider Backbone Bridging (PBB/IEEE 802.1ah) feature. It represents the multi-point tunneling component that multiplexes multiple customer VPNs (ISIDs) together. It is similar to a regular VPLS instance that operates on the backbone MAC addresses.

i-vpls

Specifies the I-component instance of the Provider Backbone Bridging (PBB/IEEE 802.1ah) feature. It identifies the specific VPN entity associated to a customer multipoint (E-LAN) service. It is similar to a regular VPLS instance that operates on the customer MAC addresses.

m-vpls

Specifies the M-component (managed VPLS) instance of the Provider Backbone Bridging (PBB/IEEE 802.1ah) feature.

sdp-id

Displays only services bound to the specified SDP ID.

Values 1 to 17407

Default Services bound to any SDP ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

customer-id

Displays services only associated with the specified customer ID.

Values 1 to 2147483647

Default Services associated with any customer.

creation-origin

Specifies the method by which the service was created.

Values manual, multi-segment-p-w, dyn-script

Platforms

All

Output

The following output is an example of service using information, and Table 519: Output fields: service using describes the output fields.

Output Example

```
*A:ALA-12# show service service-using customer 10
===============================================================================
Services
===============================================================================
ServiceId    Type      Adm    Opr        CustomerId        Last Mgmt Change
-------------------------------------------------------------------------------
1            VPLS      Up     Up         10                09/05/2006 13:24:15
100          IES       Up     Up         10                09/05/2006 13:24:15
300          Epipe     Up     Up         10                09/05/2006 13:24:15
-------------------------------------------------------------------------------
Matching Services : 3
===============================================================================
*A:ALA-12#


*A:ALA-12# show service service-using
===============================================================================
Services
===============================================================================
ServiceId    Type      Adm    Opr        CustomerId        Last Mgmt Change
-------------------------------------------------------------------------------
1            uVPLS     Up     Up         1                 10/26/2006 15:44:57
2            Epipe     Up     Down       1                 10/26/2006 15:44:57
10           mVPLS     Down   Down       1                 10/26/2006 15:44:57
11           mVPLS     Down   Down       1                 10/26/2006 15:44:57
100          mVPLS     Up     Up         1                 10/26/2006 15:44:57
101          mVPLS     Up     Up         1                 10/26/2006 15:44:57
102          mVPLS     Up     Up         1                 10/26/2006 15:44:57
999          uVPLS     Down   Down       1                 10/26/2006 16:14:33
-------------------------------------------------------------------------------
Matching Services : 8
-------------------------------------------------------------------------------
*A:ALA-12#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following output is an example of epipe service information for the 7450 ESS or 7750 SR.

```
*A:ALA-12# show service service-using epipe
===============================================================================
Services [epipe]
===============================================================================
ServiceId    Type      Adm    Opr        CustomerId        Last Mgmt Change
-------------------------------------------------------------------------------
6            Epipe     Up     Up         6                 06/22/2006 23:05:58
7            Epipe     Up     Up         6                 06/22/2006 23:05:58
8            Epipe     Up     Up         3                 06/22/2006 23:05:58
103          Epipe     Up     Up         6                 06/22/2006 23:05:58
-------------------------------------------------------------------------------
Matching Services : 4
===============================================================================
*A:ALA-12#
```

Table 519: Output fields: service using

Label	Description
Service Id	The service identifier.
Type	Specifies the service type configured for the service ID.
Adm	The desired state of the service.
Opr	The operating state of the service.
CustomerID	The ID of the customer who owns this service.
Last Mgmt Change	The date and time of the most recent management-initiated change to this service.

23.51 services

services

Syntax

services vc-type *vc-type* **saii** *global-id*: *prefix:ac-id* **taii** [256 chars max] **agi** *agi* [**detail**] [**service-id** *service-id*] [**session** *ip-addr*[*label-space*]]

services vc-type *vc-type* **agi** *agi* [**detail**] [**service-id** *service-id*] [**session** *ip-addr*[*label-space*]]

services [**vc-type** *vc-type*] [**svc-fec-type**] [**detail**] [**service-id** *service-id*] [**session** *ip-addr*[*label-space*]]

services vc-type *vc-type* **vc-id** *vc-id* [**detail**] [**service-id** *service-id*] [**session** *ip-addr*[*label-space*]]

Context

[Tree] (show>router>ldp>bindings services)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router ldp bindings services

Description

This command displays LDP service FEC bindings.

Parameters

vc-type *vc-type*

Displays information about the VC type associated with this service FEC.

ethernet, vlan, mirror, ipipe, satop-e1, satop-t1, cesopsn, cesopsn-cas

vc-id *vc-id*

Displays information about the VC ID associated with this service FEC.

saii *global-id*:*prefix:ac-id*

Specifies the a SAII (Source Attachment Individual Identifier).

Values <number>:<number> | <a.b.c.d>:<number>

taii

Specifies the TAII ID, up to 256 characters, associated with this service FEC.

svc-fec-type

Specifies the FEC type.

Values fec128, fec129

agi *agi*

Specifies the Attachment Group identifier TLV associated with this service FEC.

Values <ip-addr:comm-val> | <2byte-asnumber:ext-comm-val> | <4byte-asnumber:comm-val> ip-addr - a.b.c.d comm-val - [0 to 65535] 2byte-asnumber - [1 to 65535] ext-comm-val - [0 to 4294967295] 4byte-asnumber - [1 to 4294967295] null - means all value is 0

detail

Displays detailed information.

service-id

Specifies the service ID number to display.

Values 1 to 2147483647

svc-fec-type

Specifies the FEC type.

Values fec128, fec129

session *ip-addr*

displays configuration information about LDP sessions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

label-space

Specifies the label space identifier that the router is advertising on the interface.

Values 0 to 65535

Platforms

All

23.52 session

session

Syntax

session [**user-name** *user-name*] [**sub-ppp-type** {**oe** | **ol2tp**}] [**interface** *ip-int-name* | *ip-address*] [**inter-dest-id** *intermediate-destination-id*] [**no-inter-dest-id**] [**ip-address** *ip-prefix*[*/prefix-length*]] [**port** *port-id*] [**sap** *sap-id*] [**termination-type** *ppp-session-type*] [**mlppp**] [**steering-profile** *steering-profile*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*]

session [**user-name** *user-name*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] **detail**

session [**user-name** *user-name*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] **statistics**

Context

[Tree] (show>service>id>ppp session)

Full Context

show service id ppp session

Description

This command displays PPP session information.

Parameters

user-name

Displays session information about the PPP user name.

sub-ppp-type

Displays session information about the sub PPP type.

Values oe, ol2tp

ip-int-name

Displays session information about the specified interface.

ip-address

Displays session information about the IP address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

intermediate-destination-id

Displays session information about the intermediate destination identifier, up to 32 characters, which is encoded in the identification strings.

no-inter-dest-id

Displays session information about no intermediate destination ID.

ip-prefix/prefix-length

Displays session information about the specified IP address and mask.

port-id

Displays session information about the specified port.

sap-id

Displays session information about the specified SAP.

ppp-session-type

Displays session information about the specified PPP session type.

Values local, wholesale-local, retail-local, l2tp

mlppp

Displays session information about MLPPP.

steering-profile

Displays session information about the specified steering profile, up to 32 characters.

circuit-id

Displays session information about the specified circuit ID, up to 256 characters.

remote-id

Displays session information about the specified remote ID, up to 256 characters.

detail

Displays detailed session information.

statistics

Displays PPP session statistics.

Platforms

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

Output

The following output is an example of service PPP session information.

Output Example

```
show service id 1000 ppp session detail
```

```
===============================================================================
PPP sessions for service 1000
===============================================================================

User-Name           : user-1@bng-2.com
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description          : svc:1000 sap:[1/x1/1/c1/4:2211.1001]
                       mac:00:bb:02:00:01:01 sid:1
Up Time              : 0d 00:02:03
Type                 : oE
Termination          : local
IP/L2TP-Id/If-Id     : 10.2.1.201 02:BB:02:FF:FE:00:01:01
MC-Standby           : No
Session Time Left    : N/A

LCP State            : Opened
IPCP State           : Opened
IPv6CP State         : Opened
PPP MTU              : 1492
PPP Auth-Protocol    : CHAP

Keepalive Origin     : Radius
Keepalive Interval   : 15
Keepalive Multiplier : 2
PPP User-Name        : user-1@bng-2.com

Subscriber-interface : sub-int-1
Group-interface      : group-int-1-1

IP Origin            : local-user-db
DNS Origin           : none
NBNS Origin          : none

Subscriber           : user-1@bng-2.com
Sub-Profile-String   : "sub-profile-1"
SLA-Profile-String   : "sla-profile-1"
SPI group ID         : (Not Specified)
ANCP-String          : ""
Int-Dest-Id          : ""
App-Profile-String   : ""
Category-Map-Name    : ""
Acct-Session-Id      : "0613FF0000000163FF4F0A"
Sap-Session-Index    : 1

IP Address           : 10.2.1.201/24
Primary DNS          : N/A
Secondary DNS        : N/A
Primary NBNS         : N/A
Secondary NBNS       : N/A
Address-Pool         : N/A

IPv6 Prefix          : N/A
IPv6 Prefix Origin   : none
IPv6 Prefix Pool     : ""
IPv6 Del.Pfx.        : 2001:db8:b201:a100::/56
IPv6 Del.Pfx. Origin : local-user-db
IPv6 Del.Pfx. Pool   : ""
IPv6 Address         : 2001:db8:b002:1a1::1
IPv6 Address Origin  : local-user-db
IPv6 Address Pool    : ""
Primary IPv6 DNS     : N/A
Secondary IPv6 DNS   : N/A
Router adv. policy   : N/A

Ignoring DF bit      : false
Radius sub-if prefix : N/A

Circuit-Id           :
Remote-Id            :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Radius Session-TO    : N/A
Radius Class 1       : This is a Class attribute
Radius User-Name     : user-1@bng-2.com
Logical-Line-Id      :

-------------------------------------------------------------------------------
Managed Routes
-------------------------------------------------------------------------------
IP Address                                Status       Metric Tag        Pref
-------------------------------------------------------------------------------
2001:db8:b201:a100::/56                   installed    0      none       0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of sessions: 1
===============================================================================
```

Table 520: Output fields: service PPP session describes PPP session field information.

Table 520: Output fields: service PPP session

Field	Description
User-Name	The user name
Description	The description
Up Time	The time of the last modification
Type	The PPP type
Termination	The termination type
IP/L2TP-Id/If-Id	The IP/L2TP or IF ID
MC-Standby	The MC standby
Session Time Left	The time remaining for the session timeout
LCP State	The LCP open/closed state
IPCP State	The IP CP open/closed state
IPv6CP State	The IPv6 CP open/closed state
PPP MTU	The PPP MTU value
PPP Auth-Protocol	The PPP authentication protocol
PPP User-Name	The PPP user name
Subscriber-interface	The subscriber interface name
Group-interface	The group interface name
IP Origin	The IP origin
DNS Origin	The DNS origin

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
NBNS Origin	The NBNS origin
Subscriber	The subscriber identification string
Sub-Profile-String	The subscriber profile name
SLA-Profile-String	The SLA profile name
SPI group ID	The SPI group ID
ANCP-String	The value of the ancp-string received from either the DHCP or the RADIUS server
Int-Dest-Id	Intermediate destination identifier received from the RADIUS server
App-Profile-String	The application profile string
Category-Map-Name	The value of the category map name received from the RADIUS server
Acct-Session-Id	The accounting session ID
Sap-Session-Index	The sap session index of the PPP session
IP Address	The IP address
Primary DNS	The primary DNS server
Secondary DNS	The secondary DNS server
Primary NBNS	The primary NBNS server
Secondary NBNS	The secondary NBNS server
Address-Pool	The IP address pool used to search for an IP address for this session
IPv6 Prefix	The IPv6 prefix
IPv6 Prefix Origin	The origin of the IPv6 prefix
IPv6 Prefix Pool	The DHCP server pool from which the IPv6 prefix is allocated
IPv6 Del.Pfx.	The IPv6 delegated prefix
IPv6 Del.Pfx. Origin	The origin of the IPv6 delegated prefix
IPv6 Del.Pfx. Pool	The DHCP server pool from which the delegated prefix is allocated
IPv6 Address	The IPv6 address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
IPv6 Address Origin	The origin of the IPv6 address
IPv6 Address Pool	The DHCP server pool from which the address is allocated
Primary IPv6 DNS	The primary IPv6 DNS server
Secondary IPv6 DNS	The secondary IPv6 DNS server
Router adv. policy	The router advertisement policy
Ignoring DF bit	The true/false status of ignoring DF bit
Radius sub-if prefix	The RADIUS subscriber interface prefix
Circuit-Id	The circuit ID of the PPP session
Remote-Id	The remote ID of the PPP session
Radius Session-TO	The value to interpret the session timeout VSA from RADIUS
Radius Class 1	The Class attribute returned by the RADIUS server in an Access-Accept message
Radius User-Name	The User-Name attribute returned by the RADIUS server in an Access-Accept message
Logical-Line-Id	The logical line ID
Subscriber Host Limit Overrides and SLA Profile Instance Host Limit Overrides: (only shown when overrides are active)	
ipv4-arp	The total number of IPv4 ARP hosts limit
ipv4-dhcp	The total number of IPv4 DHCP hosts limit
ipv4-ppp	The total number of IPv4 PPP hosts limit
ipv4-overall	The total number of IPv4 hosts limit
ipv6-pd-ipoe-dhcp	The total number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-ppp-dhcp	The total number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-overall	The total number of IPv6 DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-wan-ipoe-dhcp	The total number of IPv6 IPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ipoe-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
ipv6-wan-ppp-dhcp	The total number of IPv6 PPPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ppp-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-overall	The total number of IPv6 WAN hosts limit
ipv6-overall	The total number of IPv6 hosts limit
lac-overall	The total number of L2TP LAC hosts limit
overall	The total number of subscriber hosts limit
Subscriber Session Limit Overrides and SLA Profile Instance Session Limit Overrides: (only shown when overrides are active)	
ipoe	The total number of IPoE sessions limit
ppoe-local	The total number of PPPoE local terminated sessions (PTA) limit
ppoe-lac	The total number of PPPoE L2TP LAC sessions limit
ppoe-overall	The total number of PPPoE sessions limit
l2tp-lns	The total number of L2TP LNS sessions limit
l2tp-lts	The total number of L2TP LTS sessions limit
l2tp-overall	The total number of L2TP sessions limit
overall	The total number of subscriber sessions limit
Managed Routes	
Status	The installation status
Metric	The metric value
Tag	The tag value
Pref	The preference value
Number of session	The number of sessions returned from the search criteria

session

Syntax

session connection-id *connection-id* [{**detail** | **ppp-statistics**}]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session [{**detail** | **ppp-statistics**}] [**session-id** *session-id*] [**state** *session-state*] [**peer** *ip-address*] [**group** *group-name*] [**assignment-id** *assignment-id*] [**local-name** *local-host-name*] [**remote-name** *remote-host-name*] [**tunnel-id** *tunnel-id*] [**service** *service-id* [**interface** {*ip-int-name* | *ip-address*}]] [**ip-prefix** *ip-prefix/mask*]

session [{**detail** | **ppp-statistics**}] [**state** *session-state*] [**peer** *ip-address*] [**group** *group-name*] [**assignment-id** *assignment-id*] [**local-name** *local-host-name*] [**remote-name** *remote-host-name*] [**control-connection-id** *connection-id*] [**service** *service-id* [**interface** {*ip-int-name* | *ip-address*}]]

Context

[Tree] (show>router>l2tp session)

Full Context

show router l2tp session

Description

This command displays L2TP session operational information.

Parameters

connection-id

Specifies the identification number for a Layer Two Tunneling Protocol connection.

Values 1 to 429496729

detail

Displays detailed L2TP session information.

ppp-statistics

Displays PPP statistics for the session.

session-id

Specifies the identification number for a Layer Two Tunneling Protocol session.

Values 1 to 65535

session-state

Specifies the values to identify the operational state of the L2TP session.

Values closed, closed-by-peer, established, idle, wait-reply, wait-tunnel

ip-address

Specifies the IP address of the peer.

Values The following values apply to the 7750 SR:

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0 to FFFF]H

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

d: [0 to 255]D

interface: 32 characters maximum, mandatory for link local addresses

Values The following values apply to the 7450 ESS:

ipv4-address: a.b.c.d (host bits must be 0)

group-name

Specifies a string to identify a Layer Two Tunneling Protocol Tunnel group.

assignment-id

Specifies a string that distinguishes this Layer Two Tunneling Protocol tunnel.

local-host-name

Specifies the host name used by this system during the authentication phase of tunnel establishment.

remote-host-name

Specifies a string that is compared to the host name used by the tunnel peer during the authentication phase of tunnel establishment.

tunnel-id

Specifies the local identifier of this Layer Two Tunneling Protocol tunnel, when L2TP version 2 is used.

Values 1 to 65535

service-id

Specifies the service identification number.

ip-int-name

Specifies the IP interface name.

ip-address

Specifies the IPv4 or IPv6 addresses.

ip-prefix/mask

Specifies information for the specified IP prefix and mask length.

connection-id

Specifies an identification number for a Layer Two Tunneling Protocol session.

Values 1 to 429496729

Platforms

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

Output

The following output is an example of L2TP session operational information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-C# show router l2tp session
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
143524786           143523840           2190        946         established
143526923           143523840           2190        3083        established
143531662           143523840           2190        7822        closed
236926987           236912640           3615        14347       closed
236927915           236912640           3615        15275       closed
379407426           379387904           5789        19522       established
658187773           658178048           10043       9725        established
658198275           658178048           10043       20227       established
658210606           658178048           10043       32558       established
-------------------------------------------------------------------------------
No. of sessions: 9
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session state established
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
143524786           143523840           2190        946         established
143526923           143523840           2190        3083        established
379407426           379387904           5789        19522       established
658187773           658178048           10043       9725        established
658198275           658178048           10043       20227       established
658210606           658178048           10043       32558       established
-------------------------------------------------------------------------------
No. of sessions: 6
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session state closed detail
===============================================================================
L2TP Session Status
===============================================================================
Connection ID : 143531662
State         : closed
Tunnel Group  : isp1.group-2
Assignment ID : isp1.tunnel-3
Error Message : Terminated by PPPoE: RX PADT

Control Conn ID   : 143523840          Remote Conn ID    : 1148557524
Tunnel ID         : 2190                Remote Tunnel ID  : 17525
Session ID        : 7822                Remote Session ID : 39124
Time Started      : 04/17/2009 18:44:37
Time Established  : 04/17/2009 18:44:37 Time Closed       : 04/17/2009 18:44:50
CDN Result        : generalError        General Error     : noError
-------------------------------------------------------------------------------
===============================================================================
L2TP Session Status
===============================================================================
Connection ID : 236926987
State         : closed
Tunnel Group  : isp1.group-2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Assignment ID : isp1.tunnel-2
Error Message : tunnel was closed

Control Conn ID   : 236912640           Remote Conn ID    : 3861360381
Tunnel ID         : 3615                Remote Tunnel ID  : 58919
Session ID        : 14347               Remote Session ID : 44797
Time Started      : 04/17/2009 18:41:55
Time Established  : 04/17/2009 18:41:55 Time Closed       : 04/17/2009 18:43:20
CDN Result        : generalError        General Error     : noError
-------------------------------------------------------------------------------
===============================================================================
L2TP Session Status
===============================================================================
Connection ID : 236927915
State         : closed
Tunnel Group  : isp1.group-2
Assignment ID : isp1.tunnel-2
Error Message : tunnel was closed

Control Conn ID   : 236912640           Remote Conn ID    : 3861317210
Tunnel ID         : 3615                Remote Tunnel ID  : 58919
Session ID        : 15275               Remote Session ID : 1626
Time Started      : 04/17/2009 18:41:03
Time Established  : 04/17/2009 18:41:03 Time Closed       : 04/17/2009 18:43:20
CDN Result        : generalError        General Error     : noError
-------------------------------------------------------------------------------
No. of sessions: 3
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session session-id 946
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
143524786           143523840           2190        946         established
-------------------------------------------------------------------------------
No. of sessions: 1
===============================================================================
*A:Dut-C# show router l2tp session connection-id 143524786 detail
===============================================================================
L2TP Session Status
===============================================================================
Connection ID : 143524786
State         : established
Tunnel Group  : isp1.group-2
Assignment ID : isp1.tunnel-3
Error Message : N/A

Control Conn ID   : 143523840           Remote Conn ID    : 1148528691
Tunnel ID         : 2190                Remote Tunnel ID  : 17525
Session ID        : 946                 Remote Session ID : 10291
Time Started      : 04/17/2009 18:42:01
Time Established  : 04/17/2009 18:42:01 Time Closed       : N/A
CDN Result        : noError             General Error     : noError
-------------------------------------------------------------------------------
*A:Dut-C#


*A:Dut-C# show router l2tp session group isp1.group-2
===============================================================================
L2TP Session Summary
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
143524786           143523840           2190        946         established
143526923           143523840           2190        3083        established
143531662           143523840           2190        7822        closed
236926987           236912640           3615        14347       closed
236927915           236912640           3615        15275       closed
658187773           658178048           10043       9725        established
658198275           658178048           10043       20227       established
658210606           658178048           10043       32558       established
-------------------------------------------------------------------------------
No. of sessions: 8
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session tunnel-id 2190 state closed detail
===============================================================================
L2TP Session Status
===============================================================================
Connection ID : 143531662
State         : closed
Tunnel Group  : isp1.group-2
Assignment ID : isp1.tunnel-3
Error Message : Terminated by PPPoE: RX PADT

Control Conn ID   : 143523840           Remote Conn ID    : 1148557524
Tunnel ID         : 2190                Remote Tunnel ID  : 17525
Session ID        : 7822                Remote Session ID : 39124
Time Started      : 04/17/2009 18:44:37
Time Established  : 04/17/2009 18:44:37 Time Closed       : 04/17/2009 18:44:50
CDN Result        : generalError        General Error     : noError
-------------------------------------------------------------------------------
No. of sessions: 1
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session assignment-id isp1.tunnel-2
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
236926987           236912640           3615        14347       closed
236927915           236912640           3615        15275       closed
658187773           658178048           10043       9725        established
658198275           658178048           10043       20227       established
658210606           658178048           10043       32558       established
-------------------------------------------------------------------------------
No. of sessions: 5
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session assignment-id isp1.tunnel-2 state established
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
658187773           658178048           10043       9725        established
658198275           658178048           10043       20227       established
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
658210606           658178048           10043       32558       established
-------------------------------------------------------------------------------
No. of sessions: 3
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session control-connection-id 658178048
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
658187773           658178048           10043       9725        established
658198275           658178048           10043       20227       established
658210606           658178048           10043       32558       established
-------------------------------------------------------------------------------
No. of sessions: 3
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session peer 10.10.20.100
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
236926987           236912640           3615        14347       closed
236927915           236912640           3615        15275       closed
658187773           658178048           10043       9725        established
658198275           658178048           10043       20227       established
658210606           658178048           10043       32558       established
-------------------------------------------------------------------------------
No. of sessions: 5
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session peer 10.10.20.100 state closed detail
===============================================================================
L2TP Session Status
===============================================================================
Connection ID : 236926987
State         : closed
Tunnel Group  : isp1.group-2
Assignment ID : isp1.tunnel-2
Error Message : tunnel was closed

Control Conn ID   : 236912640          Remote Conn ID    : 3861360381
Tunnel ID         : 3615               Remote Tunnel ID  : 58919
Session ID        : 14347              Remote Session ID : 44797
Time Started      : 04/17/2009 18:41:55
Time Established  : 04/17/2009 18:41:55 Time Closed       : 04/17/2009 18:43:20
CDN Result        : generalError        General Error     : noError
-------------------------------------------------------------------------------
===============================================================================
L2TP Session Status
===============================================================================
Connection ID : 236927915
State         : closed
Tunnel Group  : isp1.group-2
Assignment ID : isp1.tunnel-2
Error Message : tunnel was closed
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Control Conn ID   : 236912640          Remote Conn ID    : 3861317210
Tunnel ID         : 3615               Remote Tunnel ID  : 58919
Session ID        : 15275              Remote Session ID : 1626
Time Started      : 04/17/2009 18:41:03
Time Established  : 04/17/2009 18:41:03 Time Closed       : 04/17/2009 18:43:20
CDN Result        : generalError       General Error     : noError
-------------------------------------------------------------------------------
No. of sessions: 2
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session local-name lac1.wholesaler.com
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
143524786           143523840           2190        946         established
143526923           143523840           2190        3083        established
143531662           143523840           2190        7822        closed
236926987           236912640           3615        14347       closed
236927915           236912640           3615        15275       closed
379407426           379387904           5789        19522       established
658187773           658178048           10043       9725        established
658198275           658178048           10043       20227       established
658210606           658178048           10043       32558       established
-------------------------------------------------------------------------------
No. of sessions: 9
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp session local-name lac1.wholesaler.com remote-
name lns.retailer1.net
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
379407426           379387904           5789        19522       established
-------------------------------------------------------------------------------
No. of sessions: 1
===============================================================================
*A:Dut-C#


*A:Fden-Dut2-BSA2# show router l2tp session connection-id 600407016
===============================================================================
L2TP Session Summary
===============================================================================
ID                  Control Conn ID     Tunnel-ID   Session-ID  State
-------------------------------------------------------------------------------
600407016           600375296           9161        31720       established
  simon@base.lac.base.lns
  interface: gi_base_lns_base_lac
  service-id: 100
  ip-address: 10.100.2.1
===============================================================================


*A:Fden-Dut2-BSA2# show router l2tp session connection-id 600407016 detail
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
L2TP Session Status
===============================================================================

Connection ID: 600407016
State        : established
Tunnel Group : base_lns_base_lac
Assignment ID: t1
Error Message: N/A

Control Conn ID   : 600375296           Remote Conn ID    : 1026712216
Tunnel ID         : 9161                Remote Tunnel ID  : 15666
Session ID        : 31720               Remote Session ID : 25240
Time Started      : 02/02/2010 09:08:54
Time Established  : 02/02/2010 09:08:54 Time Closed       : N/A
CDN Result        : noError             General Error     : noError
-------------------------------------------------------------------------------

PPP information

Service Id           : 100
Interface            : gi_base_lns_base_lac
LCP State            : opened
IPCP State           : opened
IPv6CP State         : initial
PPP MTU              : 1492
PPP Auth-Protocol    : chap
PPP User-Name        : simon@base.lac.base.lns

Subscriber Origin    : radius
Strings Origin       : radius
IPCP Info Origin     : radius
IPv6CP Info Origin   : none

Subscriber           : "simon"
Sub-Profile-String   : "sub1"
SLA-Profile-String   : "sla1"
ANCP-String          : ""
Int-Dest-Id          : ""
App-Profile-String   : ""
Category-Map-Name    : ""

IP Address           : 10.100.2.1
Primary DNS          : N/A
Secondary DNS        : N/A
Primary NBNS         : N/A
Secondary NBNS       : N/A
Address-Pool         : N/A

IPv6 Prefix          : N/A
IPv6 Del.Pfx.        : N/A
Primary IPv6 DNS     : N/A
Secondary IPv6 DNS   : N/A

Circuit-Id           : (Not Specified)
Remote-Id            : (Not Specified)

Session-Timeout      : N/A
Radius Class         : (Not Specified)
Radius User-Name     : simon@base.lac.base.lns
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session

Syntax

session [**interface** *ip-int-name* | *ip-address* | **sap** *sap-id*] [**session-id** *session-id*] [**mac** *ieee-address*] [**ip-address** *ip-address*[/ *mask*]] [**port** *port-id*] [**no-inter-dest-id** | **inter-dest-id** *intermediate-destination-id*] [**steering-profile** *steering-profile*] [**router-advertisement-policy** *policy-name*] [**fragmentation** *state*] [**detail** | **statistics**]

session l2tp-connection-id *connection-id* [**detail** | **statistics**]

Context

[Tree] (show>service>id>pppoe session)

Full Context

show service id pppoe session

Description

This command displays PPPoE session information.

Parameters

ip-int-name

Specifies the IP interface name.

ip-address

Specifies the IP address of the PPPoE session.

sap-id

Specifies the SAP ID.

session-id

Specifies the ID of the PPPoE session.

ieee-address

Specifies the MAC address of the PPPoE session.

port-id

Specifies the port ID.

no-inter-dest-id

Displays the information of PPPoE sessions that do not have an intermediate destination ID associated.

intermediate-destination-id

Specifies the intermediate destination ID.

steering-profile

Specifies the name of the steering profile, up to a maximum of 32 characters.

policy-name

Specifies the name of the router advertisement policy, up to a maximum of 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

state

Specifies the fragmentation state.

Values active, inactive

detail

Displays detailed information.

statistics

Displays statistics about the PPPoE session.

Platforms

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

Output

The following outputs are examples of PPPoE session information and Table 521: Output fields: service PPPoE session describes the output fields.

Note: The output varies depending on the configuration and functionality of the operational data within the PPPoE session, therefore not all fields appear in the output example.

Output

```
show service id 20 pppoe session
```

```
===============================================================================
PPPoE sessions for svc-id 20
===============================================================================
Sap Id              Mac Address       Sid Up Time        IP Address
-------------------------------------------------------------------------------
1/1/3:200           00:00:00:00:00:03 1   1d 00:48:39    10.0.0.101
1/1/3:300           00:00:00:00:00:05 1   0d 00:01:08    10.0.0.119
-------------------------------------------------------------------------------
Number of sessions : 2
===============================================================================
```

```
show service id "pppoe_service" pppoe session l2tp-connection-id 598227315 detail
```

```
===============================================================================
PPPoE sessions for svc-id 111
===============================================================================
Sap Id              Mac Address       Sid    Up Time         Type
    IP/L2TP-Id/Interface-Id                                    MC-Stdby
-------------------------------------------------------------------------------
1/1/1               00:10:94:00:00:01 1      0d 00:45:26     lac
    598227315


PPP User-Name        : user01

Subscriber-interface : subif01
Group-interface      : grpif01


Subscriber           : "sub01"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Sub-Profile-String   : "subprof01"
SLA-Profile-String   : "slaprof01"
SPI group ID         : (Not Specified)
ANCP-String          : ""
Int-Dest-Id          : ""
App-Profile-String   : ""
Category-Map-Name    : ""
Acct-Session-Id      : "1412FF000000005E85A5C6"
Sap-Session-Index    : 1

L2TP Router Name     : Base
L2TP Group Name      : default_radius_group
L2TP Assignment ID   : unnamed
L2TP LAC Frag FPE id: 2
L2TP LAC Frag Action: permit
L2TP LAC Frag State: active
L2TP Steering Profile: N/A
L2TP Steering State  : non-steered

Circuit-Id           :
Remote-Id            :

Radius Session-TO    : N/A
Radius Class         :
Radius User-Name     : user01
Logical-Line-Id      :
Service-Name         :
-------------------------------------------------------------------------------
Number of sessions   : 1
```

```
show service id 1000 pppoe session detail
```

```
===============================================================================
PPPoE sessions for svc-id 1000
===============================================================================
Sap Id              Mac Address       Sid    Up Time         Type
    IP/L2TP-Id/Interface-Id                                    MC-Stdby
-------------------------------------------------------------------------------
[1/x1/1/c1/4:2211.* 00:bb:02:00:01:01 1      0d 00:01:55     local
    10.2.1.201
    02:BB:02:FF:FE:00:01:01


LCP State            : Opened
IPCP State           : Opened
IPv6CP State         : Opened
PPP MTU              : 1492
PPP Auth-Protocol    : CHAP
PPP User-Name        : user-1@bng-2.com

Subscriber-interface : sub-int-1
Group-interface      : group-int-1-1

IP Origin            : local-user-db
DNS Origin           : none
NBNS Origin          : none

Subscriber           : user-1@bng-2.com
Sub-Profile-String   : "sub-profile-1"
SLA-Profile-String   : "sla-profile-1"
SPI group ID         : (Not Specified)
ANCP-String          : ""
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Int-Dest-Id          : ""
App-Profile-String   : ""
Category-Map-Name    : ""
Acct-Session-Id      : "0613FF0000000163FF4F0A"
Sap-Session-Index    : 1

IP Address           : 10.2.1.201/24
Primary DNS          : N/A
Secondary DNS        : N/A
Primary NBNS         : N/A
Secondary NBNS       : N/A
Address-Pool         : N/A

IPv6 Prefix          : N/A
IPv6 Prefix Origin   : none
IPv6 Prefix Pool     : ""
IPv6 Del.Pfx.        : 2001:db8:b201:a100::/56
IPv6 Del.Pfx. Origin : local-user-db
IPv6 Del.Pfx. Pool   : ""
IPv6 Address         : 2001:db8:b002:1a1::1
IPv6 Address Origin  : local-user-db
IPv6 Address Pool    : ""
Primary IPv6 DNS     : N/A
Secondary IPv6 DNS   : N/A
Router adv. policy   : N/A

Ignoring DF bit      : false
Radius sub-if prefix : N/A

Circuit-Id           :
Remote-Id            :

Radius Session-TO    : N/A
Radius Class 1       : This is a Class attribute
Radius User-Name     : user-1@bng-2.com
Logical-Line-Id      :
Service-Name         : HSI

-------------------------------------------------------------------------------
Managed Routes
-------------------------------------------------------------------------------
IP Address                                Status       Metric Tag        Pref
-------------------------------------------------------------------------------
2001:db8:b201:a100::/56                   installed    0      none       0
-------------------------------------------------------------------------------

Keepalive Origin     : Radius
Keepalive Interval   : 15
Keepalive Multiplier : 2
-------------------------------------------------------------------------------
Number of sessions   : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

```
show service id 20 pppoe session ip-address 20.0.0.101 detail
```

```
===============================================================================
PPPoE sessions for svc-id 20
===============================================================================
Sap Id              Mac Address       Sid Up Time        IP Address
-------------------------------------------------------------------------------
1/1/3:200           00:00:00:00:00:03 1   1d 00:49:46    10.0.0.101
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LCP State            : Opened
IPCP State           : Opened
PPP MTU              : 1492
PPP Auth-Protocol    : PAP
PPP User-Name        : user4@domain1

Subscriber-interface : sub_pppoe
Group-interface      : grp_pppoe2

Subscriber Origin    : RADIUS
Strings Origin       : RADIUS
IPCP Info Origin     : DHCP

Subscriber           : "radius_papchap4"
Sub-Profile-String   : "sub1"
SLA-Profile-String   : "sla1"
ANCP-String          : ""
Int-Dest-Id          : ""
App-Profile-String   : ""

Primary DNS          : N/A
Secondary DNS        : N/A
Primary NBNS         : N/A
Secondary NBNS       : N/A

Circuit-Id           : 2
Remote-Id            :

Session-Timeout      : N/A
-------------------------------------------------------------------------------
Number of sessions : 1
===============================================================================
```

```
show service id 20 pppoe session ip-address 20.0.0.101 statistics
```

```
===============================================================================
PPPoE sessions for svc-id 20
===============================================================================
Sap Id              Mac Address       Sid Up Time        IP Address
-------------------------------------------------------------------------------
1/1/3:200           00:00:00:00:00:03 1   1d 00:50:39    10.0.0.101

Packet Type               Received        Transmitted
-------------------------------------------------------------------------------
LCP Configure-Request     1               2
LCP Configure-Ack         1               1
LCP Configure-Nak         1               0
LCP Configure-Reject      0               0
LCP Terminate-Request     0               0
LCP Terminate-Ack         0               0
LCP Code-Reject           0               0
LCP Echo-Request          8927            866
LCP Echo-Reply            866             8927
LCP Protocol-Reject       0               0
LCP Discard-Request       0               0
-------------------------------------------------------------------------------
PAP Authenticate-Request  1               -
PAP Authenticate-Ack      -               1
PAP Authenticate-Nak      -               0
-------------------------------------------------------------------------------
CHAP Challenge            -               0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
CHAP Response             0               -
CHAP Success              -               0
CHAP Failure              -               0
-------------------------------------------------------------------------------
IPCP Configure-Request    2               1
IPCP Configure-Ack        1               1
IPCP Configure-Nak        0               1
IPCP Configure-Reject     0               0
IPCP Terminate-Request    0               0
IPCP Terminate-Ack        0               0
IPCP Code-Reject          0               0
-------------------------------------------------------------------------------
Unknown Protocol          0               -
-------------------------------------------------------------------------------
Number of sessions : 1
===============================================================================
```

```
*A:Dut-A#show  service id 10 pppoe session router-advertisement-policy "ra-policy-01"
===============================================================================
PPPoE sessions for svc-id 1000
===============================================================================
Sap Id              Mac Address       Sid    Up Time         Type
    IP/L2TP-Id/Interface-Id                                    MC-Stdby
-------------------------------------------------------------------------------
1/1/20:841          00:00:64:19:01:02 1      0d 00:00:18     local
    192.168.0.10
    02:00:64:FF:FE:19:01:02
-------------------------------------------------------------------------------
Number of sessions   : 1
===============================================================================
```

Table 521: Output fields: service PPPoE session

Field	Description
Sap Id	The SAP ID
Mac Address	The MAC address
Sid	The SID number
Up Time	The time of the last modification
Type	The PPPoE type
IP/L2TP-Id/If-Id	The IP/L2TP or IF ID
MC-Standby	The MC standby
Session Time Left	The time remaining for the session timeout
LCP State	The LCP open/closed state
IPCP State	The IP CP open/closed state
IPv6CP State	The IPv6 CP open/closed state
PPP MTU	The PPP MTU value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
PPP Auth-Protocol	The PPP authentication protocol
PPP User-Name	The PPP user name
Subscriber-interface	The subscriber interface name
Group-interface	The group interface name
IP Origin	The IP origin
DNS Origin	The DNS origin
NBNS Origin	The NBNS origin
Subscriber	The subscriber identification string
Sub-Profile-String	The subscriber profile name
SLA-Profile-String	The SLA profile name
SPI group ID	The SPI group ID
ANCP-String	The value of the ancp-string received from either the DHCP or the RADIUS server
Int-Dest-Id	Intermediate destination identifier received from the RADIUS server
App-Profile-String	The application profile string
Category-Map-Name	The value of the category map name received from the RADIUS server
Acct-Session-Id	The accounting session ID
Sap-Session-Index	The sap session index of the PPP session
IP Address	The IP address
Primary DNS	The primary DNS server
Secondary DNS	The secondary DNS server
Primary NBNS	The primary NBNS server
Secondary NBNS	The secondary NBNS server
Address-Pool	The IP address pool used to search for an IP address for this session
IPv6 Prefix	The IPv6 prefix
IPv6 Prefix Origin	The origin of the IPv6 prefix

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
IPv6 Prefix Pool	The DHCP server pool from which the IPv6 prefix is allocated
IPv6 Del.Pfx.	The IPv6 delegated prefix
IPv6 Del.Pfx. Origin	The origin of the IPv6 delegated prefix
IPv6 Del.Pfx. Pool	The DHCP server pool from which the delegated prefix is allocated
IPv6 Address	The IPv6 address
IPv6 Address Origin	The origin of the IPv6 address
IPv6 Address Pool	The DHCP server pool from which the address is allocated
Primary IPv6 DNS	The primary IPv6 DNS server
Secondary IPv6 DNS	The secondary IPv6 DNS server
Router adv. policy	The router advertisement policy
Ignoring DF bit	The true/false status of ignoring DF bit
Radius sub-if prefix	The RADIUS subscriber interface prefix
L2TP Router Name	The L2TP router name
L2TP Group Name	The L2TP group name
L2TP Assignment ID	The L2TP assignment ID
L2TP LAC Frag FPE id	The L2TP LAC fragmentation FPE ID
L2TP LAC Frag Action	The L2TP LAC fragmentation action
L2TP LAC Frag State	The L2TP LAC fragmentation state
L2TP Steering Profile	The LAC steering profile name
L2TP Steering State	The LAC steering state type
Circuit-Id	The circuit ID of the PPP session
Remote-Id	The remote ID of the PPP session
Radius Session-TO	The value to interpret the session timeout VSA from RADIUS
Radius Class	The Class attribute returned by the RADIUS server in an Access-Accept message
Radius User-Name	The User-Name attribute returned by the RADIUS server in an Access-Accept message

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Logical-Line-Id	The logical line ID
Keepalive Origin	LCP Keepalive Interval and Multiplier parameters are by default obtained from the ppp-policy configuration and can be overridden with parameters obtained from RADIUS, Diameter Gx or local user database. This field indicates the origin of the LCP Keepalive parameters for this session: Policy = values configured in the subscriber-mgmt ppp-policy for PPPoE PTA sessions or l2tp group context for L2TP LNS sessions. Ludb = values from the local user database Radius = values from RADIUS authentication Diameter Gx = values from Diameter Gx
Keepalive Interval	The time interval in seconds at which LCP echo requests are transmitted for the PPP session
Keepalive Multiplier	The number of LCP keepalive messages that can be missed before the PPP session is brought down
Subscriber Host Limit Overrides and SLA Profile Instance Host Limit Overrides: (only shown when overrides are active)	
ipv4-arp	The total number of IPv4 ARP hosts limit
ipv4-dhcp	The total number of IPv4 DHCP hosts limit
ipv4-ppp	The total number of IPv4 PPP hosts limit
ipv4-overall	The total number of IPv4 hosts limit
ipv6-pd-ipoe-dhcp	The total number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-ppp-dhcp	The total number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-overall	The total number of IPv6 DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-wan-ipoe-dhcp	The total number of IPv6 IPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ipoe-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-ppp-dhcp	The total number of IPv6 PPPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ppp-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
ipv6-wan-overall	The total number of IPv6 WAN hosts limit
ipv6-overall	The total number of IPv6 hosts limit
lac-overall	The total number of L2TP LAC hosts limit
overall	The total number of subscriber hosts limit
Subscriber Session Limit Overrides and SLA Profile Instance Session Limit Overrides: (only shown when overrides are active)	
ipoe	The total number of IPoE sessions limit
ppoe-local	The total number of PPPoE local terminated sessions (PTA) limit
ppoe-lac	The total number of PPPoE L2TP LAC sessions limit
ppoe-overall	The total number of PPPoE sessions limit
l2tp-lns	The total number of L2TP LNS sessions limit
l2tp-lts	The total number of L2TP LTS sessions limit
l2tp-overall	The total number of L2TP sessions limit
overall	The total number of subscriber sessions limit
Managed Routes	
Status	The installation status
Metric	The metric value
Tag	The tag value
Pref	The preference value
Number of session	The number of sessions returned from the search criteria

session

Syntax

session connection-id *connection-id* **eth-tunnel-statistics**

Context

[Tree] (clear>router>l2tp session)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear router l2tp session

Description

This command clears L2TP session data.

Parameters

connection-id

Specifies the L2TPv3 connection ID.

eth-tunnel-statistics

Clears the Ethernet tunnel statistics associated with the specified session.

Platforms

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

session

Syntax

session stop *connection-id*

Context

[Tree] (tools>perform>router>l2tp session)

Full Context

tools perform router l2tp session

Description

This command configures performance tools for a specified L2TP session.

Parameters

stop

Stops the performance tools for a specified L2TP session.

connection-id

Specifies the L2TPv3 connection ID.

Values 1 to 4294967295

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session

Syntax

session [**sap** *sap-id*] [**mac** *ieee-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**interface** *ip-int-name* | *ip-address*] [**inter-dest-id** *intermediate-destination-id*] [**no-inter-dest-id**] [**ip-address** *ip-prefix*[*/prefix-length*]] [**port** *port-id*] [**subscriber** *sub-ident-string*] [**sap-session-id** *sap-session-index*] [**detail**] [**wholesaler** *service-id*] [**router-advertisement-policy** *policy-name*]

Context

[Tree] (show>service>id>ipoe session)

Full Context

show service id ipoe session

Description

This command displays the identified IPoE session details active on the specified service instance.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

circuit-id

Specifies the circuit ID, up to 127 characters.

remote-id

Specifies that information that goes into the remote-id sub-option in the DHCP relay packet, up to 255 characters.

ip-int-name

Specifies the name of the IP interface, up to 32 characters.

ip-address[/prefix-length]

Specifies information for the specified IP address and mask.

no-inter-dest-id

Displays the information about no intermediate destination ID.

port-id

Displays information about the specified port ID.

sap-session-index

Displays sap-session-index information.

service-id

Specifies the service ID of the wholesaler.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values *service-id*: 1 to 2147483647

intermediate-destination-id

Specifies the intermediate destination identifier which is encoded in the identification strings up to 32 characters.

sub-ident-string

Specifies an existing subscriber identification profile.

detail

Displays all IPoE session details.

policy-name

Specifies the name of the router advertisement policy, up to 32 characters.

Platforms

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

Output

The following output is an example of service IPoE session information.

Output Example

```
# show service id 4000 ipoe session
===============================================================================
IPoE sessions for svc-id 4000
===============================================================================
Sap Id                          Mac Address         Up Time         MC-Stdby
    Subscriber-Id
        [CircuitID] | [RemoteID]
-------------------------------------------------------------------------------
1/1/4:1201.27                   00:51:00:00:00:0c   0d 00:00:18
    ipoe-session-001
-------------------------------------------------------------------------------
CID | RID displayed when included in session-key
Number of sessions : 1
===============================================================================


# show service id 4000 ipoe session detail
===============================================================================
IPoE sessions for service 4000
===============================================================================
SAP                     : 1/1/4:1201.27
Mac Address             : 00:51:00:00:00:0c
Circuit-Id              : circuit-id-1
Remote-Id               : remote-id-1
Session Key             : sap-mac

MC-Standby              : No

Subscriber-interface    : sub-int-1
Group-interface         : group-int-1

Up Time                 : 0d 00:01:01
Session Time Left       : N/A
Last Auth Time          : 02/28/2015 01:01:09
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Min Auth Intvl (left)   : 0d 00:05:00 (0d 00:03:59)
Persistence Key         : N/A

Subscriber              : "ipoe-session-001"
Sub-Profile-String      : "sub-profile-1"
SLA-Profile-String      : "sla-profile-1"
ANCP-String             : ""
Int-Dest-Id             : ""
App-Profile-String      : ""
Category-Map-Name       : ""
Acct-Session-Id         : "144DFF0000001354D806D5"
Sap-Session-Index       : 1

IP Address              : 10.10.1.201/24
IP Origin               : Radius
Primary DNS             : N/A
Secondary DNS           : N/A
Primary NBNS            : N/A
Secondary NBNS          : N/A
Address-Pool            : N/A

IPv6 Prefix             : 2001:db8:a:111::/64
IPv6 Prefix Origin      : Radius
IPv6 Prefix Pool        : ""
IPv6 Del.Pfx.           : 2001:db8:a001:a100::/56
IPv6 Del.Pfx. Origin    : Radius
IPv6 Del.Pfx. Pool      : ""
IPv6 Address            : 2001:db8:a:101::aaa:1
IPv6 Address Origin     : Radius
IPv6 Address Pool       : ""
Primary IPv6 DNS        : N/A
Secondary IPv6 DNS      : N/A

Radius Session-TO       : N/A
Radius Class            :
Radius User-Name        : 00:51:00:00:00:0c

Subscriber Host Limit Overrides
 ipv4-arp            : 1
 ipv4-dhcp           : 1
 ipv4-ppp            : 1
 ipv4-overall        : 1
 ipv6-pd-ipoe-dhcp   : 1
 ipv6-pd-ppp-dhcp    : 1
 ipv6-pd-overall     : 1
 ipv6-wan-ipoe-dhcp  : 1
 ipv6-wan-ipoe-slaac : 1
 ipv6-wan-ppp-dhcp   : 1
 ipv6-wan-ppp-slaac  : 1
 ipv6-wan-overall    : 1
 ipv6-overall        : 1
 lac-overall         : 1
 overall             : 1
SLA Profile Instance Host Limit Overrides
 ipv4-arp            : 1
 ipv4-dhcp           : 1
 ipv4-ppp            : 1
 ipv4-overall        : 1
 ipv6-pd-ipoe-dhcp   : 1
 ipv6-pd-ppp-dhcp    : 1
 ipv6-pd-overall     : 1
 ipv6-wan-ipoe-dhcp  : 1
 ipv6-wan-ipoe-slaac : 1
 ipv6-wan-ppp-dhcp   : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 ipv6-wan-ppp-slaac  : 1
 ipv6-wan-overall    : 1
 ipv6-overall        : 1
 lac-overall         : 1
 overall             : 1
Subscriber Session Limit Overrides
 ipoe                : 1
 pppoe-local         : 1
 pppoe-lac           : 1
 pppoe-overall       : 1
 l2tp-lns            : 1
 l2tp-lts            : 1
 l2tp-overall        : 1
 overall             : 1
SLA Profile Instance Session Limit Overrides
 ipoe                : 1
 pppoe-local         : 1
 pppoe-lac           : 1
 pppoe-overall       : 1
 l2tp-lns            : 1
 l2tp-lts            : 1
 l2tp-overall        : 1
 overall             : 1
-------------------------------------------------------------------------------
Number of sessions : 1
===============================================================================
```

```
*A:Dut-A# show service id 13 ipoe session router-advertisement-policy ra-policy-01
===============================================================================
IPoE sessions for svc-id 13
===============================================================================
Sap Id                          Mac Address         Up Time         MC-Stdby
    Subscriber-Id
        [CircuitID] | [RemoteID]
-------------------------------------------------------------------------------
1/1/1:13                        00:00:00:00:00:13   0d 00:13:06
    sub-1
1/1/1:13                        00:00:00:00:00:14   0d 00:08:03
    sub-1
1/1/1:13                        00:00:00:00:00:15   0d 00:06:23
    sub-1
-------------------------------------------------------------------------------
CID | RID displayed when included in session-key
Number of sessions : 3
===============================================================================
*A:Dut-A#
```

Table 522: Output fields: service IPoE session describes IPoE session field information.

Table 522: Output fields: service IPoE session

Field	Description
SAP Id	The SAP ID of the IPoE session
Mac Address	The MAC address of the IPoE session
Up Time	The time of the last modification

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
MC-Stdby	The number of SAPs defined on this service on a port which is in multi-chassis standby mode
SAP	The SAP ID of the IPoE session
Circuit-Id	The circuit ID of the IPoE session
Remote-Id	The remote ID of the IPoE session
Session Key	The session key used for this IPoE session to group subscriber hosts
MC-Standby	The number of SAPs defined on this service on a port which is in multi-chassis standby mode
Subscriber-interface	The subscriber interface name
Group-interface	The group interface name
Up Time	The time of the last modification
Session Time Left	The time remaining for the session timeout
Last Auth Time	The date and time of the last authentication
Min Auth Intvl (left)	The minimum interval between two consecutive authentication attempts for the same ARP host
Persistence Key	The key value that is used to track this in the persistence file
Subscriber	The subscriber identification string
Sub-Profile-String	The subscriber profile name
SLA-Profile-String	The SLA profile name
ANCP-String	The value of the ancp-string received from either the DHCP or the RADIUS server
Int-Dest-Id	Intermediate destination identifier received from the RADIUS server
App-Profile-String	The application profile string
Category-Map-Name	The value of the category map name received from the RADIUS server
Acct-Session-Id	The accounting session ID
Sap-Session-Index	The sap session index of the PPP session
IP Address	The IP address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
IP Origin	The origin of the source IP address used for connectivity verification
Primary DNS	The primary DNS server
Secondary DNS	The secondary DNS server
Primary NBNS	The primary NBNS server
Secondary NBNS	The secondary NBNS server
Address-Pool	The IP address pool used to search for an IP address for this session
IPv6 Prefix	The IPv6 prefix
IPv6 Prefix Origin	The origin of the IPv6 prefix
IPv6 Prefix Pool	The DHCP server pool from which the SLAAC prefix is allocated
IPv6 Del.Pfx.	The IPv6 delegated prefix
IPv6 Del.Pfx. Origin	The origin of the IPv6 delegated prefix
IPv6 Del.Pfx. Pool	The DHCP server pool from which the delegated prefix is allocated
IPv6 Address	The IPv6 address
IPv6 Address Origin	The origin of the IPv6 address
IPv6 Address Pool	The DHCP server pool from which the address is allocated
Primary IPv6 DNS	The primary DNS server
Secondary IPv6 DNS	The secondary DNS server
Radius Session-TO	The value to interpret the session timeout VSA from RADIUS
Radius Class	The Class attribute returned by the RADIUS server in an Access-Accept message
Radius User-Name	The User-Name attribute returned by the RADIUS server in an Access-Accept message
Subscriber Host Limit Overrides and SLA Profile Instance Host Limit Overrides:	
ipv4-arp	The total number of IPv4 ARP hosts limit
ipv4-dhcp	The total number of IPv4 DHCP hosts limit

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
ipv4-ppp	The total number of IPv4 PPP hosts limit
ipv4-overall	The total number of IPv4 hosts limit
ipv6-pd-ipoe-dhcp	The total number of IPv6 IPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-ppp-dhcp	The total number of IPv6 PPPoE DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-pd-overall	The total number of IPv6 DHCP Prefix Delegation hosts (IA-PD) limit
ipv6-wan-ipoe-dhcp	The total number of IPv6 IPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ipoe-slaac	The total number of IPv6 IPoE SLAAC WAN hosts limit
ipv6-wan-ppp-dhcp	The total number of IPv6 PPPoE DHCP WAN hosts (IA-NA) limit
ipv6-wan-ppp-slaac	The total number of IPv6 PPPoE SLAAC WAN hosts limit
ipv6-wan-overall	The total number of IPv6 WAN hosts limit
ipv6-overall	The total number of IPv6 hosts limit
lac-overall	The total number of L2TP LAC hosts limit
overall	The total number of subscriber hosts limit
Subscriber Session Limit Overrides and SLA Profile Instance Session Limit Overrides:	
ipoe	The total number of IPoE sessions limit
ppoe-local	The total number of PPPoE local terminated sessions (PTA) limit
ppoe-lac	The total number of PPPoE L2TP LAC sessions limit
ppoe-overall	The total number of PPPoE sessions limit
l2tp-lns	The total number of L2TP LNS sessions limit
l2tp-lts	The total number of L2TP LTS sessions limit
l2tp-overall	The total number of L2TP sessions limit
overall	The total number of subscriber sessions limit
Number of session	The number of sessions returned from the search criteria

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session

Syntax

session [**name** *trace-name*] [**detail**]

session sap *sap-id* **mac** *ieee-address* [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**username** *user-name*] [**detail**]

Context

[Tree] (show>call-trace>ppp session)

[Tree] (show>call-trace>ipoe session)

Full Context

show call-trace ppp session

show call-trace ipoe session

Description

This command displays call trace information for the active session.

Configuring this command with specified session filters, displays information for the specified trace job only.

Parameters

detail

Displays detailed information.

sap-id

Specifies the SAP ID that identifies a session.

ieee-address

Specifies a MAC address that identifies a session.

circuit-id

Specifies a circuit ID that identifies a session, up to 255 characters.

remote-id

Specifies a remote ID that identifies a session, up to 255 characters.

trace-name

Specifies the name of the trace, up to 32 characters, that triggered the job.

user-name

Specifies the user name, up to 32 characters, that identifies a PPPoE session.

Platforms

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

Output

The following output is an example of call trace information for the active IPoE session.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
Node # show call-trace ipoe session
=========================================================
Call trace IPoE session
=========================================================
IEEE address             Status          No. of messages
  Trace name
---------------------------------------------------------
00:02:00:00:00:19        running                      10
     default
---------------------------------------------------------
No. of call trace IPoE debug jobs: 1
=========================================================


Node# show call-trace ipoe session detail
===============================================================================
Call trace IPoE session
===============================================================================
SAP ID      : 4/1/ 2
IEEE address: 00:02:00:00:00:19
Trace name  : default                           Status       : running
Size limit  : 10 MB                             Time limit   : 86400 sec
Live output
-------------------------------------------------------------------------------
Destination : none
Statistics
-------------------------------------------------------------------------------
Started               : 2017/01/11 15:34:08UTC
No. of captured msgs  : 10
Size of captured msgs : 2575 B
===============================================================================
```

Table 523: Output fields: call trace IPoE session describes call trace IPoE session output fields.

Table 523: Output fields: call trace IPoE session

Field	Description
IEEE address	The IEEE address of the equipment to match by this trace
Status	The status of the trace session
No. of messages	The number of messages from the trace session
Trace name	The name of the trace profile
Size limit	The maximum data volume generated by a single call trace job to the output, in megabytes
Time limit	The maximum duration of a single call trace job, in seconds
Live output	The live output destination for trace logs
Destination	The destination address of the trace logs
Started	The date and time the trace began

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
No. of captured msgs	The number of captured messages
Size of captured msgs	The size of the captured messages

session

Syntax

session sap *sap-id* **mac** *ieee-address*

session sap *sap-id* **mac** *ieee-address* **circuit-id** *circuit-id* [**remote-id** *remote-id*] [**user-name** *user-name*]

session sap *sap-id* **mac** *ieee-address* [**circuit-id** *circuit-id*] **remote-id** *remote-id* [**user-name** *user-name*]

session sap *sap-id* **mac** *ieee-address* [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] **user-name** *user-name*

Context

[Tree] (clear>call-trace>ipoe session)

[Tree] (clear>call-trace>pppoe session)

Full Context

clear call-trace ipoe session

clear call-trace pppoe session

Description

This command clears the trace job identified by this session.

This command does not affect any of the debug trace commands, and new jobs can still be executed for other sessions.

After a session is cleared, tracing for the session will not be restarted by any configured trace. Only explicitly starting a new trace with the **trace-existing-sessions** parameter can restart tracing for the session.

Parameters

circuit-id

Specifies a circuit ID, up to 255 characters, that identifies a session.

ieee-address

Specifies a MAC address that identifies a session.

remote-id

Specifies a remote ID, up to 255 characters, that identifies a session

sap-id

Specifies the SAP ID that identifies a session.

user-name

Specifies the user name, up to 32 characters, that identifies a session.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

session

Syntax

session [**family**] [**summary** | **detail**] *ip-addr*[*label-space*]

Context

[Tree] (show>router>ldp>bindings session)

Full Context

show router ldp bindings session

Description

This command displays LDP FEC bindings by matching peer LSR ID.

Parameters

detail

Displays detailed information.

summary

Displays information in a summarized format.

family

Displays either IPv4 or IPv6 LDP session information.

ip-addr

displays configuration information about LDP sessions.

label-space

Specifies the label space identifier that the router is advertising on the interface.

Values 0 to 65535

Platforms

All

session

Syntax

session [*ip-addr* [*label-space*]] **local-addresses** [**sent** | **recv**] **ip-addr** *ip-address*

session [*ip-addr* [*label-space*]] [*session-type*] [**state** *state*] [**summary** | **detail**] [**community** *community*]

session [*ip-addr* [*label-space*]] **local-addresses** [**sent** | **recv**] [*family*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session [*ip-addr* [*label-space*]] [**sent** | **recv**] **overload** [**fec-type** *fec-type*]

session [**sent** | **recv**] **overload** [**fec-type** *fec-type*] [*family*] [**community** *community*]

session [*ip-addr* [*label-space*]] **statistics** [*packet-type*] [*session-type*]

session statistics [*packet-type*] [*session-type*] [*family*]

session [*session-type*] [**state** *state*] [**summary** | **detail**] [*family*] [**community** *community*]

Context

[Tree] (show>router>ldp session)

Full Context

show router ldp session

Description

This command displays configuration information about LDP sessions.

Parameters

ip-addr

Specifies the IP address of the LDP peer.

label-space

Specifies the label space identifier that the router is advertising on the interface.

Values 0 to 65535

statistics

Specifies the statistics for a targeted peer.

packet-type

Specifies the packet type.

Values hello, keepalive, init, label, notification, address, capability

session-type

Specifies to display the session type.

Values link, targeted, both

state

Specifies to display the current operational state of the adjacency.

Values up - Established down - Initialized, OpenRecv, OpenSent, Nonexistent

summary

Displays information in a summarized format.

detail

Displays detailed information including the community and if a local LSR ID is advertised.

local-addresses

Specifies the local address information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Specifies the IPv4 or IPv6 address.

Values <ip-address> : ipv4-address - a.b.c.d ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x - [0 to FFFF]H d - [0 to 255]D

overload

Specifies the overload information.

fec-type

Specifies the specified FEC type.

Values ipv4-prefixes, ipv6-prefixes, ipv4-p2mp, ipv6-p2mp, svc-fec128, svc-fec129

family

Displays either IPv4 or IPv6 active LDP information.

Values ipv4, ipv6

community

The string defining the LDP community assigned to the session. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string.

Platforms

All

Output

Table 524: Output fields: LDP session describes the LDP session output fields.

Table 524: Output fields: LDP session

Label	Description
Peer LDP Id	The IP address of the LDP peer.
Adj Type	The adjacency type between the LDP peer and LDP session is targeted.
	Link — Specifies that this adjacency is a result of a link hello. Targeted — Specifies that this adjacency is a result of a targeted hello.
State	Established — Specifies that the adjacency is established. Trying — Specifies that the adjacency is not yet established.
Msg Sent Mesg Sent	The number of messages sent.
Msg Rcvd	The number of messages received.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Mesg Rcvd	
Up Time	The amount of time the adjacency has been enabled.
Session Community	Specifies the LDP community associated with a session.
Local LSR ID Advertised	Specifies if a local LSR ID is advertised.

Output Example

```
*A:Dut-A# show router ldp session
===============================================================================
LDP IPv4 Sessions
===============================================================================
Peer LDP Id         Adj Type  State         Msg Sent  Msg Recv  Up Time
-------------------------------------------------------------------------------
10.20.1.2:0         Link      Established   1724      1725      0d 01:16:29
10.20.1.3:0         Link      Established   1721      1723      0d 01:16:24
10.20.1.6:0         Targeted  Established   1237      1238      0d 00:54:53
-------------------------------------------------------------------------------
No. of IPv4 Sessions: 3
===============================================================================
===============================================================================
LDP IPv6 Sessions
===============================================================================
Peer LDP Id
 Adj Type             State          Msg Sent       Msg Recv       Up Time
-------------------------------------------------------------------------------
3ffe::a14:102[0]
  Link                Established    1718           1721           0d 01:16:10
3ffe::a14:103[0]
  Link                Established    1718           1717           0d 01:16:10
3ffe::a14:106[0]
  Targeted            Established    598            598            0d 00:53:07
-------------------------------------------------------------------------------
No. of IPv6 Sessions: 3
===============================================================================
*A:Dut-A#
*A:Dut-A# show router ldp session ipv6
===============================================================================
LDP IPv6 Sessions
===============================================================================
Peer LDP Id
 Adj Type             State          Msg Sent       Msg Recv       Up Time
-------------------------------------------------------------------------------
10.10.2.3:0
  Targeted            Established    29             31             0d 00:00:57
3ffe::a14:102[0]
  Link                Established    37646          37642          1d 03:55:39
3ffe::a14:103[0]
  Link                Established    37653          37675          1d 03:55:36
-------------------------------------------------------------------------------
No. of IPv6 Sessions: 3
===============================================================================

*A:Dut-A# show router ldp session 10.20.1.2
===============================================================================
LDP IPv4 Sessions
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Peer LDP Id         Adj Type  State         Msg Sent  Msg Recv  Up Time
------------------------------------------------------------------------------
10.20.1.2:0         Link      Established   1728      1729      0d 01:16:42
------------------------------------------------------------------------------
No. of IPv4 Sessions: 1
==============================================================================
*A:Dut-A# show router ldp session 10.10.2.3 detail
==============================================================================
LDP IPv4 Sessions (Detail)
==============================================================================
Legend:  DoD - Downstream on Demand (for address FEC's only)
         DU  - Downstream Unsolicited
         R   - Capability value received from peer
==============================================================================
------------------------------------------------------------------------------
Session with Peer 10.20.1.1:0, Local 10.20.1.4:0
------------------------------------------------------------------------------
Adjacency Type         : Targeted       State                  : Established
Up Time                : 3d 21:54:43
Max PDU Length         : 4096           KA/Hold Time Remaining : 121
Link Adjacencies       : 0              Targeted Adjacencies   : 1
Local Address          : 10.20.1.4      Peer Address           : 10.20.1.1
Local UDP Port         : 646            Peer UDP Port          : 646
Local TCP Port         : 55190          Peer TCP Port          : 646
Local KA Timeout       : 140            Peer KA Timeout        : 140
Mesg Sent              : 219023         Mesg Recv              : 127264
IPv4 Pfx FEC Sent      : 2092           IPv4 Pfx FEC Recv      : 1655
IPv6 Pfx FEC Sent      : 0              IPv6 Pfx FEC Recv      : 0
IPv4 P2MP FEC Sent     : 0              IPv4 P2MP FEC Recv     : 0
IPv6 P2MP FEC Sent     : 0              IPv6 P2MP FEC Recv     : 0
Svc Fec128 Sent        : 0              Svc Fec128 Recv        : 0
Svc Fec129 Sent        : 0              Svc Fec129 Recv        : 0
IPv4 Addrs Sent        : 1013           IPv4 Addrs Recv        : 2996
IPv6 Addrs Sent        : 119            IPv6 Addrs Recv        : 833
Local GR State         : Capable        Peer GR State          : Capable
Local Nbr Liveness Time: 5              Peer Nbr Liveness Time : 0
Local Recovery Time    : 30             Peer Recovery Time     : 0
Number of Restart      : 0              Last Restart Time      : Never
Label Distribution     : DU
Oper Fec Limit Thresho*: 0
Local-LSR ID advertise : Enabled
Community              : RED
Capabilities
Local P2MP             : Capable        Peer P2MP              : Capable
Local MP MBB           : Capable        Peer MP MBB            : Capable
Local Dynamic          : Capable        Peer Dynamic           : Capable
Local LSR Overload     : Not Capable    Peer LSR Overload      : Capable
Local IPv4 Pfx         : Capable        Peer IPv4 Pfx          : Capable (R)
Local IPv6 Pfx         : Not Capable    Peer IPv6 Pfx          : Not Capable (*
Local SvcFec128        : Capable        Peer SvcFec128         : Capable (R)
Local SvcFec129        : Capable        Peer SvcFec129         : Capable (R)
Local UnregNoti        : Capable        Peer UnregNoti         : Capable
Advertise              : Address/Servi*
IPv4 PfxFecOLoad Sent  : No             IPv4 PfxFecOLoad Recv  : No
IPv6 PfxFecOLoad Sent  : No             IPv6 PfxFecOLoad Recv  : No
IPv4 P2MPFecOLoad Sent : No             IPv4 P2MPFecOLoad Recv : No
IPv6 P2MPFecOLoad Sent : No             IPv6 P2MPFecOLoad Recv : No
Svc Fec128 OLoad Sent  : No             Svc Fec128 OLoad Recv  : No
Svc Fec129 OLoad Sent  : No             Svc Fec129 OLoad Recv  : No
IPv4 PfxFec EOL Sent   : Yes            IPv4 PfxFec EOL Recv   : Yes
IPv6 PfxFec EOL Sent   : No             IPv6 PfxFec EOL Recv   : No
IPv4 P2MPFec EOL Sent  : No             IPv4 P2MPFec EOL Recv  : No
IPv6 P2MPFec EOL Sent  : No             IPv6 P2MPFec EOL Recv  : No
Svc Fec128 EOL Sent    : Yes            Svc Fec128 EOL Recv    : Yes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Svc Fec129 EOL Sent    : Yes            Svc Fec129 EOL Recv    : Yes
===============================================================================
* indicates that the corresponding row element may have been truncated.
===============================================================================
LDP IPv6 Sessions (Detail)
===============================================================================
Legend:  DoD - Downstream on Demand (for address FEC's only)
         DU  - Downstream Unsolicited
         R   - Capability value received from peer
===============================================================================
No Matching Entries Found
===============================================================================
*A:SRU4# show router ldp session community RED
===============================================================================
LDP IPv4 Sessions
===============================================================================
Peer LDP Id          Adj Type  State         Msg Sent  Msg Recv  Up Time
-------------------------------------------------------------------------------
10.100.1.1:0       Link      Established   327423    256220    3d 22:03:37
10.20.1.1.1:0      Targeted  Established   219040    127266    3d 21:55:33
10.20.1.2:0        Targeted  Established   365925    407096    3d 22:38:34
10.20.1.5:0        Targeted  Established   359363    424352    3d 21:54:55
10.20.1.6:0        Both      Established   1043697   1668727   3d 21:32:17
10.20.1.9:0        Targeted  Established   507123    630800    3d 22:25:57
10.20.1.10:0       Targeted  Established   320141    269052    3d 21:34:08
10.20.1.11:0       Targeted  Established   284934    180483    3d 22:18:21
-------------------------------------------------------------------------------
No. of IPv4 Sessions: 8
===============================================================================
===============================================================================
LDP IPv6 Sessions
===============================================================================
Peer LDP Id
 Adj Type            State          Msg Sent       Msg Recv       Up Time
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
-------------------------------------------------------------------------------
Session with Peer 10.10.2.3:0, Local 10.10.2.1:0
-------------------------------------------------------------------------------
Adjacency Type         : Targeted       State                  : Established
Up Time                : 0d 00:01:16
Max PDU Length         : 4096           KA/Hold Time Remaining : 28
Link Adjacencies       : 0              Targeted Adjacencies   : 1
Local Address          : 3ffe::a0a:201  Peer Address         :   3ffe::a0a:203
Local UDP Port         : 646            Peer UDP Port          : 646
Local TCP Port         : 646            Peer TCP Port          : 646
Local KA Timeout       : 30             Peer KA Timeout        : 30
Mesg Sent              : 36             Mesg Recv              : 37
IPv4 Pfx FEC Sent      : 0              IPv4 Pfx FEC Recv      : 0
IPv6 Pfx FEC Sent      : 0              IPv6 Pfx FEC Recv      : 0
IPv4 P2MP FEC Sent     : 0              IPv4 P2MP FEC Recv     : 0
IPv6 P2MP FEC Sent     : 0              IPv6 P2MP FEC Recv     : 0
Svc Fec128 Sent        : 1              Svc Fec128 Recv        : 1
Svc Fec129 Sent        : 0              Svc Fec129 Recv        : 0
IPv4 Addrs Sent        : 3              IPv4 Addrs Recv        : 6
IPv6 Addrs Sent        : 3              IPv6 Addrs Recv        : 6
Local GR State         : Not Capable    Peer GR State          : Not Capable
Local Nbr Liveness Time: 0              Peer Nbr Liveness Time : 0
Local Recovery Time    : 0              Peer Recovery Time     : 0
Number of Restart      : 0              Last Restart Time      : Never
Label Distribution     : DU
Oper Fec Limit Thresho*: 0
Local-LSR ID advertise : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Community              :
Capabilities
Local P2MP             : Capable        Peer P2MP             : Capable
Local MP MBB           : Capable        Peer MP MBB           : Capable
Local Dynamic          : Capable        Peer Dynamic          : Capable
Local LSR Overload     : Capable        Peer LSR Overload     : Capable
Local IPv4 Pfx         : Capable        Peer IPv4 Pfx         : Capable
Local IPv6 Pfx         : Capable        Peer IPv6 Pfx         : Capable
Local SvcFec128        : Capable        Peer SvcFec128        : Capable
Local SvcFec129        : Capable        Peer SvcFec129        : Capable
Local UnregNoti        : Capable        Peer UnregNoti        : Capable
Advertise              : Service
IPv4 PfxFecOLoad Sent  : No             IPv4 PfxFecOLoad Recv  : No
IPv6 PfxFecOLoad Sent  : No             IPv6 PfxFecOLoad Recv  : No
IPv4 P2MPFecOLoad Sent : No             IPv4 P2MPFecOLoad Recv : No
IPv6 P2MPFecOLoad Sent : No             IPv6 P2MPFecOLoad Recv : No
Svc Fec128 OLoad Sent  : No             Svc Fec128 OLoad Recv  : No
Svc Fec129 OLoad Sent  : No             Svc Fec129 OLoad Recv  : No
IPv4 PfxFec EOL Sent   : No             IPv4 PfxFec EOL Recv   : No
IPv6 PfxFec EOL Sent   : No             IPv6 PfxFec EOL Recv   : No
IPv4 P2MPFec EOL Sent  : No             IPv4 P2MPFec EOL Recv  : No
IPv6 P2MPFec EOL Sent  : No             IPv6 P2MPFec EOL Recv  : No
Svc Fec128 EOL Sent    : Yes            Svc Fec128 EOL Recv    : Yes
Svc Fec129 EOL Sent    : Yes            Svc Fec129 EOL Recv    : Yes
===============================================================================
* indicates that the corresponding row element may have been truncated.




===============================================================================
*A:Dut-A# show router ldp session 3ffe::a14:106
===============================================================================
LDP IPv6 Sessions
===============================================================================
Peer LDP Id
 Adj Type            State          Msg Sent       Msg Recv       Up Time
-------------------------------------------------------------------------------
3ffe::a14:106[0]
  Targeted            Established    601            602            0d 00:53:28
-------------------------------------------------------------------------------
No. of IPv6 Sessions: 1
===============================================================================
*A:Dut-A# show router ldp session 10.20.1.2 local-addresses
===============================================================================
LDP Session Local-Addresses
===============================================================================
-------------------------------------------------------------------------------
Session with Peer 10.20.1.2:0,
             Local 10.20.1.1:0
-------------------------------------------------------------------------------
IPv4 Sent Addresses:

               10.10.1.1       10.10.2.1       10.20.1.1

IPv6 Sent Addresses:

               3ffe::a0a:101
               3ffe::a0a:201
               3ffe::a14:101
               fe80::11

IPv4 Recv Addresses:
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                10.10.1.2       10.10.3.2       10.10.4.2       10.10.12.2
                10.20.1.2

IPv6 Recv Addresses:

                3ffe::a0a:102
                3ffe::a0a:302
                3ffe::a0a:402
                3ffe::a0a:c02
                3ffe::a14:102
                fe80::12
===============================================================================
*A:Dut-A# show router ldp session 10.20.1.2 local-addresses sent

===============================================================================
LDP Session Local-Addresses
===============================================================================
-------------------------------------------------------------------------------
Session with Peer 10.20.1.2:0,
             Local 10.20.1.1:0
-------------------------------------------------------------------------------
IPv4 Sent Addresses:

                10.10.1.1       10.10.2.1       10.20.1.1

IPv6 Sent Addresses:

                3ffe::a0a:101
                3ffe::a0a:201
                3ffe::a14:101
                fe80::11
===============================================================================
*A:Dut-A# show router ldp session 10.20.1.2 local-addresses recv
===============================================================================
LDP Session Local-Addresses
===============================================================================
-------------------------------------------------------------------------------
Session with Peer 10.20.1.2:0,
             Local 10.20.1.1:0
-------------------------------------------------------------------------------
IPv4 Recv Addresses:

                10.10.1.2       10.10.3.2       10.10.4.2       10.10.12.2
                10.20.1.2

IPv6 Recv Addresses:

                3ffe::a0a:102
                3ffe::a0a:302
                3ffe::a0a:402
                3ffe::a0a:c02
                3ffe::a14:102
                fe80::12
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp session 10.20.1.2 local-addresses recv ip-
addr 3ffe::a14:102
===============================================================================
LDP Session Local-Addresses
===============================================================================
-------------------------------------------------------------------------------
Session with Peer 10.20.1.2:0,
             Local 10.20.1.1:0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
IPv6 Recv Addresses:

               3ffe::a14:102
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp session 10.20.1.2 link summary
 No. of IPv4 Sessions: 1
*A:Dut-A#


*A:Dut-A# show router ldp session link
===============================================================================
LDP IPv4 Sessions
===============================================================================
Peer LDP Id         Adj Type  State         Msg Sent  Msg Recv  Up Time
-------------------------------------------------------------------------------
10.20.1.2:0         Link      Established   1794      1796      0d 01:19:38
10.20.1.3:0         Link      Established   1792      1794      0d 01:19:33
-------------------------------------------------------------------------------
No. of IPv4 Sessions: 2
===============================================================================

===============================================================================
LDP IPv6 Sessions
===============================================================================
Peer LDP Id
 Adj Type             State          Msg Sent       Msg Recv       Up Time
-------------------------------------------------------------------------------
3ffe::a14:102[0]
  Link                Established    1788           1792           0d 01:19:19
3ffe::a14:103[0]
  Link                Established    1789           1788           0d 01:19:19
-------------------------------------------------------------------------------
No. of IPv6 Sessions: 2
===============================================================================
*A:Dut-A# show router ldp session link summary
 No. of IPv4 Sessions: 2
 No. of IPv6 Sessions: 2
*A:Dut-A#


*A:Dut-A# show router ldp session state up link

===============================================================================
LDP IPv4 Sessions
===============================================================================
Peer LDP Id         Adj Type  State         Msg Sent  Msg Recv  Up Time
-------------------------------------------------------------------------------
10.20.1.2:0         Link      Established   1805      1807      0d 01:20:08
10.20.1.3:0         Link      Established   1803      1805      0d 01:20:03
-------------------------------------------------------------------------------
No. of IPv4 Sessions: 2
===============================================================================

===============================================================================
LDP IPv6 Sessions
===============================================================================
Peer LDP Id
 Adj Type            State          Msg Sent       Msg Recv       Up Time
-------------------------------------------------------------------------------
3ffe::a14:102[0]
  Link                Established    1799           1803           0d 01:19:49
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3ffe::a14:103[0]
  Link                Established    1799           1799           0d 01:19:49
-------------------------------------------------------------------------------
No. of IPv6 Sessions: 2
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp session summary
 No. of IPv4 Sessions: 3
 No. of IPv6 Sessions: 3
*A:Dut-A#

*A:Dut-A# show router ldp session local-addresses ipv4

===============================================================================
LDP Session Local-Addresses
===============================================================================
-------------------------------------------------------------------------------
Session with Peer 10.20.1.2:0,
             Local 10.20.1.1:0
-------------------------------------------------------------------------------
IPv4 Sent Addresses:

               10.10.1.1       10.10.2.1       10.20.1.1

IPv4 Recv Addresses:

               10.10.1.2       10.10.3.2       10.10.4.2       10.10.12.2
               10.20.1.2
-------------------------------------------------------------------------------
Session with Peer 10.20.1.3:0,
             Local 10.20.1.1:0
-------------------------------------------------------------------------------
IPv4 Sent Addresses:

               10.10.1.1       10.10.2.1       10.20.1.1

IPv4 Recv Addresses:

               10.10.2.3       10.10.3.3       10.10.5.3       10.10.11.3
               10.10.12.3      10.20.1.3
-------------------------------------------------------------------------------
Session with Peer 10.20.1.6:0,
             Local 10.20.1.1:0
-------------------------------------------------------------------------------
IPv4 Sent Addresses:

               10.10.1.1       10.10.2.1       10.20.1.1

IPv4 Recv Addresses:

               10.10.9.6       10.10.10.6      10.20.1.6
-------------------------------------------------------------------------------
Session with Peer 3ffe::a14:102[0],
             Local 3ffe::a14:101[0]
-------------------------------------------------------------------------------
IPv4 Sent Addresses:

               10.10.1.1       10.10.2.1       10.20.1.1

IPv4 Recv Addresses:

               10.10.1.2       10.10.3.2       10.10.4.2       10.10.12.2
               10.20.1.2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Session with Peer 3ffe::a14:103[0],
             Local 3ffe::a14:101[0]
-------------------------------------------------------------------------------
IPv4 Sent Addresses:

               10.10.1.1       10.10.2.1       10.20.1.1

IPv4 Recv Addresses:

               10.10.2.3       10.10.3.3       10.10.5.3       10.10.11.3
               10.10.12.3      10.20.1.3
-------------------------------------------------------------------------------
Session with Peer 3ffe::a14:106[0],
             Local 3ffe::a14:101[0]
-------------------------------------------------------------------------------
IPv4 Sent Addresses:

               10.10.1.1       10.10.2.1       10.20.1.1

IPv4 Recv Addresses:

               10.10.9.6       10.10.10.6      10.20.1.6
===============================================================================
*A:Dut-A#


*A:Dut-A# show router ldp session 10.20.1.2 statistics

===============================================================================
LDP IPv4 Session Statistics
===============================================================================
Message Type                  Sent                    Received
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Session 10.20.1.2:0
-------------------------------------------------------------------------------
Hello                         1298                    1300
Keepalive                     545                     545
Init                          1                       1
Label Mapping                 5                       5
Label Request                 0                       0
Label Release                 0                       0
Label Withdraw                0                       0
Label Abort                   0                       0
Notification                  1                       1
Address                       3                       3
Address Withdraw              1                       1
Capability                    0                       0
===============================================================================
*A:Dut-A#

*A:Dut-A# show router ldp session 10.20.1.2 statistics hello
===============================================================================
LDP IPv4 Session Statistics
===============================================================================
Message Type                  Sent                    Received
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Session 10.20.1.2:0
-------------------------------------------------------------------------------
Hello                         1303                    1305
===============================================================================
*A:Dut-A# show router ldp session 10.20.1.2 statistics keepalive
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
LDP IPv4 Session Statistics
===============================================================================
Message Type                  Sent                     Received
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Session 10.20.1.2:0
-------------------------------------------------------------------------------
Keepalive                     547                      547
===============================================================================
*A:Dut-A#
```

session

Syntax

session *ip-addr* [*label-space*] [**statistics**]

session *ip-addr* [*label-space*] **overload** [**fec-type p2mp** | **prefixes sub-type** *sub-type*]

session *ip-addr*[*label-space*] **overload** [**fec-type svc-fec128** | **svc-fec129**]

Context

[Tree] (clear>router>ldp session)

Full Context

clear router ldp session

Description

This command restarts or clears statistics for LDP sessions.

Parameters

ip-address

Clears the IP address of the session

label-space

Specifies the label space identifier that the router is advertising on the interface.

Values 0 to 65535

statistics

Clears only the statistics for a session.

overload

Clears overload information.

fec-type

Clears the specified FEC type.

Values p2mp, svc-fec128, svc-fec129

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session *ip-addr*[*label-space*]

Specifies the IP address and label space identifier.

Values <ip-addr[label-spa*> : ipv4-address:label-space
ipv6-address [label-space]
label-space — [0 to 65535]

Platforms

All

session

Syntax

session *ip-addr*[*label-space*] [**connection** | **peer** | **adjacency**]

Context

[Tree] (tools>dump>router>ldp session)

Full Context

tools dump router ldp session

Description

This command dumps information for an LDP session.

Parameters

***ip-addr*[*label-space*]**

Dumps information for the specified IP address and label space identifier.

Values ip-addr[label-spa*]: ipv4-address:label-space ipv6-address[label-space]
label-space - [0 to 65535]

connection

Filters output for connection information.

peer

Filters output for peering information.

adjacency

Filters output for adjacency information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session

Syntax

session lsp-index *lsp-index* [**path-lspid** *path-lspid*] [**detail**]

session lsp-name *lsp-name* [**path-lspid** *path-lspid*] [**detail**]

session lsp-path [**detail**]

session lsp-path prefix *ip-prefix* /*prefix-length* [**src** *ip-address* /*local-link address*] [**detail**]

session sr-policy [**detail**]

session sr-policy prefix *ip-prefix* /*prefix-length* [**src** *ip-address* /*local-link address*] [**detail**]

Context

[Tree] (show>router>bfd>seamless-bfd session)

Full Context

show router bfd seamless-bfd session

Description

This command displays Seamless-BFD session information.

Parameters

lsp-index *lsp-index*

Specifies the LSP index.

Values 0 to 4294967295

path-lspid *path-lspid*

Specifies the path LSP ID.

Values 0 to 4294967295

detail

Displays detailed information.

lsp-name *lsp-name*

Displays information about the specified LSP name, up to 64 characters.

lsp-path

Keyword to display information by LSP path.

prefix

Keyword to display information by far-end prefix.

sr-policy

Keyword to display information by SR policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-prefix/prefix-length

Specifies an IP prefix for which to display Seamless-BFD session information, and the length of the prefix.

Values *ipv4-prefix* — a.b.c.d (host bits must be zero)

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

ipv6-prefix-length — 0 to 128

ip-address/link-local-address

Specifies the source IP address for which to display Seamless-BFD session information.

Values *ipv4-address* — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x[-interface]

x:x:x:x:x:x:d.d.d.d[-interface]

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

interface — mandatory for link local address, up to 32 characters

Platforms

All

Output

The following output is an example of BFD session information and Table 525: Output fields: MPLS seamless BFD session describes Seamless-BFD session output fields.

Output Example

```
# show router bfd seamless-bfd session lsp-index 70000

===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
Session Id                                        State      Tx Pkts    Rx Pkts
  Rem Addr/Info/SdpId:VcId                      Multipl     Tx Intvl   Rx Intvl
  Protocols                                        Type     LAG Port     LAG ID
-------------------------------------------------------------------------------
10.20.1.6/32                                        Up          N/A        N/A
  10.20.1.6                                          3           10         10
  mplsLsp                                       cpm-np          N/A        N/A
-------------------------------------------------------------------------------
No. of BFD sessions: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
# show router bfd seamless-bfd session lsp-name "C_F_70000"

===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
Session Id                                      State      Tx Pkts    Rx Pkts
  Rem Addr/Info/SdpId:VcId                    Multipl     Tx Intvl   Rx Intvl
  Protocols                                      Type     LAG Port     LAG ID
-------------------------------------------------------------------------------
10.20.1.6/32                                      Up          N/A        N/A
  10.20.1.6                                        3           10         10
  mplsLsp                                      cpm-np          N/A        N/A
-------------------------------------------------------------------------------
No. of BFD sessions: 1
===================================
```

The following show output displays an LSP that has BFD configured to use a controlled return path.

```
# show router bfd seamless-bfd session lsp-path detail
===============================================================================
BFD Session
===============================================================================
Prefix         : 10.20.1.6/32
Local Address  : 10.20.1.3
LSP Name       : C_F_70000
LSP Index      : 70000                    Path LSP ID      : 62976
Fec Type       : srTe
Return Path    : 454600
Oper State     : Up                       Protocols        : mplsLsp
Up Time        : 0d 00:00:12              Up Transitions   : 1
Down Time      : None                     Down Transitions : 0
                                          Version Mismatch : 0

Forwarding Information

Local Discr    : 1                        Local State      : Up
Local Diag     : 0 (None)
Local Mode     : Demand
Local Min Tx   : 1000                     Local Mult       : 3
Last Sent (ms) : 0                        Local Min Rx     : 1000
Type           : cpm-np
Remote Discr   : 524293                   Remote State     : Up
Remote Diag    : 0 (None)                 Remote Mode      : Demand
Remote Min Tx  : 1000                     Remote Mult      : 3
Remote C-flag  : 1
Last Recv (ms) : 0                        Remote Min Rx    : 3
===============================================================================
```

```
# show router bfd seamless-bfd session lsp-path prefix 10.20.1.6/32
===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Session Id                                          State      Tx Pkts    Rx Pkts
  Rem Addr/Info/SdpId:VcId                        Multipl     Tx Intvl   Rx Intvl
  Protocols                                          Type     LAG Port     LAG ID
-------------------------------------------------------------------------------
10.20.1.6/32                                          Up          N/A        N/A
  10.20.1.6                                            3           10         10
  mplsLsp                                         cpm-np          N/A        N/A
-------------------------------------------------------------------------------
No. of BFD sessions: 1
===============================================================================
# show router bfd seamless-bfd session sr-policy

===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
Session Id                                          State      Tx Pkts    Rx Pkts
  Rem Addr/Info/SdpId:VcId                        Multipl     Tx Intvl   Rx Intvl
  Protocols                                          Type     LAG Port     LAG ID
  Loc Addr
-------------------------------------------------------------------------------
10.20.1.2/32                                          Up       385488     385352
  10.20.1.2                                            3         1000       1000
  srPolicy                                       central          N/A        N/A
10.20.1.2/32                                         Down       383831     312114
  10.20.1.2                                            3         1000       1000
  srPolicy                                       central          N/A        N/A
-------------------------------------------------------------------------------
No. of BFD sessions: 1
===============================================================================
```

```
# show router bfd seamless-bfd session sr-policy prefix 10.20.1.2/32

===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
Session Id                                          State      Tx Pkts    Rx Pkts
  Rem Addr/Info/SdpId:VcId                        Multipl     Tx Intvl   Rx Intvl
  Protocols                                          Type     LAG Port     LAG ID
  Loc Addr
-------------------------------------------------------------------------------
10.20.1.2/32                                          Up       385661     385525
  10.20.1.2                                            3         1000       1000
  srPolicy                                       central          N/A        N/A
10.20.1.2/32                                         Down       384005     312114
 10.20.1.2                                             3         1000       1000
  srPolicy                                       central          N/A        N/A
-------------------------------------------------------------------------------
No. of BFD sessions: 1
===============================================================================

# show router bfd seamless-bfd session sr-policy prefix 10.20.1.2/32 detail

===============================================================================
BFD Session
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Prefix         : 10.20.1.2/32
Local Address  : 10.20.1.1
LSP Index      : 917507                    Path LSP ID      : 2
Fec Type       : srPolicy                  Hop Id           : 1
Oper State     : Up                        Protocols        : srPolicy
Recd Msgs      : 4045751                   Sent Msgs        : 4045751
Up Time        : 2d 19:25:46               Up Transitions   : 1
Down Time      : None                      Down Transitions : 0
                                           Version Mismatch : 0
Forwarding Information
Local Discr    : 1                         Local State      : Up
Local Diag     : 0 (None)
Local Mode     : Demand
Local Min Tx   : 100                       Local Mult       : 3
Last Sent      : 09/14/2020 14:36:26       Local Min Rx     : 100
Type           : central
Remote Discr   : 524288                    Remote State     : Up
Remote Diag    : 0 (None)                  Remote Mode      : Async
Remote Min Tx  : 100                       Remote Mult      : 3
Remote C-flag  : 0
Last Recv      : 09/14/2020 14:36:26       Remote Min Rx    : 3
===============================================================================
```

```
# show router bfd seamless-bfd session sr-policy detail


===============================================================================
BFD Session
===============================================================================
Prefix         : 10.20.1.2/32
Local Address  : 10.20.1.1
LSP Index      : 917514                    Path LSP ID      : 6
Fec Type       : srPolicy                  Hop Id           : 1
Oper State     : Up                        Protocols        : srPolicy
Recd Msgs      : 385423                    Sent Msgs        : 385559
Up Time        : 3d 19:13:17               Up Transitions   : 2
Down Time      : None                      Down Transitions : 1
                                           Version Mismatch : 0
Forwarding Information
Local Discr    : 23                        Local State      : Up
Local Diag     : 0 (None)
Local Mode     : Demand
Local Min Tx   : 1000                      Local Mult       : 3
Last Sent      : 07/06/2020 18:23:46       Local Min Rx     : 1000
Type           : central
Remote Discr   : 524288                    Remote State     : Up
Remote Diag    : 0 (None)                  Remote Mode      : Async
Remote Min Tx  : 1000                      Remote Mult      : 3
Remote C-flag  : 0
Last Recv      : 07/06/2020 18:23:46       Remote Min Rx    : 3
===============================================================================
Prefix         : 10.20.1.2/32
Local Address  : 10.20.1.1
LSP Index      : 917514                    Path LSP ID      : 9
Fec Type       : srPolicy                  Hop Id           : 1
Oper State     : Down                      Protocols        : srPolicy
Recd Msgs      : 312114                    Sent Msgs        : 383902
Up Time        : None                      Up Transitions   : 5
Down Time      : 0d 00:12:26               Down Transitions : 5
                                           Version Mismatch : 0
Forwarding Information
Local Discr    : 26                        Local State      : Down
Local Diag     : 1 (Detect time expired)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Local Mode     : Demand
Local Min Tx   : 1000                    Local Mult       : 3
Last Sent      : 07/06/2020 18:23:45     Local Min Rx     : 1000
Type           : central
Remote         : Unheard
===============================================================================
```

Table 525: Output fields: MPLS seamless BFD session

Label	Description
Session Id	Specifies the session ID
State	Specifies the session state (Up/Down)
Tx Pkts	Specifies the number of packets transmitted
Rx Pkts	Specifies the number of packets received
Rem Addr/Info/ SdpId:VcId	Specifies the session remote endpoint address information
Multipl	Specifies the multiplier
Tx Intvl	Specifies the transmit interval
Rx Intvl	Specifies the receive interval
Protocols	Specifies the protocol that the session is bound to
Type	Specifies the BFD type cpm-np — Specifies to use CPM network processor
LAG Port	Specifies the LAG Port
LAG ID	Specifies the LAG ID
No. of BFD sessions	Specifies the number of BFD sessions
Prefix	Specifies the prefix
Local Address	Specifies the local address
LSP Name	Specifies the LSP name
LSP Index	Specifies the LSP index
Path LSP ID	Specifies the path LSP ID
Fec Type	Specifies the FEC type
Return Path	Specifies the return path label for the S-BFD packet
Oper State	Specifies the operational state (Up/Down)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Protocols	Specifies the protocol used
Up Time	Specifies the up time
Up Transitions	Specifies the number of up transitions
Down Time	Specifies the down time
Down Transitions	Specifies the number of down transitions
Version Mismatch	Specifies the number of version mismatches
Local Discr	Specifies the local Discr information
Local State	Specifies the local state (Up/Down)
Local Diag	Specifies the local diag information
Local Mode	Specifies the local mode
Local Min Tx	Specifies the local Min Tx value
Local Mult	Specifies the local Mult value
Last Sent (ms)	Specifies the last sent forwarding information
Local Min Rx	Specifies the local Min Rx value
Type	Specifies the session endpoint type
Remote Discr	Specifies the remote Discr value
Remote State	Specifies the remote state (Up/Down)
Remote Diag	Specifies the remote diagnostic value
Remote Mode	Specifies the remote mode
Remote Min Tx	Specifies the remote minimum transmit value
Remote Mult	Specifies the remote multiplier
Remote C-flag	Specifies the remote C-flag value
Last Recv (ms)	Specifies the last received value
Remote Min Rx	Specifies the remote minimum receive value

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session

Syntax

session detail

session detail lsp-rsvp {**head** | **tail**}

session {**ipv4** | **ipv6**} **detail** [**lag** *lag-id*] **lag-port** *port-id*

session [**detail**] **lsp-ldp head**

session [**src** *ip address* | *link-local-address*] [**detail**] **lsp-ldp head prefix** *ip-prefix/prefix-length*

session [**detail**] **lsp-ldp tail**

session [**dest** {*ip-address* | *link-local-address*}] [**detail**] **lsp-ldp tail** *ip-address/link-local-address***prefix** *ip-prefix/prefix-length*

session lsp-name *lsp-name*

session lsp-rsvp {**head** | **tail**}

session src *ip-address* | *link-local-address* **dest** {*ip-address* | *link-local-address*} [**detail**] **lsp-rsvp** {**head** | **tail**} **tunnel-id** *tunnel-id* **lsp-id** *lsp-id*

session mpls-tp

session lsp-name *lsp-name* [**link-type** {**cc-only** | **cc-cv**}] **detail**

session p2mp-interface *interface-name* **detail**

session src *ip-address* | *link-local-address* **detail lsp-rsvp** {**head** | **tail**} **rsvp-session-name** *rsvp-session-name*

session [**src** *ip-address* | *link-local-address*] [{ **ipv4** | **ipv6**}]

session src *ip-address* | *link-local-address* **dest** *ip-address* | *link-local-address*

session src *ip-address* | *link-local-address* **detail**

session summary

session type *type* [**ipv4** | **ipv6**]

Context

[Tree] (show>router>bfd session)

Full Context

show router bfd session

Description

This command displays information for existing BFD sessions.

Parameters

detail

Keyword to display detailed session information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lsp-rsvp

Keyword to display the BFD sessions on RSVP LSPs.

head

Keyword to limit the output to the BFD sessions at the headend of LSPs.

tail

Keyword to limit the output to the BFD sessions at the tail end of LSPs.

ipv4

Keyword to limit the output to IPv4-based BFD sessions.

ipv6

Keyword to limit the output to IPv6-based BFD sessions.

lag-id

Displays the output for the micro-BFD sessions associated with the specified LAG ID.

port-id

Displays the output for the micro-BFD sessions associated with the specified port ID.

lsp-ldp

Keyword to display the BFD sessions on LDP LSPs.

src *ip-address*

Displays the BFD sessions with the specified source IPv4 or IPv6 addresses.

src *link-local-address*

Displays the BFD sessions with the specified source IPv6 link-local addresses.

ip-prefix/prefix-length

Displays IPv4 or IPv6 addresses of the BFD sessions.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-prefix	a.b.c.d (host bits must be 0)	
ipv4-prefix-length	0 to 32	
ipv6-prefix	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
ipv6-prefix-length	0 to 128	

dest *ip-address*

Displays the BFD sessions with the specified destination IPv4 or IPv6 addresses.

dest *link-local-address*

Displays the BFD sessions with the specified destination IPv6 link-local addresses.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lsp-name

Displays the BFD sessions associated with the specified LSP.

tunnel-id

Displays the BFD sessions associated with the specified tunnel ID.

lsp-id

Displays the BFD sessions associated with the specified LSP ID.

mpls-tp

Keyword to display the BFD sessions on MPLS-TP LSPs.

link-type

Keyword to display the link type.

Values **cc-only** – keyword to limit the output to CC BFD sessions on MPLS-TP LSPs

cc-cv – keyword to limit the output to CV BFD sessions on MPLS-TP LSPs

interface-name

Displays the BFD session for the specified interface.

rsvp-session-name

Displays the BFD session for the specified RSVP session.

summary

Keyword to display summary session information for the router.

type

Displays the BFD sessions associated with the specified type.

Values **iom** – keyword to specify the IOM BFD session

central – keyword to specify the central BFD session

cpm-np – keyword to specify the CPM network processor

Platforms

All

Output

The following outputs are examples of BFD session information:

- Output example (BFD session output showing the padded size field), Table 526: Output fields: BFD session for specific IP or IPv6 addresses
- Output example (BFD session output for a specific IPv6 source) , Table 526: Output fields: BFD session for specific IP or IPv6 addresses
- Output example (BFD session output for a specific IPv6 source and destination) , Table 526: Output fields: BFD session for specific IP or IPv6 addresses
- Output example (BFD session output for a specific IPv4 source and destination), Table 526: Output fields: BFD session for specific IP or IPv6 addresses

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output example (BFD session output for a specific tunnel and LSP) , Table 526: Output fields: BFD session for specific IP or IPv6 addresses
- Output example (BFD session output), Table 527: Output fields: BFD session
- Output example (BFD session output), Table 527: Output fields: BFD session
- Output example (BFD session with type CPM-NP) , Table 527: Output fields: BFD session
- Output example (BFD session output) , Table 527: Output fields: BFD session
- Output example (BFD session output for IPv4) , Table 528: Output fields: BFD session
- Output example (BFD session output for IPv6), Table 528: Output fields: BFD session
- Output example (BFD session output) , Table 528: Output fields: BFD session
- Output example (BFD session output) , Table 528: Output fields: BFD session
- Output example (BFD session summary), Table 529: Output fields: BFD session summary output
- Output example (BFD session detailed output), Table 530: Output fields: BFD session detailed output

Output example (BFD session output showing the padded size field)

```
A:node-2# show router bfd session src 10.120.1.4 dest 10.120.1.3
===============================================================================
BFD Session
===============================================================================
Remote Address : 10.120.1.3
Admin State    : Up                       Oper State       : Up (3)
Protocols      : static
Rx Interval    : 10                       Tx Interval      : 10
Multiplier     : 3                        Echo Interval    : 0
Padded-size    : [24-MaxMTU]
Up Time        : 1d 19:03:28              Up Transitions   : 2
Down Time      : None                     Down Transitions : 1
                                          Version Mismatch : 0
Forwarding Information
Local Discr    : 19269                    Local State      : Up (3)
Local Diag     : 0 (None)                 Local Mode       : Async
Local Min Tx   : 10                       Local Mult       : 3
Last Sent (ms) : 6                        Local Min Rx     : 10
Type           : cpm-np
Remote Discr   : 5101                     Remote State     : Up (3)
Remote Diag    : 0 (None)                 Remote Mode      : Async
Remote Min Tx  : 1000                     Remote Mult      : 3
Last Recv (ms) : 367                      Remote Min Rx    : 10
```

Output example (BFD session output for a specific IPv6 source)

```
A:node-2# show router bfd session src 3ffe::a01:102 dest 3ffe::a01:103
===============================================================================
BFD Session
===============================================================================
Remote Address : 3ffe::a01:103
Admin State    : Up                       Oper State       : Up (3)
Protocols      : static bgp
Rx Interval    : 10                       Tx Interval      : 10
Multiplier     : 3                        Echo Interval    : 0
Up Time        : 0d 07:24:54              Up Transitions   : 1
Down Time      : None                     Down Transitions : 0
                                          Version Mismatch : 0
Forwarding Information
Local Discr    : 2051                     Local State      : Up (3)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Local Diag     : 0 (None)                 Local Mode       : Async
Local Min Tx   : 10                       Local Mult       : 3
Last Sent (ms) : 5                        Local Min Rx     : 10
Type           : cpm-np
Remote Discr   : 1885                     Remote State     : Up (3)
Remote Diag    : 0 (None)                 Remote Mode      : Async
Remote Min Tx  : 10                       Remote Mult      : 3
Last Recv (ms) : 1                        Remote Min Rx    : 10
===============================================================================
```

Output example (BFD session output for a specific IPv6 source and destination)

```
A:node-2# show router bfd session src fe80::a0a:a02-port-1-10 dest fe80::a0a:a03-
port-1-10
===============================================================================
BFD Session
===============================================================================
Remote Address : 2001:db8::a0a:a03
Admin State    : Up                       Oper State       : Up (3)
Protocols      : pim isis ospf3
Rx Interval    : 10                       Tx Interval      : 10
Multiplier     : 3                        Echo Interval    : 0
Up Time        : 0d 07:10:20              Up Transitions   : 3
Down Time      : None                     Down Transitions : 2
                                          Version Mismatch : 0
Forwarding Information
Local Discr    : 42                       Local State      : Up (3)
Local Diag     : 3 (Neighbor signalled s* Local Mode       : Async
Local Min Tx   : 10                       Local Mult       : 3
Last Sent (ms) : 6                        Local Min Rx     : 10
Type           : cpm-np
Remote Discr   : 270                      Remote State     : Up (3)
Remote Diag    : 0 (None)                 Remote Mode      : Async
Remote Min Tx  : 10                       Remote Mult      : 3
Last Recv (ms) : 8                        Remote Min Rx    : 10
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output example (BFD session output for a specific IPv4 source and destination)

```
A:node-2# show router bfd session src 10.120.1.4 dest 10.120.1.3
===============================================================================
BFD Session
===============================================================================
Remote Address : 10.120.1.3
Admin State    : Up                       Oper State       : Up (3)
Protocols      : static
Rx Interval    : 10                       Tx Interval      : 10
Multiplier     : 3                        Echo Interval    : 0
Up Time        : 1d 19:03:28              Up Transitions   : 2
Down Time      : None                     Down Transitions : 1
                                          Version Mismatch : 0
Forwarding Information
Local Discr    : 19269                    Local State      : Up (3)
Local Diag     : 0 (None)                 Local Mode       : Async
Local Min Tx   : 10                       Local Mult       : 3
Last Sent (ms) : 6                        Local Min Rx     : 10
Type           : cpm-np
Remote Discr   : 5101                     Remote State     : Up (3)
Remote Diag    : 0 (None)                 Remote Mode      : Async
Remote Min Tx  : 1000                     Remote Mult      : 3
Last Recv (ms) : 367                      Remote Min Rx    : 10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Output example (BFD session output for a specific tunnel and LSP)

```
A:node-2# show router bfd session detail lsp-
rsvp head src 10.20.1.2 dest 10.20.1.5 tunnel-id 1 lsp-id 31744
===============================================================================
BFD On LSP Session
===============================================================================
Rsvp Session Name : lsp1::path1
Remote Address : 10.20.1.5
Lsp Id         : 31744                    Tunnel Id        : 1
Oper State     : Up                       Protocols        : lsp
Recd Msgs      : 240                      Sent Msgs        : 240
Up Time        : 0d 00:03:58              Up Transitions   : 1
Down Time      : None                     Down Transitions : 0
                                          Version Mismatch : 0

Forwarding Information

Local Discr    : 1                        Local State      : Up
Local Diag     : 0 (None)
Local Mode     : Async
Local Min Tx   : 1000                     Local Mult       : 3
Last Sent      : 07/28/2015 19:05:13      Local Min Rx     : 1000
Type           : central
Remote Discr   : 1                        Remote State     : Up
Remote Diag    : 0 (None)                 Remote Mode      : Async
Remote Min Tx  : 1000                     Remote Mult      : 3
Last Recv      : 07/28/2015 19:05:13      Remote Min Rx    : 1000
===============================================================================
```

Table 526: Output fields: BFD session for specific IP or IPv6 addresses

Label	Description
BFD Session	
Rsvp Session name	The RSVP session name
Remote Address	The remote address for the BFD session
Admin State	The administrative state of the BFD session
LSP Id	The LSP ID for the BFD session
Tunnel Id	The tunnel ID for the BFD session
Oper State	The operational state of the BFD session
Protocols	The protocols for the BFD session
Recd Msgs	The received messages for the BFD session
Sent Msgs	The sent messages for the BFD session

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Rx Interval	The expected interval, in milliseconds, between the received BFD messages to maintain the session
Tx Interval	The interval, in milliseconds, between the transmitted BFD messages to maintain the session
Multiplier	The integer used by BFD to declare when the neighbor is down. If a BFD control packet is not received for a period of multiplier x receive-interval (the parameter value of the **receive-interval** command), the session is declared down.
Echo Interval	The minimum echo receive interval, in milliseconds, for a session. This is not used by a BFD session for MPLS-TP.
Padded-size	The configured value from the interface level BFD settings. When unconfigured, the field displays as None.
Up Time	The uptime for the BFD session
Up Transitions	The number of up transitions for the BFD session
Down Time	The downtime for the BFD session
Down Transitions	The number of down transitions for the BFD session
Version Mismatch	Indicates if there is a version mismatch
Forwarding Information	
Local Discr	The local BFD reflector discriminator
Local State	Describes the overall current health of the BFD session: • Up – the BFD session on the local device is currently active and functioning properly • Down – the BFD session on the local device is currently down • Init – the BFD session on the local device is currently initializing
Local Diag	The diagnostic code that the local system sends to its BFD peer. This code indicates the view of the local system in relation to the health of the session or any specific event that caused a state transition.
Local Mode	The local mode: • Async – both BFD endpoints periodically send BFD control packets to each other • Demand – after the BFD session is established, BFD control packets are generally not exchange periodically • Echo – one system sends echo packets that are addressed to itself, but sent to the Layer 2 address of the next-hop node

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Local Min Tx	The local minimum transmitted BFD messages
Local Mult	The local multiplier for the BFD session
Last Sent (ms)	The last message sent for the BFD session
Local Min Rx	The local minimum received BFD messages
Type	The local termination point for the BFD session. When this shows as cpm-np, the local termination point is the CPM network processor.
Remote Discr	The remote discriminator for the BFD session
Remote State	The remote state: • Up – the BFD session on the remote device is currently active and functioning properly • Down – the BFD session on the remote device is currently down • Init – the BFD session on the remote device is currently initializing
Remote Diag	The diagnostic code that the remote BFD endpoint (peer) has sent in its BFD control packets. This tells about the state and any reported issues from the perspective of the remote system.
Remote Mode	The remote mode: • Async – both BFD endpoints periodically send BFD control packets to each other • Demand – after the BFD session is established, BFD control packets are generally not exchange periodically • Echo – one system sends echo packets that are addressed to itself, but sent to the Layer 2 address of the next-hop node
Remote Min Tx	The remote minimum transmitted BFD messages
Remote Mult	The remote multiplier for the BFD session
Last Recv (ms)	The last received BED message
Remote Min Rx	The remote minimum received BFD messages

Output example (BFD session output)

```
A:node-2# show router bfd session

===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
Session Id                                      State      Tx Pkts    Rx Pkts
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Rem Addr/Info/SdpId:VcId                        Multipl     Tx Intvl   Rx Intvl
  Protocols                                          Type     LAG Port     LAG ID
  Loc Addr
-------------------------------------------------------------------------------
10.20.1.6/32                                           Up          N/A        N/A
  10.20.1.6                                             3         1000       1000
  mplsLsp                                          cpm-np          N/A        N/A
  10.20.1.3
-------------------------------------------------------------------------------
No. of BFD sessions: 1
===============================================================================
```

Output example (BFD session output)

```
A:node-2# show router bfd session
===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
Session Id                                       State      Tx Pkts    Rx Pkts
  Rem Addr/Info/SdpId:VcId                      Multipl     Tx Intvl   Rx Intvl
  Protocols                                          Type     LAG Port     LAG ID
-------------------------------------------------------------------------------
10.20.1.6/32                                           Up          N/A        N/A
  10.20.1.6                                             3           10         10
  mplsLsp                                          cpm-np          N/A        N/A
10.20.1.6/32                                           Up          N/A        N/A
  10.20.1.6                                             3           10         10
  mplsLsp                                          cpm-np          N/A        N/A
10.20.1.6/32                                           Up          N/A        N/A
  10.20.1.6                                             3           10         10
  mplsLsp                                          cpm-np          N/A        N/A
-------------------------------------------------------------------------------
No. of BFD sessions: 3
===============================================================================
```

Output example (BFD session with type CPM-NP)

```
A:node-2# show router bfd session type cpm-np
===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
Session Id                                       State      Tx Pkts    Rx Pkts
  Rem Addr/Info/SdpId:VcId                      Multipl     Tx Intvl   Rx Intvl
  Protocols                                          Type     LAG Port     LAG ID
-------------------------------------------------------------------------------
10.20.1.6/32                                           Up          N/A        N/A
  10.20.1.6                                             3           10         10
  mplsLsp                                          cpm-np          N/A        N/A
10.20.1.6/32                                           Up          N/A        N/A
  10.20.1.6                                             3           10         10
  mplsLsp                                          cpm-np          N/A        N/A
10.20.1.6/32                                           Up          N/A        N/A
  10.20.1.6                                             3           10         10
  mplsLsp                                          cpm-np          N/A        N/A
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of BFD sessions: 3
===============================================================================
```

Output example (BFD session output)

```
A:node-2# show router bfd session
===============================================================================
Legend:
  Session Id = Interface Name | LSP Name | Prefix | RSVP Sess Name | Service Id
  wp = Working path   pp = Protecting path
===============================================================================
BFD Session
===============================================================================
Session Id                                      State      Tx Pkts    Rx Pkts
  Rem Addr/Info/SdpId:VcId                    Multipl     Tx Intvl   Rx Intvl
  Protocols                                      Type     LAG Port     LAG ID
-------------------------------------------------------------------------------
2001:db8:696a:6b6c:6d6e:6f70:7172:7374/128        Down   4111222334 3111222334   <<<
 LMB:  stub values
  N/A                                              19         1000       2000
  bgp                                           central          N/A        N/A
103.104.105.106/32                                 Init          N/A        N/A
  102.103.104.105                                  19         1000       2000
  rsvp mcIpsec bgpLsp                            cpm-np          N/A        N/A
RSVP_session_name_20__24__28__32                    Up   4111222336 3111222336
  2001:db8:6b6c:6d6e:6f70:7172:7374:7576           19         1000       2000
  mc-ring ospf3 ldpLsp                            iom          N/A        N/A
-------------------------------------------------------------------------------
No. of BFD sessions: 3
===============================================================================
```

Table 527: Output fields: BFD session

Label	Description
Session ID	The BFD session ID
Rem Addr/Info/ SdpID:VcId	The remote address or SDP ID
Protocols	The protocols used
Loc Addr	The local address for the BFD session
State	The state of the BFD session: • Up – the BFD session is currently active and functioning properly • Down – the BFD session is currently down • Init – the BFD session is currently initializing
Multipl	The integer used by BFD to declare when the neighbor is down. If a BFD control packet is not received for a period of multiplier x receive-interval (the parameter value of the **receive-interval** command), the session is declared down.
Type	The local termination point for the BFD session. When this shows as cpm-np, the local termination point is the CPM network processor.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Tx Pkts	The transmitted packets for the BFD session
Tx Interval	The transmitted interval for the BFD session
LAG Port	The LAG port for the BFD session
Rx Pkts	The received packets for the BFD session
Rx Intvl	The received interval for the BFD session
LAG ID	The LAG ID for the BFD session

Output example (BFD session output for IPv4)

```
A:node-2# show router bfd session ipv4
===============================================================================
BFD Session
===============================================================================
Interface                     State                Tx Intvl  Rx Intvl  Multipl
  Remote Address              Protocols            Tx Pkts   Rx Pkts   Type
-------------------------------------------------------------------------------
port-1-1                      Up (3)               500       500       3
   10.1.1.3                   pim isis             51532     51279     iom
port-1-2                      Up (3)               500       500       3
   10.2.1.3                   pim isis             51529     51279     iom
port-1-3                      Up (3)               500       500       3
   10.3.1.3                   pim isis             51529     51279     iom
port-1-4                      Up (3)               500       500       3
   10.4.1.3                   pim isis             51529     51279     iom
port-1-5                      Up (3)               500       500       3
   10.5.1.3                   pim isis             51529     51279     iom
port-1-6                      Up (3)               500       500       3
   10.6.1.3                   pim isis             51529     51279     iom
...
===============================================================================
```

Output example (BFD session output for IPv6)

```
A:node-2# show router bfd session ipv6
===============================================================================
BFD Session
===============================================================================
Interface                     State                Tx Intvl  Rx Intvl  Multipl
  Remote Address              Protocols            Tx Pkts   Rx Pkts   Type
-------------------------------------------------------------------------------
port-1-1                      Up (3)               10        10        3
   3ffe::a01:103              static bgp           N/A       N/A       cpm-np
port-1-1                      Up (3)               10        10        3
   fe80::a0a:a03              pim isis ospf3       N/A       N/A       cpm-np
port-1-2                      Up (3)               10        10        3
   3ffe::a02:103              static bgp           N/A       N/A       cpm-np
port-1-2                      Up (3)               10        10        3
   fe80::a0a:a03              pim isis ospf3       N/A       N/A       cpm-np
port-1-3                      Up (3)               10        10        3
   3ffe::a03:103              static bgp           N/A       N/A       cpm-np
port-1-3                      Up (3)               10        10        3
   fe80::a0a:a03              pim isis ospf3       N/A       N/A       cpm-np
port-1-4                      Up (3)               10        10        3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
   3ffe::a04:103              static bgp            N/A       N/A       cpm-np
port-1-4                      Up (3)                10        10        3
...
===============================================================================
```

Output example (BFD session)

```
A:node-2# show router 3 bfd session
===============================================================================
BFD Session
===============================================================================
Interface                     State                 Tx Intvl  Rx Intvl  Multipl
  Remote Address              Protocols             Tx Pkts   Rx Pkts   Type
-------------------------------------------------------------------------------
ies-3-10.1.3.3                Up (3)                10        10        3
   10.1.3.2                   ospf2                 N/A       N/A       cpm-np
ies-3-10.1.4.3                Up (3)                100       100       3
   10.1.4.2                   pim                   455       464       iom
-------------------------------------------------------------------------------
No. of BFD sessions: 2
===============================================================================
```

Output example (BFD session)

```
A:node-2# show router bfd session
===============================================================================
BFD Session
===============================================================================
Interface/Lsp Name            State                 Tx Intvl  Rx Intvl  Multipl
  Remote Address/Info         Protocols             Tx Pkts   Rx Pkts   Type
-------------------------------------------------------------------------------
wp::lsp-32                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-33                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-34                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-35                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-36                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-37                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-38                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-39                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-40                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
wp::lsp-41                    Down (1)              1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
pp::lsp-32                    Up (3)                1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
pp::lsp-33                    Up (3)                1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
pp::lsp-34                    Up (3)                1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
pp::lsp-35                    Up (3)                1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
pp::lsp-36                    Up (3)                1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
pp::lsp-37                    Up (3)                1000      1000      3
    0::0.0.0.0                mplsTp                N/A       N/A       cpm-np
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
pp::lsp-38                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-39                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-40                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
pp::lsp-41                    Up (3)               1000      1000      3
    0::0.0.0.0                mplsTp               N/A       N/A       cpm-np
-------------------------------------------------------------------------------
No. of BFD sessions: 20
-------------------------------------------------------------------------------
wp = Working path   pp = Protecting path
===============================================================================
```

Table 528: Output fields: BFD session

Label	Description
Interface	The interface for the BFD session
Remote Address	The remote address for the BFD session
State	The state of the BFD session: • Up – the BFD session is currently active and functioning properly • Down – the BFD session is currently down • Init – the BFD session is currently initializing
Protocols	The protocols for the BFD session
Tx Intvl	The transmitted interval for the BFD session
Tx Pkts	The transmitted packets for the BFD session
Rx Intvl	The received interval for the BFD session
Rx Pkts	The received packets for the BFD session
Multipl	The integer used by BFD to declare when the neighbor is down. If a BFD control packet is not received for a period of multiplier x receive-interval (the parameter value of the **receive-interval** command), the session is declared down.
Type	The local termination point for the BFD session. When this shows as cpm-np, the local termination point is the CPM network processor.

Output example (BFD session summary)

```
A:node-2# show router bfd session summary
============================
BFD Session Summary
============================
Termination    Session Count
----------------------------
central                   0
cpm-np                    3
iom, slot 1               0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
iom, slot 2                0
iom, slot 3                0
iom, slot 4                0
iom, slot 5                0
iom, slot 6                0
Total                      3
============================
```

Table 529: Output fields: BFD session summary output

Label	Description
Termination	The termination point of the BFD session
Session Count	The session count for the BFD session

Output example (BFD session detailed output)

```
A:node-2#  show router bfd seamless-bfd session lsp-path detail
===============================================================================
BFD Session
===============================================================================
Prefix         : 10.20.1.6/32
Local Address  : 10.20.1.3
LSP Name       : C_F_70001
LSP Index      : 70001                    Path LSP ID      : 62464
Fec Type       : srTe
Oper State     : Up                       Protocols        : mplsLsp
Up Time        : 0d 15:10:06              Up Transitions   : 1
Down Time      : None                     Down Transitions : 0
                                          Version Mismatch : 0
Forwarding Information
Local Discr    : 42                       Local State      : Up
Local Diag     : 0 (None)
Local Mode     : Demand
Local Min Tx   : 10                       Local Mult       : 3
Last Sent (ms) : 0                        Local Min Rx     : 10
Type           : cpm-np
Remote Discr   : 524293                   Remote State     : Up
Remote Diag    : 0 (None)                 Remote Mode      : Async
Remote Min Tx  : 10                       Remote Mult      : 3
Last Recv (ms) : 0                        Remote Min Rx    : 3
===============================================================================
Prefix         : 10.20.1.6/32
Local Address  : 10.20.1.3
LSP Name       : C_F_70001
LSP Index      : 70001                    Path LSP ID      : 62466
Fec Type       : srTe
Oper State     : Up                       Protocols        : mplsLsp
Up Time        : 0d 15:10:06              Up Transitions   : 1
Down Time      : None                     Down Transitions : 0
                                          Version Mismatch : 0
Forwarding Information
Local Discr    : 43                       Local State      : Up
Local Diag     : 0 (None)
Local Mode     : Demand
Local Min Tx   : 10                       Local Mult       : 3
Last Sent (ms) : 0                        Local Min Rx     : 10
Type           : cpm-np
Remote Discr   : 524293                   Remote State     : Up
Remote Diag    : 0 (None)                 Remote Mode      : Async
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Remote Min Tx  : 10                       Remote Mult      : 3
Last Recv (ms) : 0                        Remote Min Rx    : 3
===============================================================================
Prefix         : 10.20.1.6/32
Local Address  : 10.20.1.3
LSP Name       : C_F_70001
LSP Index      : 70001                    Path LSP ID      : 62468
Fec Type       : srTe
Oper State     : Up                       Protocols        : mplsLsp
Up Time        : 0d 15:09:26              Up Transitions   : 1
Down Time      : None                     Down Transitions : 0
                                          Version Mismatch : 0
Forwarding Information
Local Discr    : 44                       Local State      : Up
Local Diag     : 0 (None)
Local Mode     : Demand
Local Min Tx   : 10                       Local Mult       : 3
Last Sent (ms) : 0                        Local Min Rx     : 10
Type           : cpm-np
Remote Discr   : 524293                   Remote State     : Up
Remote Diag    : 0 (None)                 Remote Mode      : Async
Remote Min Tx  : 10                       Remote Mult      : 3
Last Recv (ms) : 0                        Remote Min Rx    : 3
===============================================================================
```

Table 530: Output fields: BFD session detailed output

Label	Description
Interface	The prefix for the BFD session
Local Address	The local address for the BFD session
LSP Name	The LSP name for the BFD session
LSP Index	The LSP index for the BFD session
Path LSP ID	The path LSP ID for the BFD session
Fec Type	The FEC type for the BFD session
Oper State	The operational state of the BFD session: • Up – the BFD session is currently active and functioning properly • Down – the BFD session is currently down • Init – the BFD session is currently initializing
Protocols	The protocols for the BFD session
Up Time	The uptime for the BFD session
Up Transitions	The up transitions for the BFD session
Down Time	The downtime for the BFD sessions
Down Transitions	The down transitions for the BFD session
Version Mismatch	Indicates if there is a version mismatch

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Forwarding Information	
Local Discr	The local BFD reflector discriminator
Local State	Describes the overall current health of the BFD session: • Up – the BFD session on the local device is currently active and functioning properly • Down – the BFD session on the local device is currently down • Init – the BFD session on the local device is currently initializing
Local Diag	The diagnostic code that the local system sends to its BFD peer. This code indicates the view of the local system in relation to the health of the session or any specific event that caused a state transition.
Local Mode	The local mode: • Async – both BFD endpoints periodically send BFD control packets to each other • Demand – after the BFD session is established, BFD control packets are generally not exchange periodically • Echo – one system sends echo packets that are addressed to itself, but sent to the Layer 2 address of the next-hop node
Local Min Tx	The local minimum transmitted BFD messages
Local Mult	The local multiplier for the BFD session
Last Sent (ms)	The last message sent
Local Min Rx	The local minimum received BFD messages
Type	The local termination point for the BFD session. When this shows as cpm-np, the local termination point is the CPM network processor.
Remote Discr	The remote discriminator for the BFD session
Remote State	The remote state: • Up – the BFD session on the remote device is currently active and functioning properly • Down – the BFD session on the remote device is currently down • Init – the BFD session on the remote device is currently initializing
Remote Diag	The diagnostic code that the remote BFD endpoint (peer) has sent in its BFD control packets. This tells about the state and any reported issues from the perspective of the remote system.
Remote Mode	The remote mode: • Async – both BFD endpoints periodically send BFD control packets to each other

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• Demand – after the BFD session is established, BFD control packets are generally not exchange periodically • Echo – one system sends echo packets that are addressed to itself, but sent to the Layer 2 address of the next-hop node
Remote Min Tx	The remote minimum transmitted BFD messages
Remote Mult	The remote multiplier
Last Recv (ms)	The last received BED message
Remote Min Rx	The remote minimum received BFD messages

session

Syntax

session [*session-type*] [**from** *ip-address* [**to** *ip-address*] [**lsp-name** *session-name*] [**status** {**up** | **down**}] [**detail**] [**interface** *ip-int-name*]

Context

[Tree] (show>router>rsvp session)

Full Context

show router rsvp session

Description

This command shows RSVP session information.

Parameters

session-type

Specifies the session type.

Values originate, transit, terminate, detour, detour-transit, detour-terminate, bypass-tunnel

from ip-address

Specifies the IP address of the originating router.

to ip-address

Specifies the IP address of the egress router.

session-name

Specifies the name, up to 160 characters in length, of the LSP used in the path. "*" can be used as a wildcard character.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

status up

Specifies to display a session that is operationally up.

status down

Specifies to display a session that is operationally down.

detail

Displays detailed information.

ip-int-name

Specifies the name of an existing MPLS interface.

If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

The **interface** option filters the display to include all RSVP sessions that use this interface name as "In Interface" or as "Out Interface".

Platforms

All

Output

The following output is an example of RSVP session information.

Table 531: Output fields: RSVP session describes RSVP session output fields.

Table 531: Output fields: RSVP session

Label	Description
From	The IP address of the originating router.
To	The IP address of the egress router.
Tunnel ID	The IP address of the tunnel's ingress node supporting this RSVP session.
LSP ID	The ID assigned by the agent to this RSVP session.
Name	The administrative name assigned to the RSVP session by the agent.
State	Down — The operational state of this RSVP session is down. Up — The operational state of this RSVP session is up.

Output Example

```
*A:SRU4>show>router>rsvp#   session
===============================================================================
RSVP Sessions
===============================================================================
From            To              Tunnel LSP   Name                          State
                                ID     ID
-------------------------------------------------------------------------------
10.30.1.5      10.30.1.4       18     27648 b4-1::b4-1                   Up
10.30.1.5      10.30.1.4       1      37902 gsr::gsr                     Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
10.30.1.5      10.20.1.22      11     53760 to_10_20_1_22_cspf::to_10_2* Up
10.30.1.4      10.20.1.20      146    17920 to_10_20_1_20_cspf_3::to_10* Up
10.30.1.4      10.20.1.20      145    34816 to_10_20_1_20_cspf_2::to_10* Up
10.30.1.4      10.20.1.20      147    45056 to_10_20_1_20_cspf_4::to_10* Up
10.30.1.4      10.20.1.20      148    6656  to_10_20_1_20_cspf_5::to_10* Up
10.30.1.4      10.20.1.20      149    58880 to_10_20_1_20_cspf_6::to_10* Up
10.30.1.4      10.20.1.20      150    13312 to_10_20_1_20_cspf_7::to_10* Up
10.30.1.4      10.20.1.20      152    40448 to_10_20_1_20_cspf_9::to_10* Up
10.30.1.4      10.20.1.20      154    27648 to_10_20_1_20_cspf_11::to_1* Up
10.30.1.4      10.20.1.20      155    12288 to_10_20_1_20_cspf_12::to_1* Up
10.30.1.4      10.20.1.20      151    46080 to_10_20_1_20_cspf_8::to_10* Up
10.30.1.4      10.20.1.20      153    512   to_10_20_1_20_cspf_10::to_1* Up
10.30.1.4      10.20.1.22      164    62464 to_10_20_1_22_cspf_2::to_10* Up
10.30.1.4      10.20.1.20      156    37888 to_10_20_1_20_cspf_13::to_1* Up
10.30.1.4      10.20.1.20      157    24064 to_10_20_1_20_cspf_14::to_1* Up
10.30.1.4      10.20.1.20      158    19968 to_10_20_1_20_cspf_15::to_1* Up
10.30.1.4      10.20.1.20      161    59904 to_10_20_1_20_cspf_18::to_1* Up
...
10.30.1.3      10.30.1.4       54     23088 to_10_30_1_4_cspf_4::to_11*  Up
-------------------------------------------------------------------------------
Sessions : 1976
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:SRU4>show>router>rsvp#


A:ALA-12# show router rsvp session lsp-name A_C_2::A_C_2 status up
===============================================================================
RSVP Sessions
===============================================================================
From            To              Tunnel LSP   Name                        State
                                ID     ID
-------------------------------------------------------------------------------
10.20.1.1       10.20.1.3       2      40    A_C_2::A_C_2                Up
-------------------------------------------------------------------------------
Sessions : 1
===============================================================================
A:ALA-12#


A:Phoenix 199# show router rsvp session detail
===============================================================================
RSVP Sessions (Detailed)
===============================================================================
-------------------------------------------------------------------------------
LSP : From Reno to Atlanta RSVP-TE::primary_empty
-------------------------------------------------------------------------------
From            : 192.168.48.194         To             : 192.168.48.224
Tunnel ID       : 4                      LSP ID         : 26682
Style           : SE                     State          : Up
Session Type    : Transit
In Interface    : 1/1/1                  Out Interface  : 1/1/7
In IF Name      : toSim194
Out IF Name     : toSim184
In Label        : 262126                 Out Label      : 262128
Previous Hop    : 10.202.5.194           Next Hop       : 10.0.13.184
SetupPriority   : 7                      Hold Priority  : 0
Class Type      : 0
SubGrpOrig ID   : 0                      SubGrpOrig Addr:
P2MP ID         : 0
FrrAvailType    : Facility
FrrBypassLspName: bypass-link10.0.13.184-61452
FrrSrlgStrict   : N/A                    SrlgDisjoint   : N/A
Path Recd       : 22859                  Path Sent      : 22813
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Resv Recd       : 22891                 Resv Sent      : 22848
Summary msgs    :
SPath Recd      : 0                     SPath Sent     : 0
SResv Recd      : 0                     SResv Sent     : 0
LSP Attr Flags  : N/A
-------------------------------------------------------------------------------
LSP : From Reno to Atlanta RSVP-TE::secondary_empty
-------------------------------------------------------------------------------
From            : 192.168.48.194        To             : 192.168.48.224
Tunnel ID       : 4                     LSP ID         : 26684
Style           : SE                    State          : Up
Session Type    : Transit
In Interface    : 1/1/2                 Out Interface  : 1/1/7
In IF Name      : toSim219
Out IF Name     : toSim184
In Label        : 262130                Out Label      : 262132
Previous Hop    : 10.202.1.219          Next Hop       : 10.0.13.184
SetupPriority   : 7                     Hold Priority  : 0
Class Type      : 0
SubGrpOrig ID   : 0                     SubGrpOrig Addr:
P2MP ID         : 0
FrrAvailType    : N/A
FrrSrlgStrict   : N/A                   SrlgDisjoint   : N/A
Path Recd       : 22762                 Path Sent      : 24117
Resv Recd       : 22870                 Resv Sent      : 22781
Summary msgs    :
SPath Recd      : 0                     SPath Sent     : 0
SResv Recd      : 0                     SResv Sent     : 0
LSP Attr Flags  : N/A
-------------------------------------------------------------------------------
LSP : bypass-link10.202.5.199-61877
-------------------------------------------------------------------------------
From            : 192.168.48.194        To             : 10.202.1.199
Tunnel ID       : 61877                 LSP ID         : 16
Style           : FF                    State          : Up
Session Type    : Terminate
In Interface    : 1/1/2                 Out Interface  : n/a
In IF Name      : toSim219
Out IF Name     : n/a
In Label        : 262125                Out Label      : n/a
Previous Hop    : 10.202.1.219          Next Hop       : n/a
SetupPriority   : 7                     Hold Priority  : 0
Class Type      : 0
SubGrpOrig ID   : 0                     SubGrpOrig Addr:
P2MP ID         : 0
FrrAvailType    : N/A
FrrSrlgStrict   : N/A                   SrlgDisjoint   : N/A
Path Recd       : 22901                 Path Sent      : 0
Resv Recd       : 0                     Resv Sent      : 22749
Summary msgs    :
SPath Recd      : 0                     SPath Sent     : 0
SResv Recd      : 0                     SResv Sent     : 0
LSP Attr Flags  : N/A
-------------------------------------------------------------------------------
LSP : bypass-link10.0.13.184-61452
-------------------------------------------------------------------------------
From            : 192.168.48.199        To             : 10.0.3.184
Tunnel ID       : 61452                 LSP ID         : 24
Style           : FF                    State          : Up
Session Type    : Bypass Tunnel
In Interface    : n/a                   Out Interface  : 1/1/3
In IF Name      : n/a
Out IF Name     : toSim185
In Label        : n/a                   Out Label      : 262126
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Previous Hop    : n/a                   Next Hop       : 10.0.5.185
SetupPriority   : 7                     Hold Priority  : 0
Class Type      : 0
SubGrpOrig ID   : 0                     SubGrpOrig Addr:
P2MP ID         : 0
FrrAvailType    : N/A
FrrSrlgStrict   : N/A                   SrlgDisjoint   : N/A
Path Recd       : 0                     Path Sent      : 23423
Resv Recd       : 22912                 Resv Sent      : 0
Summary msgs    :
SPath Recd      : 0                     SPath Sent     : 0
SResv Recd      : 0                     SResv Sent     : 0
LSP Attr Flags  : N/A
===============================================================================
A:Phoenix 199#


A:Phoenix 199# show router rsvp session interface toSim219 detail
===============================================================================
RSVP Sessions (Detailed)
===============================================================================
-------------------------------------------------------------------------------
LSP : From Reno to Atlanta RSVP-TE::secondary_empty
-------------------------------------------------------------------------------
From            : 192.168.48.194        To             : 192.168.48.224
Tunnel ID       : 4                     LSP ID         : 26684
Style           : SE                    State          : Up
Session Type    : Transit
In Interface    : 1/1/2                 Out Interface  : 1/1/7
In IF Name      : toSim219
Out IF Name     : toSim184
In Label        : 262130                Out Label      : 262132
Previous Hop    : 10.202.1.219          Next Hop       : 10.0.13.184
SetupPriority   : 7                     Hold Priority  : 0
Class Type      : 0
SubGrpOrig ID   : 0                     SubGrpOrig Addr:
P2MP ID         : 0
FrrAvailType    : N/A
FrrSrlgStrict   : N/A                   SrlgDisjoint   : N/A
Path Recd       : 22768                 Path Sent      : 24124
Resv Recd       : 22876                 Resv Sent      : 22789
Summary msgs    :
SPath Recd      : 0                     SPath Sent     : 0
SResv Recd      : 0                     SResv Sent     : 0
LSP Attr Flags  : N/A
-------------------------------------------------------------------------------
LSP : bypass-link10.202.5.199-61877
-------------------------------------------------------------------------------
From            : 192.168.48.194        To             : 10.202.1.199
Tunnel ID       : 61877                 LSP ID         : 16
Style           : FF                    State          : Up
Session Type    : Terminate
In Interface    : 1/1/2                 Out Interface  : n/a
In IF Name      : toSim219
Out IF Name     : n/a
In Label        : 262125                Out Label      : n/a
Previous Hop    : 10.202.1.219          Next Hop       : n/a
SetupPriority   : 7                     Hold Priority  : 0
Class Type      : 0
SubGrpOrig ID   : 0                     SubGrpOrig Addr:
P2MP ID         : 0
FrrAvailType    : N/A
FrrSrlgStrict   : N/A                   SrlgDisjoint   : N/A
Path Recd       : 22906                 Path Sent      : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Resv Recd       : 0                     Resv Sent      : 22756
Summary msgs    :
SPath Recd      : 0                     SPath Sent     : 0
SResv Recd      : 0                     SResv Sent     : 0
LSP Attr Flags  : N/A
===============================================================================


*A:Dut-C# show router mpls lsp transit detail
===============================================================================
MPLS LSPs (Transit) (Detail)
-------------------------------------------------------------------------------
LSP tof1::sec2
-------------------------------------------------------------------------------
From                : 10.20.1.2             To            : 10.20.1.4
State               : Up
SetupPriority       : 5                     Hold Priority : 5
Class Type          : 5
In Interface        : lag-1:0               In Label      : 131068
Out Interface       : 2/1/2                 Out Label     : 131068
Previous Hop        : 10.10.12.2            Next Hop      : 10.10.11.4
Reserved BW         : 1000 Kbps
===============================================================================
*A:Dut-C#


*A:Dut-B# show router rsvp session detour-terminate detail
===============================================================================
RSVP Sessions (Detailed)
===============================================================================
LSP : tof878::1_detour
-------------------------------------------------------------------------------
From           : 10.20.1.2              To             : 10.20.1.4
Tunnel ID      : 878                    LSP ID         : 14929
Style          : SE                     State          : Up
Session Type   : Terminate (Detour)
In Interface   : lag-1:0                Out Interface  : 1/1/2:8
In Label       : 131069                 Out Label      : 127951
Previous Hop   : 10.10.12.3             Next Hop       : 10.10.108.4
SetupPriority  : 4                      Hold Priority  : 4
Class Type     : 5
SugGrpOrig ID  : 0                      SubGrpOrig Addr: 0.0.0.0
P2MP ID        : 0

Path Recd      : 128                    Path Sent      : 0
Resv Recd      : 125                    Resv Sent      : 124

Summary messages:
SPath Recd     : 0                      SPath Sent     : 0
SResv Recd     : 0                      SResv Sent     : 0
===============================================================================
*A:Dut-B#

*A:Dut-B# show router rsvp session bypass-tunnel detail
===============================================================================
RSVP Sessions (Detailed)
===============================================================================
LSP : bypass-link10.10.108.4
-------------------------------------------------------------------------------
From           : 10.20.1.2              To             : 10.10.109.4
Tunnel ID      : 4003                   LSP ID         : 6
Style          : FF                     State          : Up
Session Type   : Bypass Tunnel
In Interface   : n/a                    Out Interface  : 1/1/2:9
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
In Label       : n/a                    Out Label      : 124069
Previous Hop   : n/a                    Next Hop       : 10.10.109.4
SetupPriority  : 7                      Hold Priority  : 0
Class Type     : 0
SugGrpOrig ID  : 0                      SubGrpOrig Addr: 0.0.0.0
P2MP ID        : 0

Path Recd      : 0                      Path Sent      : 3
Resv Recd      : 4                      Resv Sent      : 0

Summary messages:
SPath Recd     : 0                      SPath Sent     : 0
SResv Recd     : 0                      SResv Sent     : 0
===============================================================================
*A:Dut-B#


*A:Dut-B# show router rsvp session detour detail
===============================================================================
RSVP Sessions (Detailed)
-------------------------------------------------------------------------------
LSP : tof919::1_detour
-------------------------------------------------------------------------------
From           : 10.20.1.2              To             : 10.20.1.4
Tunnel ID      : 919                    LSP ID         : 15441
Style          : SE                     State          : Up
Session Type   : Originate (Detour)
In Interface   : n/a                    Out Interface  : 1/1/2:1
In Label       : n/a                    Out Label      : 129865
Previous Hop   : n/a                    Next Hop       : 10.10.101.4
SetupPriority  : 4                      Hold Priority  : 4
Class Type     : 5
SugGrpOrig ID  : 0                      SubGrpOrig Addr: 0.0.0.0
P2MP ID        : 0

Path Recd      : 0                      Path Sent      : 106
Resv Recd      : 113                    Resv Sent      : 0

Summary messages:
SPath Recd     : 0                      SPath Sent     : 0
SResv Recd     : 0                      SResv Sent     : 0
===============================================================================
*A:Dut-B#


*A:Dut-B# show router rsvp session detour-transit detail
===============================================================================
RSVP Sessions (Detailed)
-------------------------------------------------------------------------------
LSP : tof919::1_detour
-------------------------------------------------------------------------------
From           : 10.20.1.2              To             : 10.20.1.4
Tunnel ID      : 919                    LSP ID         : 15441
Style          : SE                     State          : Up
Session Type   : Transit (Detour)
In Interface   : lag-1:0                Out Interface  : 1/1/2:6
In Label       : 131071                 Out Label      : 127952
Previous Hop   : 10.10.12.3             Next Hop       : 10.10.106.4
SetupPriority  : 4                      Hold Priority  : 4
Class Type     : 5
SugGrpOrig ID  : 0                      SubGrpOrig Addr: 0.0.0.0
P2MP ID        : 0

Path Recd      : 119                    Path Sent      : 123
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Resv Recd      : 121                    Resv Sent      : 120

Summary messages:
SPath Recd     : 0                      SPath Sent     : 0
SResv Recd     : 0                      SResv Sent     : 0
===============================================================================
*A:Dut-B#


*A:Dut-B# show router rsvp session detour-terminate detail
===============================================================================
RSVP Sessions (Detailed)
-------------------------------------------------------------------------------
LSP : tof878::1_detour
-------------------------------------------------------------------------------
From           : 10.20.1.2              To             : 10.20.1.4
Tunnel ID      : 878                    LSP ID         : 14929
Style          : SE                     State          : Up
Session Type   : Terminate (Detour)
In Interface   : lag-1:0                Out Interface  : 1/1/2:8
In Label       : 131069                 Out Label      : 127951
Previous Hop   : 10.10.12.3             Next Hop       : 10.10.108.4
SetupPriority  : 4                      Hold Priority  : 4
Class Type     : 5
SugGrpOrig ID  : 0                      SubGrpOrig Addr: 0.0.0.0
P2MP ID        : 0

Path Recd      : 128                    Path Sent      : 0
Resv Recd      : 125                    Resv Sent      : 124

Summary messages:
SPath Recd     : 0                      SPath Sent     : 0
SResv Recd     : 0                      SResv Sent     : 0
===============================================================================
*A:Dut-B#


*A:Dut-B# show router rsvp session bypass-tunnel detail
===============================================================================
RSVP Sessions (Detailed)
-------------------------------------------------------------------------------
LSP : bypass-link10.10.108.4
-------------------------------------------------------------------------------
From           : 10.20.1.2              To             : 10.10.109.4
Tunnel ID      : 4003                   LSP ID         : 6
Style          : FF                     State          : Up
Session Type   : Bypass Tunnel
In Interface   : n/a                    Out Interface  : 1/1/2:9
In Label       : n/a                    Out Label      : 124069
Previous Hop   : n/a                    Next Hop       : 10.10.109.4
SetupPriority  : 7                      Hold Priority  : 0
Class Type     : 0
SugGrpOrig ID  : 0                      SubGrpOrig Addr: 0.0.0.0
P2MP ID        : 0

Path Recd      : 0                      Path Sent      : 3
Resv Recd      : 4                      Resv Sent      : 0

Summary messages:
SPath Recd     : 0                      SPath Sent     : 0
SResv Recd     : 0                      SResv Sent     : 0
===============================================================================
*A:Dut-B#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session

Syntax

session src-ip *ip-address* **dst-ip** *ip-address*

Context

[Tree] (clear>router>bfd session)

Full Context

clear router bfd session

Description

This command clears BFD sessions.

Parameters

src-ip ***ip-address***

Specifies the address of the local endpoint of this BFD session.

dst-ip ***ip-address***

Specifies the address of the remote endpoint of this BFD session.

Platforms

All

session

Syntax

session all

session client *srcAddr*

Context

[Tree] (clear>video>id session)

Full Context

clear video id session

Description

This command clears session information.

Parameters

all

Clears all sessions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

client *srcAddr*

Clears information for the client source address.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

session

Syntax

session all [**rt-server**] [**fcc-server**]

session client *srcAddr* [**rt-server**] [**fcc-server**]

Context

[Tree] (clear>video>statistics>id session)

Full Context

clear video statistics id session

Description

This command clears video statistics for a particular channel.

Parameters

all

Clears statistics for all sessions.

rt-server

Clears all RET server related statistics.

fcc-server

Clears all FCC server related statistics.

client *srcAddr*

Clears statistics for the specified source address.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

session

Syntax

session *session-name* [{**all** | **base** | **bin-group** | **event-mon** | **meas-interval**}]

Context

[Tree] (show>oam-pm session)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show oam-pm session

Description

This command displays the configuration and status information for an OAM-PM session.

Parameters

session-name

Specifies the session name, up to 32 characters.

all

Keyword to display all attributes.

base

Keyword to display the base configuration option for the session.

bin-group

Keyword to display the associated bin group and its attributes.

event-mon

Keyword to display event monitoring and last TCA.

meas-interval

Keyword to display event monitoring and last TCA.

Platforms

All

Output

The following outputs are examples of OAM-PM configuration information, and the associated table describes the output fields:

- OAM-PM all configuration information, Table 532: Output fields: OAM-PM configuration information
- OAM-PM base configuration information, Table 532: Output fields: OAM-PM configuration information
- OAM-PM bin-group configuration information, Table 532: Output fields: OAM-PM configuration information
- OAM-PM meas-interval configuration information, Table 532: Output fields: OAM-PM configuration information
- OAM-PM specific session configuration information, Table 532: Output fields: OAM-PM configuration information

Output example: OAM-PM all configuration information

```
A:node-2# show oam-pm session "vpls1000-PM-YL4-1/1/9:1000.1000" all
-------------------------------------------------------------------------------
Basic Session Configuration
-------------------------------------------------------------------------------
Session Name      : vpls1000-PM-YL4-1/1/9:1000.1000
Description       : (Not Specified)
Test Family       : ethernet            Session Type       : proactive
Bin Group         : 3
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Ethernet Configuration
-------------------------------------------------------------------------------
Source MEP        : 30                Priority          : 7 (FC : nc)
Source Domain     : 14                Dest MAC Address  : 00:00:00:00:00:32
Source Assoc'n    : 1000              Remote MEP        : none
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
DMM Test Configuration and Status
-------------------------------------------------------------------------------
Test ID           : 10001             Admin State       : Up
Oper State        : Up                Data TLV Size     : 0 octets
On-Demand Duration: Not Applicable    On-Demand Remaining: Not Applicable
Interval          : 1000 ms
Detectable Tx Err : none
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SLM Test Configuration and Status
-------------------------------------------------------------------------------
Test ID           : 10001             Admin State       : Up
Oper State        : Up                Data TLV Size     : 0 octets
On-Demand Duration: Not Applicable    On-Demand Remaining: Not Applicable
Interval          : 100 ms
CHLI Threshold    : 4 HLIs            Frames Per Delta-T : 10 SLM frames
Consec Delta-Ts   : 10                FLR Threshold     : 50%
HLI Force Count   : no
Detectable Tx Err : none
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
5-mins Measurement Interval Configuration
-------------------------------------------------------------------------------
Duration          : 5-mins            Intervals Stored  : 32
Boundary Type     : clock-aligned     Clock Offset      : 0 seconds
Accounting Policy : none              Event Monitoring  : enabled
Delay Event Mon   : enabled           Loss Event Mon    : enabled
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Configured Lower Bounds for Delay Tests, in microseconds
-------------------------------------------------------------------------------
Group Description                   Admin Bin     FD(us)    FDR(us)   IFDV(us)
-------------------------------------------------------------------------------
3                                   Up   0          0         0          0
                                         1          1       500        250
                                         2        500      1000        500
                                         3       1000      1500       1000
                                         4       2000      2000       1500
                                         5       3000      2500       2000
                                         6       4000      3000       2500
                                         7       5000      3500       3000
                                         8       5500      4000       3500
                                         9       6500      4500       4000
-------------------------------------------------------------------------------

---------------------------------------
Bins Excluded from Average
---------------------------------------
Bin Type     Direction           Bins
---------------------------------------
FD          round-trip            0,9
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------

-------------------------------------------------------------------
Bins Excluded from Delay Event Count
-------------------------------------------------------------------
Bin Type     Direction     Lowest Excluded Bin     Lower Bound (us)
-------------------------------------------------------------------
FD          round-trip                      9                6500
-------------------------------------------------------------------

-------------------------------------------------------------------------------
Delay Events for the DMM Test
-------------------------------------------------------------------------------
Bin Type   Direction   LowerBound(us)    Raise    Clear          Last TCA (UTC)
-------------------------------------------------------------------------------
FD        round-trip             2000       50       10     2017/01/04 16:55:00
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Loss Events for the SLM Test
-------------------------------------------------------------------------------
Event Type               Direction      Raise      Clear         Last TCA (UTC)
-------------------------------------------------------------------------------
HLI                      aggregate         50          0                  none
-------------------------------------------------------------------------------
```

Output example: OAM-PM base configuration information

```
A:node-2# show oam-pm session "vpls1000-PM-YL4-1/1/9:1000.1000" base
-------------------------------------------------------------------------------
Basic Session Configuration
-------------------------------------------------------------------------------
Session Name      : vpls1000-PM-YL4-1/1/9:1000.1000
Description       : (Not Specified)
Test Family       : ethernet            Session Type       : proactive
Bin Group         : 3
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Ethernet Configuration
-------------------------------------------------------------------------------
Source MEP        : 30                  Priority           : 7 (FC : nc)
Source Domain     : 14                  Dest MAC Address   : 00:00:00:00:00:32
Source Assoc'n    : 1000                Remote MEP         : none
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
DMM Test Configuration and Status
-------------------------------------------------------------------------------
Test ID           : 10001               Admin State        : Up
Oper State        : Up                  Data TLV Size      : 0 octets
On-Demand Duration: Not Applicable      On-Demand Remaining: Not Applicable
Interval          : 1000 ms
Detectable Tx Err : none
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SLM Test Configuration and Status
-------------------------------------------------------------------------------
Test ID           : 10001               Admin State        : Up
Oper State        : Up                  Data TLV Size      : 0 octets
On-Demand Duration: Not Applicable      On-Demand Remaining: Not Applicable
Interval          : 100 ms
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
CHLI Threshold    : 4 HLIs              Frames Per Delta-T : 10 SLM frames
Consec Delta-Ts   : 10                  FLR Threshold      : 50%
HLI Force Count   : no
Detectable Tx Err : none
-------------------------------------------------------------------------------
```

Output example: OAM-PM bin-group configuration information

```
A:node-2# show oam-pm session "vpls1000-PM-YL4-1/1/9:1000.1000" bin-group
-------------------------------------------------------------------------------
Configured Lower Bounds for Delay Tests, in microseconds
-------------------------------------------------------------------------------
Group Description                    Admin Bin     FD(us)    FDR(us)   IFDV(us)
-------------------------------------------------------------------------------
3                                    Up   0          0          0          0
                                          1          1        500        250
                                          2        500       1000        500
                                          3       1000       1500       1000
                                          4       2000       2000       1500
                                          5       3000       2500       2000
                                          6       4000       3000       2500
                                          7       5000       3500       3000
                                          8       5500       4000       3500
                                          9       6500       4500       4000
-------------------------------------------------------------------------------

---------------------------------------
Bins Excluded from Average
---------------------------------------
Bin Type     Direction            Bins
---------------------------------------
FD          round-trip             0,9
---------------------------------------

-----------------------------------------------------------------
Bins Excluded from Delay Event Count
-----------------------------------------------------------------
Bin Type     Direction     Lowest Excluded Bin     Lower Bound (us)
-----------------------------------------------------------------
FD          round-trip                       9                6500
-----------------------------------------------------------------
```

Output example: OAM-PM meas-interval configuration information

```
A:node-2# show oam-pm session "vpls1000-PM-YL4-1/1/9:1000.1000" meas-interval
-------------------------------------------------------------------------------
5-mins Measurement Interval Configuration
-------------------------------------------------------------------------------
Duration          : 5-mins              Intervals Stored   : 32
Boundary Type     : clock-aligned       Clock Offset       : 0 seconds
Accounting Policy : none                Event Monitoring   : enabled
Delay Event Mon   : enabled             Loss Event Mon     : enabled
-------------------------------------------------------------------------------
```

Output example: OAM-PM specific session configuration information

```
A:node-2# show oam-pm session "ies1500-PM-YL4-1/1/1:1500.1500"
-------------------------------------------------------------------------------
Basic Session Configuration
-------------------------------------------------------------------------------
Session Name      : ies1500-PM-YL4-1/1/1:1500.1500
Description       : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Test Family       : ethernet            Session Type       : proactive
Bin Group         : 2
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Ethernet Configuration
-------------------------------------------------------------------------------
Source MEP        : 30                  Priority           : 5 (fc ef)
Source Domain     : 14                  Dest MAC Address   : none
Source Assoc'n    : 1500                Remote MEP         : 33
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
LMM Test Configuration and Status
-------------------------------------------------------------------------------
Test ID           : 1                   Admin State        : Up
Oper State        : Up                  Interval           : 1000 ms
On-Demand Duration: Not Applicable      On-Demand Remaining: Not Applicable
Availability      : Disabled
CHLI Threshold    : 5 HLIs              Frames Per Delta-T : 10 LMM frames
Consec Delta-Ts   : 10                  FLR Threshold      : 50%
Detectable Tx Err : none
Enable FC Collect : yes| no
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
5-mins Measurement Interval Configuration
-------------------------------------------------------------------------------
Duration          : 5-mins              Intervals Stored   : 32
Boundary Type     : clock-aligned       Clock Offset       : 0 seconds
Accounting Policy : none                Event Monitoring   : disabled
Delay Event Mon   : disabled            Loss Event Mon     : disabled
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
Configured Lower Bounds for Delay Tests, in microseconds
-------------------------------------------------------------------------------
Group Description                   Admin Bin     FD(us)    FDR(us)   IFDV(us)
-------------------------------------------------------------------------------
2                                   Up   0          0          0          0
                                         1          1        500        250
                                         2        500       1000        500
                                         3       1000       1500       1000
                                         4       2000       2000       1500
                                         5       3000       2500       2000
                                         6       4000       3000       2500
                                         7       5000       3500       3000
                                         8       5500       4000       3500
                                         9       6500       4500       4000
-------------------------------------------------------------------------------
```

Table 532: Output fields: OAM-PM configuration information

Label	Description
Basic Session Configuration	
Session Name	The session name
Description	The session description

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Test Family	The test family: • ethernet – the test family is based on the MPLS layer • ip – the test is based on the IP layer
Session Type	The session type: • proactive – the type is set to always on, with an immediate start and no stop • on-demand – the type is set to on-demand, requires a start and stop, or could be stopped when test-duration expires
Bin Group	The bin group identifier
Ethernet Configuration	
Source MEP	The Maintenance Association Endpoint (MEP) identifier of the launch point
Priority	The priority
Source Domain	The Maintenance Domain (MD)
Dest MAC Address	The unicast destination MAC address
Source Assoc'n	The source Maintenance Association (MA)
Remote MEP	The remote MEP ID of the peer within the association
DMM Test Configuration and Status	
Test ID	The numerical value assigned to the protocol-specific test
Admin State	The administrative state of the test: • Up – The test has been enabled by configuration • Down – The test has not been enabled by configuration
Oper State	The operational state of the test: • Up – the test is administratively up and currently transmitting, attempting to transmit packets, or ready to transmit packets • Down – the test is administratively down or an OAM-PM session configured with **session-type on-demand** has not been enabled using the global CLI **oam oam-pm session start** command
Data TLV Size	The optional Data TLV to the PDU.
On-Demand Duration	The on-demand test-duration

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
On-Demand Remaining	The on-demand test-duration time remaining
Interval	The packet spacing interval
Detectable Tx Err	The detected error condition that may prevent the test packet from being sent
SLM Test Configuration and Status	
Test ID	The numerical value assigned to the protocol-specific test
Admin State	The administrative state of the test: • Up – the test has been enabled by configuration • Down – the test has not been enabled by configuration
Oper State	The operational state of the test: • Up – the test is administratively up and currently transmitting, attempting to transmit packets, or ready to transmit packets • Down – the test is administratively down or an OAM-PM session configured with **session-type on-demand** has not been enabled using the global CLI **oam oam-pm session start** command
Data TLV Size	The optional Data TLV to the PDU
On-Demand Duration	The on-demand test-duration
On-Demand Remaining	The on-demand test-duration time remaining
Interval	The packet spacing interval
CHLI Threshold	The Consecutive High Loss Interval (CHLI) threshold
Frames Per Delta-T	The frames per Delta-T
Consec Delta-Ts	The number of consecutive Delta-T that make up the sliding window over which availability and unavailability is determined
FLR Threshold	The Frame Loss Ratio (FLR) threshold for the test
HLI Force Count	The high loss interval (HLI) force count
Detectable Tx Err	The detected error condition that may prevent the test packet from being sent
Measurement Interval Configuration	
Duration	The measurement interval duration

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Intervals Stored	The number of intervals stored
Boundary Type	The alignment of the start of the measurement interval either with the day clock or the start of the test: • clock-aligned – aligns with the measurement interval with the time of day clock • test-relative – aligns the start of the measurement interval with the start of the test
Clock Offset	The offset from the default time of the day clock for measurement intervals with a **boundary-type** of **clock-aligned**
Accounting Policy	The accounting policy assigned by a user with a **record-type** of **complete-pm**. If configured, this runs the data collection process for completed measurement intervals in memory, file storage, and maintenance functions moving data from memory to flash. A single accounting policy can be applied to a measurement interval.
Event Monitoring	Displays if event monitoring (the different threshold events on a specific measurement interval) are enabled
Delay Event Mon	Displays if the monitoring of all configured delay events are enabled
Loss Event Mon	Displays if the monitoring of all configured loss events is enabled
Configured Lower Bounds for Delay Tests, in microseconds	
Group Description	The group description
Admin	Displays if the group is administratively up
Bin	The identifier for the bin group that is referenced by the OAM-PM sessions
FD(us)	The frame delay in microseconds
FDR(us)	The frame Delay Range in microseconds
IFDV(us)	The InterFrame Delay Variation in microseconds
Bins Excluded from Average	
Bin Type	The bin type: • FD – FD bin threshold configuration • FDR – FDR bin threshold configuration • IFDV – IFDV bin threshold configuration
Direction	The direction of the bin: • forward – the threshold is applied to the forward direction bin • backward – the threshold is applied to the backward direction bin

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• round-trip – the threshold is applied to the round trip direction bin
Bins	The bin group identifier
Bins Excluded from Delay Event Count	
Bin Type	The bin type: • FD – FD bin threshold configuration • FDR – FDR bin threshold configuration • IFDV – IFDV bin threshold configuration
Direction	The direction of the bin: • forward – the threshold is applied to the forward direction bin • backward – the threshold is applied to the backward direction bin • round-trip – the threshold is applied to the round trip direction bin
Lowest Excluded Bin	The lowest excluded bin
Lower Bound (us)	The lower bound
Delay Events for the DMM Test	
Bin Type	The bin type: • FD – FD bin threshold configuration • FDR – FDR bin threshold configuration • IFDV – IFDV bin threshold configuration
Direction	The direction of the bin: • forward – the threshold is applied to the forward direction bin • backward – the threshold is applied to the backward direction bin • round-trip – the threshold is applied to the round trip direction bin
LowerBound (us)	The lower bound
Raise	The rising threshold that determines when the even is to be generated
Clear	The threshold when to generate the clear event
Last TCA (UTC)	The Threshold Crossing Alert (TCA)
Loss Events for the SLM Test	
Event Type	The event type
Direction	The direction of the bin:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• forward – the threshold is applied to the forward direction bin • backward – the threshold is applied to the backward direction bin • round-trip – the threshold is applied to the round trip direction bin
Raise	The rising threshold that determines when the even is to be generated
Clear	The threshold when to generate the clear event
Last TCA (UTC)	The TCA
LMM Test Configuration and Status	
Test ID	The numerical value, between 0 to 2147483647, that is assigned to the protocol-specific test
Admin State	The administrative state of the test: • Up – the test has been enabled by configuration • Down – the test has not been enabled by configuration
Oper State	The operational state of the test: • Up – the test is administratively up and currently transmitting, attempting to transmit packets, or ready to transmit packets • Down – the test is administratively down or an OAM-PM session configured with **session-type on-demand** has not been enabled using the global CLI **oam oam-pm session start** command
Interval	The test interval, in milliseconds, between the received messages to maintain the session
On-Demand Duration	The on-demand test-duration
On-Demand Remaining	The on-demand test-duration time remaining
Availability	Displays if availability is enabled
CHLI Threshold	The CHLI threshold
Frames Per Delta-T	The number of frames per Delta-T
Consec Delta-Ts	The number of consecutive Delta-T measurement intervals that make up the sliding window over which availability and unavailability is determined
FLR Threshold	The FLR threshold for the test

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Detectable Tx Err	The detected error condition that may prevent the test packet from being sent
Enable FC Collect	Displays if FC collect is enabled

session

Syntax

session [**sap** *sap-id*] [**interface** *ip-int-name* | *ip-address*] [**mac** *ieee-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**inter-dest-id** *intermediate-destination-id*] [**no-inter-dest-id**] [**ip-address** *ip-prefix*[/*prefix-length*]] [**port** *port-id*] [**subscriber** *sub-ident-string*] [**sap-session-id** *sap-session-index*]

session all

Context

[Tree] (clear>service>id>ipoe session)

Full Context

clear service id ipoe session

Description

This commands clears all identified IPoE sessions for the specified service instance. All associated subscriber hosts are deleted from the system.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

ip-int-name

Specifies the name of the IP interface up to 32 characters.

ieee-address

Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

circuit-id

Specifies the circuit ID up to 127 characters.

remote-id

Specifies that information that goes into the remote-id sub-option in the DHCP relay packet, up to 255 characters.

ip-address[/prefix-length]

Specifies information for the specified IP address and mask.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

no-inter-dest-id

Displays the information about no intermediate destination ID.

intermediate-destination-id

Specifies the intermediate destination identifier which is encoded in the identification strings up to 32 characters.

port-id

Displays information about the specified port ID.

sap-session-index

Displays sap-session-index information.

service-id

Specifies the service ID of the wholesaler.

Values

service-id: 1 to 2147483647

svc-name: 64 characters maximum

sub-ident-string

Specifies an existing subscriber identification profile.

service-id

Specifies information for the specified service ID.

Values

service-id: 1 to 2147483647

svc-name: 64 characters maximum

detail

Displays all IPoE session details.

all

clears all active IPoE sessions for the specified service instance.

Platforms

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

session

Syntax

session default-tunnel

session [**sap** *sap-id*] [**mac** *mac-address*] [**local-session-id** *local-id*] [**remote-session-id** *remote-id*] [**detail**]

Context

[Tree] (show>subscr-mgmt>pfcp session)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show subscriber-mgmt pfcp session

Description

This command displays information on PFCP sessions, including the default session. By default, all sessions are shown; filters can be applied to reduce the number of sessions or select a specific session.

Parameters

default-tunnel

Specifies that session information for the default tunnel is displayed.

detail

Specifies that associated forwarding information is displayed.

local-id

Specifies a local PFCP Session ID, up to 20 characters, which displays information for that local session ID.

remote-id

Specifies a remote PFCP session ID, up to 20 characters, which displays information for that remote session ID.

mac-address

Specifies the MAC address associated with the session, in the form xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx, which displays information associated with the specified MAC address.

sap-id

Specifies the SAP ID associated with the session.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id* | *eth-sat-id*:[qtag1 | *cp-conn-prof-id*]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id* | *eth-sat-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-conn-prof-id]	
	cp	keyword
	conn-prof-id	*1 to 8000*
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	group-id	1 to 128
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | lag-*string*	
	lag	keyword
	id	1 to 800
	string	23 characters max
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	* | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	tunnel-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094
eth-sat-id	**esat**-*id* / *slot* / *port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

Platforms

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

Output

The following output is an example of this command.

Output Example

```
A:BNG-UPF# show subscriber-mgmt pfcp session
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
PFCP Sessions
===============================================================================
Local Session Id                              : 0x0000000000000001 (default*
Local Peer Address                            : 192.0.2.11
Local Router                                  : to_cp
Local TE-ID                                   : N/A
Remote Session Id                             : 0x0000000000010100
Remote Peer Address                           : 17.17.17.10
Remote TE-ID                                  : 0x0001fff0
PFCP Association                              : smf
Data Upstream PDR-ID                          : N/A
Data Downstream PDR-ID                        : N/A
IBCP Upstream PDR-ID                          : 0x0a00
IBCP Downstream PDR-ID                        : N/A
StateId                                       : N/A
Protocols                                     : IPOE_DHCP4 PPPOE_DISC
===============================================================================
No. of PFCP Sessions: 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

session

Syntax

session lsp-path [**lsp-index** *lsp-index*] [**path-lspid** *path-lspid*] [**prefix** *ip-prefix Iprefix-length*] [**src** *ip-address* | *ipv6 address*]

session lsp-path all

session sr-policy [**lsp-index** *lsp-index*] [**path-lspid** *path-lspid*] [**prefix** *ip-prefix Iprefix-length*] [**src** *ip-address* | *ipv6 address*]

session sr-policy all

Context

[Tree] (clear>router>bfd>seamless-bfd session)

Full Context

clear router bfd seamless-bfd session

Description

This command clears Seamless-BFD (S-BFD) session information.

Parameters

lsp-path

Keyword to clear the S-BFD sessions for the LSP path.

sr-policy

Keyword to clear the S-BFD sessions for the SR policy.

all

Keyword to clear all S-BFD sessions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

lsp-index ***lsp-index***

Specifies the LSP index.

Values 0 to 4294967295

path-lspid ***path-lspid***

Specifies the path LSP ID.

Values 0 to 4294967295

prefix

Keyword to clear information by far-end prefix.

ip-prefix/prefix-length

Specifies an IP prefix for which to clear S-BFD session information, and the length of the prefix.

Values *ipv4-prefix* — a.b.c.d (host bits must be zero)

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

ipv6-prefix-length — 0 to 128

ip-address* | *ipv6-address

Specifies the IP address for which to clear S-BFD session information.

Values *ipv4-address* — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x[-interface]

x:x:x:x:x:x:d.d.d.d[-interface]

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

interface — mandatory for link local address, up to 32 characters

Platforms

All

session

Syntax

session *session-name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (monitor>oam-pm session)

Full Context

monitor oam-pm session

Description

This command monitors the raw measurement interval for the specified session and test.

Parameters

session-name

Specifies the session name, up to 32 characters.

Platforms

All

session

Syntax

session *ldp-id* [*ldp-id*] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>ldp session)

Full Context

monitor router ldp session

Description

This command displays statistical information for LDP sessions at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified LDP session(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

ldp-id

Specifies the IP address of the LDP session to display. Up to five IP addresses can be specified in a single statement.

Values ipv4-address label-space

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-address	[label-space]	
	label-space	0 to 65535
ipv4-address	a.b.c.d	
ipv6-address	x:x:x:x:x:x:x:x (16 eight-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x: [0 to FFFF] H	
	d: [0 to 255] D	

seconds

Configures the interval for each display, in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

Output

The following output is an example of LDP session information.

Output Example

```
A:ALA-103>monitor>router>ldp# session 10.10.10.104 interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for LDP Session 10.10.10.104
===============================================================================
                            Sent                    Received
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
FECs                        1                       2
Hello                       5288                    5289
Keepalive                   8225                    8225
Init                        1                       1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Label Mapping                 1                       4
Label Request                 0                       0
Label Release                 0                       0
Label Withdraw                0                       0
Label Abort                   0                       0
Notification                  0                       0
Address                       1                       1
Address Withdraw              0                       0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
FECs                          1                       2
Hello                         5288                    5289
Keepalive                     8226                    8226
Init                          1                       1
Label Mapping                 1                       4
Label Request                 0                       0
Label Release                 0                       0
Label Withdraw                0                       0
Label Abort                   0                       0
Notification                  0                       0
Address                       1                       1
Address Withdraw              0                       0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
FECs                          1                       2
Hello                         5288                    5290
Keepalive                     8226                    8226
Init                          1                       1
Label Mapping                 1                       4
Label Request                 0                       0
Label Release                 0                       0
Label Withdraw                0                       0
Label Abort                   0                       0
Notification                  0                       0
Address                       1                       1
Address Withdraw              0                       0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
FECs                          1                       2
Hello                         5288                    5290
Keepalive                     8226                    8226
Init                          1                       1
Label Mapping                 1                       4
Label Request                 0                       0
Label Release                 0                       0
Label Withdraw                0                       0
Label Abort                   0                       0
Notification                  0                       0
Address                       1                       1
Address Withdraw              0                       0
===============================================================================
A:ALA-12>monitor>router>ldp#


A:ALA-12>monitor>router>ldp# session 10.10.10.104 interval 3 repeat 3 rate
===============================================================================
Monitor statistics for LDP Session 10.10.10.104
===============================================================================
                              Sent                    Received
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
FECs                        1                       2
Hello                       5289                    5290
Keepalive                   8227                    8227
Init                        1                       1
Label Mapping               1                       4
Label Request               0                       0
Label Release               0                       0
Label Withdraw              0                       0
Label Abort                 0                       0
Notification                0                       0
Address                     1                       1
Address Withdraw            0                       0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
FECs                        0                       0
Hello                       0                       0
Keepalive                   0                       0
Init                        0                       0
Label Mapping               0                       0
Label Request               0                       0
Label Release               0                       0
Label Withdraw              0                       0
Label Abort                 0                       0
Notification                0                       0
Address                     0                       0
Address Withdraw            0                       0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
FECs                        0                       0
Hello                       0                       0
Keepalive                   0                       0
Init                        0                       0
Label Mapping               0                       0
Label Request               0                       0
Label Release               0                       0
Label Withdraw              0                       0
Label Abort                 0                       0
Notification                0                       0
Address                     0                       0
Address Withdraw            0                       0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
FECs                        0                       0
Hello                       0                       0
Keepalive                   0                       0
Init                        0                       0
Label Mapping               0                       0
Label Request               0                       0
Label Release               0                       0
Label Withdraw              0                       0
Label Abort                 0                       0
Notification                0                       0
Address                     0                       0
Address Withdraw            0                       0
===============================================================================
A:ALA-12>monitor>router>ldp#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

session

Syntax

session imsi *imsi* **apn** *apn-string*

session [**peer-address** *ip-address*] [**router** *router-instance*] [**remote-control-teid** *teid*] [**local-control-teid** *teid*] [**detail**]

session imsi *imsi*

Context

[Tree] (show>subscr-mgmt>gtp>s11 session)

Full Context

show subscriber-mgmt gtp s11 session

Description

This command displays GTP S11 session information.

Parameters

imsi

Specifies the IMSI (International Mobile Subscriber Identity) of this UE.

apn-string

Specifies the APN (Access Point Name), up to 100 characters.

ip-address

Specifies the IP address.

Values *ipv4-address* — a.b.c.d
ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x - [0 to FFFF]H
d - [0 to 255]D
length: 0 to 128

router-instance

Specifies the identifier of the virtual router instance where the GTP tunnel is terminated.

Values *router-name* | *vprn-svc-id*
router-name — "Base”
vprn-svc-id — 1 to 2147483647

remote-control-teid ***teid***

Specifies the remote control plane Tunnel Endpoint Identifier (TEID).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 4294967295

local-control-teid *teid*

Specifies the local control plane TEID.

Values 1 to 4294967295

detail

Displays detailed information.

Platforms

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

Output

The following output is an example of GTP S11 session information.

Output Example

```
Node# show subscriber-mgmt gtp s11 session
===============================================================================
GTP S11 sessions
===============================================================================
IMSI                        : 001020000000001
APN                         : demo.mnc001.mcc001.gprs
-------------------------------------------------------------------------------
Peer router                 : 10
Peer address                : 192.168.100.1
Remote control TEID         : 1
Local control TEID          : 4293919008
PDN TEID                    : 4293919008
Charging characteristics    : (None)
Uplink AMBR (kbps)          : 10000
Downlink AMBR (kbps)        : 20000
Ipoe-session SAP            : [pxc-1.b:1.8]
Ipoe-session Mac Address    : 00:03:ff:f0:01:20
-------------------------------------------------------------------------------
No. of GTP S11 sessions: 1
===============================================================================
```

session

Syntax

session *session-name*

Context

[Tree] (show>oam-pm>stats session)

Full Context

show oam-pm statistics session

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command selects the session for the statistical display.

Parameters

session-name

Specifies the session name, up to 32 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24 s Commands – Part II

24.1 session-filter

session-filter

Syntax

session-filter

session-filter *session-filter-name*

Context

[Tree] (show>app-assure>group session-filter)

Full Context

show application-assurance group session-filter

Description

This command displays session filter information.

Parameters

session-filter-name

Specifies a session-filter-name up to 32 characters.

Platforms

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

Output

The following output is an example of the **session-filter** command information.

Output Example

```
show application-assurance group <aa-group-id>[:<partition>] session-filter <filter-
name>
# session-filter<filter-id>
===============================================================================
AA Session Filter
===============================================================================
Filter Name  : Block UDP Session Initiation
Applied      : Yes                        Def. Action    : Permit
Entries      : 1
Description  : Block UDP initiated towards subscribers
-------------------------------------------------------------------------------
Filter Match Criteria
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Entry        : 1
Description  : (Not Specified)
Protocol     : 17
Action       : deny
Hit Count    : 0 pkts
===============================================================================
```

24.2 session-parameters

session-parameters

Syntax

session-parameters [*family*] [**community** *community*]

session-parameters *peer-ip-address*

Context

[Tree] (show>router>ldp session-parameters)

Full Context

show router ldp session-parameters

Description

This command displays LDP peer information.

Parameters

peer-ip-address

Specify the peer IP address.

family

Displays either IPv4 or IPv6 active LDP information.

Values ipv4, ipv6

community

The string defining the LDP community assigned to the session. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string.

Platforms

All

Output

Table 533: Output fields: LDP session parameters describes the LDP session-parameters output.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 533: Output fields: LDP session parameters

Label	Description
Peer	The IP address of the peer.
TTL security	Enabled — LDP peering sessions protected. Disabled — LDP peering sessions unprotected.
Min-TTL-Value	Displays the minimum TTL value for an incoming packet.
Auth	Enabled — Authentication using MD5 message based digest protocol is enabled. Disabled — No authentication is used.

Output Example
Example with community RED:

```
*A:SRU4# show router ldp session-parameters 10.20.1.1
===============================================================================
LDP IPv4 Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer : 10.20.1.1
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
IPv4 Prefix Fec Cap: Enabled            IPv6 Prefix Fec Cap: Disabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    : Enabled
Community          : RED
===============================================================================
No. of IPv4 Peers: 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Example without community

```
*A:Dut-A# show router ldp session-parameters
===============================================================================
LDP IPv4 Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer : 10.20.1.2
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
IPv4 Prefix Fec Cap: Enabled            IPv6 Prefix Fec Cap: Disabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
-------------------------------------------------------------------------------
Peer : 10.20.1.3
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
IPv4 Prefix Fec Cap: Enabled            IPv6 Prefix Fec Cap: Disabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
-------------------------------------------------------------------------------
Peer : 10.20.1.6
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
IPv4 Prefix Fec Cap: Enabled            IPv6 Prefix Fec Cap: Enabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
===============================================================================
No. of IPv4 Peers: 3
===============================================================================
* indicates that the corresponding row element may have been truncated.

===============================================================================
LDP IPv6 Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer : 3ffe::a14:102
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
IPv4 Prefix Fec Cap: Disabled           IPv6 Prefix Fec Cap: Enabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
-------------------------------------------------------------------------------
Peer : 3ffe::a14:103
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
IPv4 Prefix Fec Cap: Disabled           IPv6 Prefix Fec Cap: Enabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
===============================================================================
No. of IPv6 Peers: 2
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-A#

*A:Dut-A# show router ldp session-parameters 3ffe::a14:103
===============================================================================
LDP IPv6 Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer : 3ffe::a14:103
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
IPv4 Prefix Fec Cap: Disabled           IPv6 Prefix Fec Cap: Enabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
===============================================================================
No. of IPv6 Peers: 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-A#

*A:Dut-A# show router ldp session-parameters ipv4
===============================================================================
LDP IPv4 Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer : 10.20.1.2
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
IPv4 Prefix Fec Cap: Enabled            IPv6 Prefix Fec Cap: Disabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
-------------------------------------------------------------------------------
Peer : 10.20.1.3
-------------------------------------------------------------------------------
DOD                : Disabled           Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                  Fec Limit Threshold: 90
Fec Limit Log Only : Disabled
Import Policies    : None               Export Policies    : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPv4 Prefix Fec Cap: Enabled           IPv6 Prefix Fec Cap: Disabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
-------------------------------------------------------------------------------
Peer : 10.20.1.6
-------------------------------------------------------------------------------
DOD                : Disabled          Adv Adj Addr Only  : Disabled
FEC129 Cisco Inter*: Disabled
PE-ID MAC Flush In*: Disabled
Fec Limit          : 0                 Fec Limit Threshold: 90
Fec Limit Log Only : Disabled
Import Policies    : None              Export Policies    : None
IPv4 Prefix Fec Cap: Enabled           IPv6 Prefix Fec Cap: Enabled
P2MP Fec Cap       : Enabled
Address Export     : None
LSRID advertise    :
Community          :
===============================================================================
No. of IPv4 Peers: 3
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-A#
```

24.3 session-restart

session-restart

Syntax

session-restart service-id *service-id* **group-interface** *group-interface* **application** *application*

Context

[Tree] (tools>perform>aaa>diameter session-restart)

Full Context

tools perform aaa diameter session-restart

Description

This command initiates the restart of Gx and Gy sessions. Depending on the application for which it is invoked, this command triggers a full Diameter Gx or Gy session resynchronization by issuing a CCR-T (Termination Request) followed by a CCR-I (Initial Request) to reestablish the sessions, without impacting user traffic.

The BNG sends a CCR-T for all affected Gx and Gy sessions, while preserving the DHCP state of the subscriber (that is, the DHCP session on the BNG remains intact). It then issues a CCR-I to reestablish the corresponding Gx and Gy sessions.

In a Gx multichassis redundancy configuration, the **tools** command must be run only under the group-interface where SRRP is in a "master" state.

In a Gy multiredundancy configuration, the **tools** command must be run on both nodes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

application

Specifies the application to restart.

Values gx – restarts the Gx AVP information

gy – retarts the Gy AVP information

service-id

Specifies the routing context under which the subscriber management sessions are established.

Values service-id: 1 to 2148278386

svc-name: up to 64 characters

group-interface

Specifies the group interface name, up to 32 characters, under which the sessions are established.

Platforms

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

24.4 session-tokens

session-tokens

Syntax

session-tokens

Context

[Tree] (tools>dump>sys>sec>support-mode session-tokens)

Full Context

tools dump system security support-mode session-tokens

Description

This command displays the current **shell** and **kernel** session tokens on the system.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of session token information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:node-2>tools>dump>sys>sec>support-mode# session-tokens
No tokens in current session for shell
No tokens in current session for kernel
A:node-2>tools>dump>sys>sec>support-mode#
```

24.5 sessions

sessions

Syntax

sessions [**group** *name*] **neighbor** *ip-address*] [**port** *port-number*] [**association**] [**statistics**]

Context

[Tree] (show>service>id>gsmp sessions)

Full Context

show service id gsmp sessions

Description

This command displays GSMP sessions information.

Parameters

group

A GSMP group defines a set of GSMP neighbors which have the same properties.

name

Specifies a GSMP group name is unique only within the scope of the service in which it is defined.

ip-address

Specifies the ip-address of the neighbor.

port

Specifies the neighbor TCP port number use for this ANCP session.

Values 0 to 65535

association

Displays to what object the ANCP-string is associated.

statistics

Displays statistics information about an ANCP session known to the system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of GSMP sessions information.

Output Example

This show command gives information about the open TCP connections with DSLAMs.

```
A:active>show>service>id>gsmp# sessions
=======================================================
GSMP sessions for service 999 (VPRN)
=======================================================
Port   Ngbr-IpAddr     Gsmp-Group
-------------------------------------------------------
40590  192.168.1.2     dslam1
-------------------------------------------------------
Number of GSMP sessions : 1
=======================================================
A:active>show>service>id>gsmp#


A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590
===============================================================================
GSMP sessions for service 999 (VPRN), neighbor 192.168.1.2, Port 40590
===============================================================================
State           : Established
Peer Instance   : 1                 Sender Instance : a3cf58
Peer Port       : 0                 Sender Port     : 0
Peer Name       : 12:12:12:12:12:12  Sender Name     : 00:00:00:00:00:00
timeouts        : 0                 Max. Timeouts   : 3
Peer Timer      : 100               Sender Timer    : 100
Capabilities      : DTD OAM
Conf Capabilities : DTD OAM
Priority Marking  : dscp nc2
Local Addr.       : 192.168.1.4
Conf Local Addr.  : N/A
===============================================================================
A:active>show>service>id>gsmp#
A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 association
===============================================================================
ANCP-Strings
===============================================================================
ANCP-String                                              Assoc. State
-------------------------------------------------------------------------------
No ANCP-Strings found
===============================================================================
A:active>show>service>id>gsmp#
A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 statistics
=============================================================
GSMP session stats, service 999 (VPRN), neighbor 192.168.1.2, Port 40590
=============================================================
Event                                Received  Transmitted
-------------------------------------------------------------
Dropped                              0         0
Syn                                  1         1
Syn Ack                              1         1
Ack                                  14        14
Rst Ack                              0         0
Port Up                              0         0
Port Down                            0         0
OAM Loopback                         0         0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================
A:active>show>service>id>gsmp#
```

The following table describes service ID GSMP sessions output fields:

Table 534: Output fields: service ID GSMP sessions

Label	Description
Port	The port ID number
Ngbr-IpAddr	The neighbor IP address
Gsmp-Group	The GSMP group ID
State	The GSMP state of this TCP connection
Peer Instance	The unique GSMP ID for each end of the GSMP connection
Peer Port	The unique GSMP ID for each end of the GSMP connection
Peer Name	The unique GSMP ID for each end of the GSMP connection
timeouts	The number of successive timeouts for this session
Peer Timer	The GSMP keepalive timer
Capabilities	The ANCP capabilities negotiated for this session
Conf Capabilities	The ANCP capabilities configured for this session
Priority Marking	The priority marking configured for this session
Local Addr	The IP address used by the box's side of the TCP connection
Conf. Local Addr.	The configured IP address used by the box's side of the TCP connection
Sender Instance	The instance sent to the neighbor in this session
Sender Port	The port sent to the neighbor in this session
Sender Name	The name sent to the neighbor in this session
Max. Timeouts	The maximum number of successive timeouts configured for this session
Sender Timer	The timeout value that is announced toward the neighbor. The neighbor uses this timeout value while waiting for an acknowledgment from this system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Note:
The association command gives an overview of each ANCP string received from this session.

```
A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 association
===============================================================================
ANCP-Strings
===============================================================================
ANCP-String                                                    Assoc.
State
-------------------------------------------------------------------------------
7330-ISAM-E47 atm 1/1/01/01:19425.64048                        ANCP    Up
-------------------------------------------------------------------------------
Number of ANCP-Strings : 1
===============================================================================
A:active>show>service>id>gsmp
```

sessions

Syntax

sessions [**nat-group** *nat-group-id*] [**mda** *mda-id*] [**protocol** { **gre** | **icmp** | **icmp6** | **tcp** | **udp** | **unknown**}] [**inside-ip** *ip-prefix*[/ *ip-prefix-length*]] [**inside-router** *router-instance*] [**inside-port** *port-number*] [**outside-ip** *ip-address*] [**outside-port** *port-number*] [**foreign-ip** *ip-address*] [**foreign-port** *port-number*] [**dslite-address** *ipv6-address*] [**wlan-gw-ue** *ieee-address*] [**next-index** *index*] [**upnp**] [**member** *member-id*] [**nat-policy** *policy-name*] [**dest-ip** *ip-address*] [**firewall-policy** *policy-name*] [**address-type** *addr-type*] [**l2-aware-subscriber** *sub-ident*]

Context

[Tree] (tools>dump>nat sessions)

Full Context

tools dump nat sessions

Description

This command dumps ISA sessions.

Parameters

icmp

Specifies to dump only ICMP information.

ieee-address

Specifies a MAC address, using the format xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx.

ip-address

Specifies an IPv4 or IPv6 address.

Values *ipv4-address* — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

x — 0 to FFFF (in hexadecimal)

d — 0 to 255 (in decimal)

ipv6-address

Specifies an IPv6 address.

Values x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (in hexadecimal)

d — 0 to 255 (in decimal)

mda-id

Specifies an MDA ID.

Values *slot*/*mda*

nat-group-id

Specifies a NAT group ID.

Values 1 to 4

policy-name

Specifies a policy name, up to 32 characters maximum.

port-number

Specifies a port number.

Values 0 to 65535

router-instance

Specifies a router name or service ID.

tcp

Specifies to dump only TCP information.

udp

Specifies to dump only UDP information.

upnp

Specifies to dump only UPNP information.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
*A:SR12_PPPOE# tools dump nat sessions
===============================================================================
Matched 2 sessions on Slot #3 MDA #1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Owner               : LSN-Host@10.2.3.4
Router              : 100
FlowType            : UDP PortFwd
Inside IP Addr      : 10.2.3.4          Inside Port         : 666
Outside IP Addr     : 10.0.0.6          Outside Port        : 666
Foreign IP Addr     : *                 Foreign Port        : *
Dest IP Addr        : *                 Dest Port           : *
-------------------------------------------------------------------------------
Owner               : LSN-Host@10.2.3.4
Router              : 100
FlowType            : TCP PortFwd
Inside IP Addr      : 10.2.3.4          Inside Port         : 666
Outside IP Addr     : 10.0.0.6          Outside Port        : 666
Foreign IP Addr     : *                 Foreign Port        : *
Dest IP Addr        : *                 Dest Port           : *
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
Matched 1 session on Slot #3 MDA #2
===============================================================================
Owner               : LSN-Host@2001:db8:470:1F00:FFFF:189
Router              : 100
FlowType            : TCP               Timeout (sec)       : 6769
Inside IP Addr      : 192.168.16.218    Inside Port         : 41555
Outside IP Addr     : 10.0.0.5          Outside Port        : 1529
Foreign IP Addr     : 10.0.0.1          Foreign Port        : 22
Dest IP Addr        : 10.0.0.1          Dest Port           : 22
-------------------------------------------------------------------------------
===============================================================================
# tools dump nat sessions outside-ip abba:0:0:2a2::1

===============================================================================
Matched 1 session on Slot #1 MDA #1
===============================================================================
Owner               : NAT66-Sub@abba:0:0:2a2::1
Router              : 3
Policy              : nat-firewall-policy
FlowType            : ICMPv6              Timeout (sec)       : 38
Inside IP Addr      : abba:0:0:2a2::1
Inside Identifier   : 252
Outside IP Addr     : abba:0:0:2a2::1
Outside Identifier  : 252
Foreign IP Addr     : cafe::1
Nat Group           : 1
Nat Group Member    : 1
-------------------------------------------------------------------------------
===============================================================================
```

sessions

Syntax

sessions [**test-family** {**ethernet** | **ip** | **mpls**}]

sessions [**test-family** {**ethernet** | **ip** | **mpls**}] **detectable-rx-errors**

sessions [**test-family** {**ethernet** | **ip** | **mpls**}] **detectable-tx-errors**

sessions [**test-family** {**ethernet** | **ip** | **mpls**}] **event-mon**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sessions [**test-family** {**ethernet** | **ip** | **mpls**}] **streaming delay**

Context

[Tree] (show>oam-pm sessions)

Full Context

show oam-pm sessions

Description

This command displays a summary of the OAM-PM sessions.

Parameters

test-family

Keyword to display sessions that match the specified test family type when an optional filter is included.

ethernet

Keyword to display Ethernet session types.

ip

Keyword to display IP session types.

mpls

Keyword to display MPLS session types.

event-mon

Keyword to display a summary of all event monitoring and current state for each session.

detectable-rx-errors

Keyword to display all MPLS sessions with a reported non-successful return code. The results of all return codes, other than "success”, are included. When a return code is not available it is reported as "none”. Sessions with a successful return code are filtered and not displayed in the list. This is specific to **test-family mpls** only.

detectable-tx-errors

Keyword to display a summary of tests with detectable transmission errors that prevent the test from sending packets. Not all errors are detectable.

streaming delay

Keyword to display all sessions with an assigned delay template.

Platforms

All

Output

The following outputs are examples of OAM-PM session summary information, and the associated table describes the output fields:

- Output example: OAM-PM sessions, Table 535: Output fields: OAM-PM session summary information

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output example: OAM-PM sessions event monitoring, Table 535: Output fields: OAM-PM session summary information
- Output example: OAM-PM sessions detectable-rx-errors monitoring, Table 535: Output fields: OAM-PM session summary information
- Output example: OAM-PM sessions detectable-rx-errors monitoring, Table 535: Output fields: OAM-PM session summary information
- Output example: OAM-PM sessions streaming delay information, Table 535: Output fields: OAM-PM session summary information

Output example: OAM-PM sessions

```
A:node-2# show oam-pm sessions
===============================================================================
OAM Performance Monitoring Session Summary for the Ethernet Test Family
===============================================================================
Session                          State   Bin Group   Sess Type   Test Types
-------------------------------------------------------------------------------
vpls1000-PM-AL5-1/1/9:1000.1000    Act           2   proactive  DMM     SLM
vpls1000-PM-YL4-1/1/9:1000.1000    Act           3   proactive  DMM     SLM
===============================================================================
===============================================================================
OAM Performance Monitoring Session Summary for the IP Test Family
===============================================================================
Session                          State   Bin Group   Sess Type   Test Types
-------------------------------------------------------------------------------
===============================================================================
===============================================================================
OAM Performance Monitoring Session Summary for the MPLS Test Family
===============================================================================
Session                          State   Bin Group   Sess Type   Test Types
-------------------------------------------------------------------------------
mpls-dm-static-31-28               Act           2   proactive           DM
mpls-dm-rsvp-31-to-28              Act           2   proactive           DM
mpls-dm-rsvp-auto-31-to-28         Act           2   proactive           DM
===============================================================================
```

Output example: OAM-PM sessions event monitoring

```
A:node-2# show oam-pm sessions event-mon
===============================================================================
OAM Performance Monitoring Event Summary for the Ethernet Test Family
===============================================================================
Event Monitoring Table Legend:
F = Forward,  B = Backward,  R = Round Trip,  A = Aggregate,
- = Threshold Not Config,  c = Threshold Config,  * = TCA Active,  P = Pending
===============================================================================
                                 Test   FD FDR IFDV FLR CHLI HLI UNAV UDAV UDUN
Session                          Type  FBR FBR  FBR  FB  FBA FBA  FBA  FBA  FBA
-------------------------------------------------------------------------------
vpls1000-PM-AL5-1/1/9:1000.1000   DMM  --- ---  ---
vpls1000-PM-AL5-1/1/9:1000.1000   SLM                --  --- ---  ---  ---  ---
vpls1000-PM-YL4-1/1/9:1000.1000   DMM  --c ---  ---
vpls1000-PM-YL4-1/1/9:1000.1000   SLM                --  --- ---  ---  ---  ---
===============================================================================
===============================================================================
OAM Performance Monitoring Event Summary for the IP Test Family
===============================================================================
Event Monitoring Table Legend:
F = Forward,  B = Backward,  R = Round Trip,  A = Aggregate,
- = Threshold Not Config,  c = Threshold Config,  * = TCA Active,  P = Pending
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
                               Test   FD FDR IFDV FLR CHLI HLI UNAV UDAV UDUN
Session                        Type  FBR FBR  FBR  FB  FBA FBA  FBA  FBA  FBA
-------------------------------------------------------------------------------
===============================================================================
```

Output example: OAM-PM sessions detectable-rx-errors monitoring

```
A:node-2# show oam-pm sessions detectable-rx-errors
===============================================================================
OAM Performance Monitoring Receive Error Summary: MPLS Test Family
===============================================================================
                               Test
Session                        Type                    MPLS DM Receive Status
-------------------------------------------------------------------------------
S0                             DM         unexpected MPLS test Rx status code
S2                             DM                 Notify: Data Format Invalid
S3                             DM          Notify: Initialization in Progress
S4                             DM                 Notify: Data Reset Occurred
S5                             DM        Notify: Resource Temporarily Unavail
S6                             DM         unexpected MPLS test Rx status code
S16                            DM                    Error: Unspecified Error
S17                            DM                  Error: Unsupported Version
S18                            DM              Error: Unsupported Control Code
S19                            DM               Error: Unsupported Data Format
S20                            DM                 Error: Authentication Failure
S21                            DM          Error: Invalid Destination Node Id
S22                            DM                  Error: Connection Mismatch
S23                            DM          Error: Unsupported Mand TLV Object
S24                            DM           Error: Unsupported Query Interval
S25                            DM                 Error: Administrative Block
S26                            DM                 Error: Resource Unavailable
S27                            DM                    Error: Resource Released
S28                            DM                      Error: Invalid Message
S29                            DM                       Error: Protocol Error
S30                            DM         unexpected MPLS test Rx status code
S256                           DM                                        none
S257                           DM                                Error: Timeout
S258                           DM         unexpected MPLS test Rx status code
===============================================================================
```

Output example: OAM-PM sessions detectable-rx-errors monitoring

```
A:node-2# show oam-pm sessions detectable-tx-errors
===============================================================================
OAM Performance Monitoring Transmit Error Summary: Ethernet Test Family
===============================================================================
                               Test
Session                        Type                 Detectable Transmit Error
-------------------------------------------------------------------------------
vpls1000-PM-YL4-1/1/9:1000.1000  DMM              MEP is administratively down
vpls1000-PM-YL4-1/1/9:1000.1000  SLM              MEP is administratively down
===============================================================================

===============================================================================
OAM Performance Monitoring Transmit Error Summary: IP Test Family
===============================================================================
                               Test
Session                        Type                 Detectable Transmit Error
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: OAM-PM sessions streaming delay information

```
A:node-2# show oam-pm sessions streaming delay
===============================================================================
OAM-PM Streaming Delay Summary for the Ethernet Test Family
===============================================================================
Session                          Test Type   Test State   Str Template Admin
-------------------------------------------------------------------------------
eth-circuit-service-epipe1              DMM        Inact                   Up
===============================================================================
===============================================================================
OAM-PM Streaming Delay Summary for the IP Test Family
===============================================================================
Session                          Test Type   Test State   Str Template Admin
-------------------------------------------------------------------------------
ip-lpb111-SR-TE-LSP                     TWL          Act                   Up
ip-circuit-service-vprn2                TWL          Act                   Up
ip-rtr-telemetry-streaming              TWL          Act                   Up
===============================================================================
===============================================================================
OAM-PM Streaming Delay Summary for the MPLS Test Family
===============================================================================
Session                          Test Type   Test State   Str Template Admin
-------------------------------------------------------------------------------
mpls-dm-rsvp-PE-2-PE-1                   DM          Act                   Up
mpls-dm-static-PE-2-PE-1                 DM          Act                   Up
mpls-dm-rsvp-PE-2-PE-1-hop1              DM          Act                   Up
mpls-dm-rsvp-auto-PE-2-PE-1              DM          Act   Template Not Found
===============================================================================
```

Table 535: Output fields: OAM-PM session summary information

Label	Description
Session	The session name
State/Test State	Displays if the state is active
Bin Group	The bin group identifier
Sess Type	The session type: • proactive – the type is set to always on, with an immediate start and no stop • on-demand – the type is set to on-demand, with an immediate start and no stop, or stop based on the offset
Test Types/Test Type	Displays the test types
FD	The frame delay bin threshold
FDR	The frame delay range bin threshold
IFDV	The interframe delay variation bin threshold
FLR	The frame loss ratio

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
CHLI	The consecutive high loss interval
HLI	The high loss interval
UNAV	The unavailable events
UDAV	The undetermined available events
UDUN	The undetermined unavailable events
FBR	The FBR
FB	The FB
FBA	The FBA
MPLS DM Receive status	The MPLS DM receive status
Detectable Transmit Error	The detectable transmit error
Str Template Admin	The Str template admin status

24.6 set-epoch-value

set-epoch-value

Syntax

set-epoch-value *value*

Context

[Tree] (tools>perform>router>pcp-server set-epoch-value)

Full Context

tools perform router pcp-server set-epoch-value

Description

This command sets the epoch value for a specified PCP server.

Parameters

value

Specifies the epoch value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 0 to 4294967295

Platforms

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

24.7 set-fabric-speed

set-fabric-speed

Syntax

set-fabric-speed *fabric-speed*

Context

[Tree] (tools>perform>system set-fabric-speed)

Full Context

tools perform system set-fabric-speed

Description

This command configures the fabric speed. This command is necessary to define the mode of operation for the system.

Default

set-fabric-speed none (for the 7750 SR-7s/14s FP4 and 7950 XRS systems)

set-fabric-speed fabric-speed-d (or the 7750 SR-7s/14s FP5 systems)

set-fabric-speed fabric-speed-a (for the other 7750 SR and 7450 ESS systems)

Parameters

fabric-speed

Specifies the fabric speed of the system.

Values fabric-speed-a — Sets the chassis to operate at the following speeds using N+1 switch fabric redundancy:

- up to 100 Gb/s per slot for the 7450 ESS-7/12 and the 7750 SR-7/12
- up to 200 Gb/s per slot for the 7750 SR-12e

This permits a mixture of FP2- and FP3-based cards to co-exist.

fabric-speed-b — Sets the chassis to operate at the following speeds using N+1 switch fabric redundancy:

- up to 200 Gb/s per slot for the 7450 ESS-7/12 and the 7750 SR-7/12

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- up to 400 Gb/s per slot for the 7750 SR-12e

All cards in the system are required to be FP3-based (FP3 IMM or newer). The system does not support any FP2-based cards when the chassis is set to **fabric-speed-b**.

fabric-speed-c — Sets the use of both FP3- and FP4-based cards and is compatible with SFM6 for the 7750 SR-7/12/12e and 7450 ESS-7/12. This speed is mandatory if FP4 cards are used. The performance of FP3 cards is the same as **fabric-speed-b**. For the 7950 XRS 20/20e this parameter enables the of use both FP3- and FP4-based cards and is compatible with **sfm2-x20s**. The performance of FP3 cards is the same as the **none** parameter.

fabric-speed-d — Sets the use of FP4- and FP5-based cards and is compatible with **sfm2-s** for the 7750 SR-7s and 7750 SR-14s. This speed is mandatory if FP5 cards are used.

none — For a 7950 XRS-20/20e, enables use of only FP3 cards.For 7750 SR-7s/14s, enables the use of only FP4 cards.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

24.8 set-role

set-role

Syntax

set-role {**extension** | **master** | **standalone**}

Context

[Tree] (tools>perform>chassis set-role)

Full Context

tools perform chassis set-role

Description

This command sets the role of the 7950 XRS chassis from which the command is invoked.

- When run on a standalone chassis this will update the EEPROM on the (one) Chassis backplane.
- Master and Extension chassis are blocked if any SFMs are configured as type **sfm-x20** (must be **sfm-x20-b**). The following message displays:
- When the **extension** option is specified, the chassis will immediately reboot as part of the command. The following warning and prompt will be provided:

```
WARNING: You are about to provision the chassis as an XRS-40 Extension chassis.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
This chassis will immediately reboot after the command is executed. No CLI shell is
available directly on an Extension chassis. An Extension chassis will not completely
 boot up unless it is properly cabled to and controlled by an XRS-40 Master
chassis. Do you wish to proceed (yes/no) ?
```

- When the **master** option is specified, the chassis will immediately reboot as part of the command. The Operational mode is not changed until a reboot is performed. The following warning and prompt will be provided:

  ```
  WARNING: You are about to provision the chassis as an XRS-
  40 Master chassis. This chassis will immediately reboot after the command is
  execute

  Do you wish to proceed (yes/no) ?
  ```

- When the **master** or **extension** options are specified and the chassis has any SFM slots with a configured type of sfm-x20, then the command will fail with the following message:

  ```
  Configured sfm-type of sfm-x20 is not compatible with XRS-40 mode operation.
  ```

  If you want to change the role of the chassis anyways, you can deconfigure the SFMs and then change the role.

Platforms

7950 XRS

24.9 set-trim-mode

set-trim-mode

Syntax

set-trim-mode *set-trim-mode*

Context

[Tree] (tools>perform>system set-trim-mode)

Full Context

tools perform system set-trim-mode

Description

This command should only be used with authorized direction of Nokia technical support.

Parameters

set-trim-mode

Specifies the trim operating mode for the system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values trim-mode-a, trim-mode-b

Platforms

7450 ESS, 7750 SR-7/12/12e

24.10 sflow

sflow

Syntax

sflow

Context

[Tree] (show sflow)

Full Context

show sflow

Description

This command displays the primary and backup receiver statistics, the mapping configuration and a summary of how many ports and SAPs have sFlow enabled.

Platforms

7750 SR, 7750 SR-s, 7950 XRS

Output

The following output is an example of sFlow information. Table 536: Output fields: sFlow describes the show sFlow output fields.

Output Example

```
*B:bkvm10# show sflow
===============================================================================
sFlow Status
===============================================================================
Receiver             : pat
Max Data Size        : 312

IP Addr Primary      : 10.120.142.163:6343
Packets Sent         : 2572
Packet Errors        : 2
Last Packet Sent     : 07/08/2014 22:23:57nt

IP Addr Backup       : N/A
Packets Sent         : 0
Packet Errors        : 0
Last Packet Sent     : No Pkts sent
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
---------------------------------
Counter Pollers
---------------------------------
Port           No. of SAPs
---------------------------------
1/1/2          3
1/2/1          0
---------------------------------
No. of sFlow counter pollers: 2
---------------------------------
-------------------------------------------------
Counter Mappings
-------------------------------------------------
Direction      Policer/Queue  Traffic Type
-------------------------------------------------
egress         queue 1        unicast
egress         queue 5        multicast
egress         queue 8        broadcast
ingress        policer 1      unicast
ingress        policer 6      multicast
ingress        policer 12     broadcast
-------------------------------------------------
No. of sFlow counter mappings: 6
-------------------------------------------------
===============================================================================
```

Table 536: Output fields: sFlow

Label	Description
sFlow Status	
Receiver	Displays the configured name for the sFlow receiver.
Max Data Size	The configured maximum data size for sFlow UDP packets.
IP Addr Primary	The primary IP address and destination port for sFlow receiver.
IP Addr Backup	The backup IP address and destination port for sFlow receiver.
Packets Sent	The number of packets sent successfully to the primary or backup receiver destination, since the destination was configured, CPM card HA switchover, or system reboot.
Packet Errors	The number of packets that could not be sent to the primary or backup receiver destination because of an error, since the destination was configured, CPM card HA switchover, or system reboot. An example of an error is destination IP not reachable.
Last Packet Sent	Displays the date and time of the last packet sent.
Counter Pollers	
Port	Displays the port on which sFlow is enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
No. of SAPs	The number of SAPs on the port with sFlow enabled.
No. of sFlow counter pollers	The number of sFlow counter pollers.
Counter Mappings	
Direction	Displays the direction of traffic (ingress or egress) the map entry applies to.
Policer/Queue	Displays the policer or queue instance being mapped by s Flow map.
Traffic type	Displays the type of sFlow traffic statistics (unicast, multicast or broadcast) that the policer/queue maps to.
No. of sFlow counter mappings	The number of entries in the sFlow ingress and egress counter map.

24.11 sfm

sfm

Syntax

sfm *sfm-name* [**force**]

Context

[Tree] (clear sfm)

Full Context

clear sfm

Description

This command resets the SFM.

Parameters

sfm-name

Specifies the SFM identifier.

Values 1 to 16 (7950 XRS)
1 to 8 (7750-SR-14s)
1, 2 (all other platforms)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

force

Performs the reset without a confirmation prompt.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

sfm

Syntax

sfm [*sfm-name*] [**detail**]

sfm [*sfm-name*] **icport** [**down**] [**degraded**]

Context

[Tree] (show sfm)

Full Context

show sfm

Description

This command displays SFM status information.

Parameters

sfm-name

Specifies the SFM identifier.

Values 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

icport

Displays interconnect port information.

down

Displays interconnect ports that are not operational.

degraded

Displays interconnect ports that are associated with fabric degradation.

detail

Displays detailed information about the SFM.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

Output

See the following output examples:

- Output Example: show sfm

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output Example: show sfm <sfm-id> detail
- Output Example: show sfm icport
- Output Fields: show sfm

Output Example: show sfm

```
A:7950 XRS-20# show sfm
===============================================================================
SFM Summary
===============================================================================
Slot   Provisioned Type                           Admin Operational   Comments
           Equipped Type (if different)           State State
-------------------------------------------------------------------------------
1      sfm-x20                                    up    up
2      sfm-x20                                    up    up
3      sfm-x20                                    up    up
4      sfm-x20                                    up    up
5      sfm-x20                                    up    up
6      (not provisioned)                          up    unprovisioned
           sfm-x20
7      (not provisioned)                          up    unprovisioned
           sfm-x20
8      (not provisioned)                          up    unprovisioned
           sfm-x20
===============================================================================
```

Output Example: show sfm <sfm-id> detail

```
A:7950 XRS-20# show sfm 2 detail
===============================================================================
Fabric 2
===============================================================================
Slot   Provisioned Type                           Admin Operational   Comments
           Equipped Type (if different)           State State
-------------------------------------------------------------------------------
2      (not provisioned)                          up    unprovisioned
           sfm-x20

Hardware Data
    Part number                   : xx
    CLEI code                     : xx
    Serial number                 : xx
    Manufacture date              : xx
    Manufacturing string          : xx
    Manufacturing deviations      : xx
    Manufacturing assembly number : xx
    Administrative state          : up
    Operational state             : unprovisioned
    Time of last boot             : N/A
    Current alarm state           : alarm cleared
===============================================================================

Inter Chassis SFM Interconnect
SFM Interconnect Port 1
oper state : no-link
Misconnect Info : Fabric 3 IcPort 14
SFF Status : not-equipped
fabric degrade state : none
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example: show sfm icport

```
*A:myNode# show sfm icport
===============================================================================
SFM Interconnect Port Summary
===============================================================================
SFMSFM IcPort IcPort Module Degrade Miscon.Info
Oper State Num Oper State Inserted State SFM IcPort
-------------------------------------------------------------------------------
1 unprovisioned 1 up yes none
1 unprovisioned 2 invalid-conne* no degraded 3 14
2 up 2 indeterminate no none
2 up 3 up no degraded
2 up 5 no-link no none
2 up 14 indeterminate yes degraded
===============================================================================
* indicates that the corresponding row element may have been truncated.
===============================================================================

*A:myNode# show sfm icport down
===============================================================================
SFM Interconnect Port Summary
===============================================================================
SFM SFM IcPortIcPortModuleDegradeMiscon. Info
Oper StateNumOper StateInsertedStateSFMIcPort
-------------------------------------------------------------------------------
1 unprovisioned 2invalid-conne*nodegraded 3 14
2 up 2indeterminatenononone
2 up5no-linknononone
2 up14indeterminateyesdegraded
===============================================================================
* indicates that the corresponding row element may have been truncated.

*A:myNode# show sfm icport degraded
===============================================================================
SFM Interconnect Port Summary
===============================================================================
SFM SFMIcPortIcPortModuleDegradeMiscon. Info
Oper StateNumOper StateInserted State SFM IcPort
-------------------------------------------------------------------------------
2 up 3 up no degraded
2 up 14 indeterminate yes degraded
===============================================================================
```

Output Fields: show sfm

Table 537: Output fields: SFM describes output fields for the **show sfm** command.

Table 537: Output fields: SFM

Label	Description
Slot	The number of the slot in which the SFM is installed.
Provisioned Type Equipped Type (if different)	The SFM type provisioned.
Admin State	The administrative state.
Operational State	The operational state.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Hardware Data	
Part number	The SFM part number.
CLEI code	The SFM CLEI code.
Serial number	The SFM serial number.
Manufacture date	The date the SFM was manufactured.
Manufacturing deviations	Specifies any manufacturing deviations.
Manufacturing assembly number	The SFM assembly number.
Administrative state	Specifies the administrative state of the SFM.
Operational state	Specifies the operational state of the SFM.
Time of last boot	Indicates the time stamp of the last system restart.
Current alarm state	Indicates the current alarm state.
Inter Chassis SFM Interconnect	
SFM Interconnect Port	Port number of the interconnect port.
oper state	Up — The SFM is administratively up. Down — The SFM is administratively down.
Misconnect Info	Only displayed if the oper state is **invalid-connection**.
SFF Status	The SFF status
fabric degrade state	Indicates state.

24.12 sfm-interco-test

sfm-interco-test

Syntax

sfm-interco-test [**sfm x**]

Context

[Tree] (tools>perform>system>inter-chassis sfm-interco-test)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools perform system inter-chassis sfm-interco-test

Description

Use this command to run inter-chassis SFM loopback tests for the 7950 XRS.

Run on an out-of-service standalone chassis that will later become the Extension chassis of an XRS-40 system. The out of service chassis (Chassis 1 – future Master chassis) must be connected by means of SFM interconnect links (cable bundles) before this test is run. This test operates without requiring any XCMs in either chassis, but they can be present.

The test should not be initiated from Chassis 1.

The following conditions must be satisfied for the test to be permitted:

- The system must be in standalone mode; error message:

```
        The test can only be performed on a standalone system
```

- The system must have only XRS-40 compatible SFMs provisioned; error message:

```
        The chassis can not have SFMs with a configured type of sfm-x20s-b
        when performing the test
```

- All provisioned SFMs must be operational; error message:

```
All provisioned SFMs must be operational before performing the test
```

- The same test cannot be running in another session (that is, only one test can be executed at a time); error message:

```
        The test is already in-progress in another session
```

Other notes (which are also relayed to the operator when the test is attempted):

- All provisioned XCMs will be reset at the start of the test and will be held in the *booting* state until the test has completed.
- All SFMs will be cleared when the operator exits the test. This will trigger a reset of the XCMs and the standby CPM.

Platforms

7950 XRS

Output

The following output is an example of SFM interconnection test information.

Output Example

```
*A:Dut-A# tools perform system inter-chassis sfm-interco-test
WARNING: This test is intended for an out-of-service standalone chassis that is
going to later become the extension chassis of an XRS-40 system.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
At the start of the test, all provisioned IOMs will be reset and will be held
in the 'booting' state until the test has completed.

While the test is running avoid altering this system or the attached system
(e.g. do not shutdown, clear, or remove the CPMs/SFMs/IOMs and do not issue
CPM switchovers)

Once testing has completed all SFMs in this system will be cleared.

Do you wish to proceed (y/n)? y
Clearing provisioned IOMs ...
Test executing ...
Displaying results

===============================================================================
SFM Interconnect Port Summary
===============================================================================
SFM   SFM            IcPort  IcPort         Module    Degrade   Miscon Info
      Oper State     Num     Oper State     Inserted  State     SFM  IcPort
-------------------------------------------------------------------------------
1     up             1       up             yes       none
1     up             2       up             yes       none
1     up             3       up             yes       none
1     up             4       up             yes       none
1     up             5       up             yes       none
1     up             6       up             yes       none
1     up             7       up             yes       none
1     up             8       up             yes       none
1     up             9       up             yes       none
1     up             10      up             yes       none
1     up             11      up             yes       none
1     up             12      up             yes       none
1     up             13      up             yes       none
1     up             14      up             yes       none
2     up             1       up             yes       none
2     up             2       up             yes       none
2     up             3       up             yes       none
2     up             4       up             yes       none
2     up             5       up             yes       none
2     up             6       up             yes       none
2     up             7       up             yes       none
2     up             8       up             yes       none
2     up             9       up             yes       none
2     up             10      up             yes       none
2     up             11      up             yes       none
2     up             12      up             yes       none
2     up             13      up             yes       none
2     up             14      up             yes       none
3     up             1       up             yes       none
3     up             2       up             yes       none
3     up             3       up             yes       none
3     up             4       up             yes       none
3     up             5       up             yes       none
3     up             6       up             yes       none
3     up             7       up             yes       none
3     up             8       up             yes       none
3     up             9       up             yes       none
3     up             10      up             yes       none
3     up             11      up             yes       none
3     up             12      up             yes       none
3     up             13      up             yes       none
3     up             14      up             yes       none
4     up             1       up             yes       none
4     up             2       up             yes       none
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
4     up               3       up              yes       none
4     up               4       up              yes       none
4     up               5       up              yes       none
4     up               6       up              yes       none
4     up               7       up              yes       none
4     up               8       up              yes       none
4     up               9       up              yes       none
4     up               10      up              yes       none
4     up               11      up              yes       none
4     up               12      up              yes       none
4     up               13      up              yes       none
4     up               14      up              yes       none
5     up               1       up              yes       none
5     up               2       up              yes       none
5     up               3       up              yes       none
5     up               4       up              yes       none
5     up               5       up              yes       none
5     up               6       up              yes       none
5     up               7       up              yes       none
5     up               8       up              yes       none
5     up               9       up              yes       none
5     up               10      up              yes       none
5     up               11      up              yes       none
5     up               12      up              yes       none
5     up               13      up              yes       none
5     up               14      up              yes       none
6     up               1       up              yes       none
6     up               2       up              yes       none
6     up               3       up              yes       none
6     up               4       up              yes       none
6     up               5       up              yes       none
6     up               6       up              yes       none
6     up               7       up              yes       none
6     up               8       up              yes       none
6     up               9       up              yes       none
6     up               10      up              yes       none
6     up               11      up              yes       none
6     up               12      up              yes       none
6     up               13      up              yes       none
6     up               14      up              yes       none
7     up               1       up              yes       none
7     up               2       up              yes       none
7     up               3       up              yes       none
7     up               4       up              yes       none
7     up               5       up              yes       none
7     up               6       up              yes       none
7     up               7       up              yes       none
7     up               8       up              yes       none
7     up               9       up              yes       none
7     up               10      up              yes       none
7     up               11      up              yes       none
7     up               12      up              yes       none
7     up               13      up              yes       none
7     up               14      up              yes       none
8     up               1       up              yes       none
8     up               2       up              yes       none
8     up               3       up              yes       none
8     up               4       up              yes       none
8     up               5       up              yes       none
8     up               6       up              yes       none
8     up               7       up              yes       none
8     up               8       up              yes       none
8     up               9       up              yes       none
8     up               10      up              yes       none
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
8     up             11      up             yes       none
8     up             12      up             yes       none
8     up             13      up             yes       none
8     up             14      up             yes       none
===============================================================================

Correct any mis-cabling and replace any suspected faulty equipment. Press Q to
quit the test or any other key to run the test again. q
Test complete, clearing the SFMs to return them to normal operational state.
Done. Exiting test.
```

24.13 sgt-qos

sgt-qos

Syntax

sgt-qos

Context

[Tree] (show>router sgt-qos)

Full Context

show router sgt-qos

Description

This command displays QoS information for self-generated traffic. In the output, "none” means that the default values for each application are used, not that there is no value set. For a list of application defaults, refer to "QoS for Self-Generated (CPU) Traffic on Network Interfaces” in the *7450 ESS, 7750 SR, 7950 XRS, and VSR Quality of Service Guide*.

Platforms

All

24.14 sham-link

sham-link

Syntax

sham-link [*interface-name*] [**detail**]

sham-link *interface-name* **remote** *ip-address* [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>ospf sham-link)

Full Context

show router ospf sham-link

Description

This command displays OSPFv2 sham-link neighbor information.

Parameters

interface-name

Displays only the sham link identified by this interface name, up to 32 characters.

remote

Displays sham-link information for the sham link identified by the specified remote IP address.

ip-address

Displays only the sham link identified by this IP address.

Platforms

All

Output

The following output is an example of OSPFv2 sham-link neighbor information and Table 538: Output fields: OSPF sham links describes the output fields.

Output Example

```
show router 1 ospf sham-link detail
===============================================================================
Rtr vprn1 OSPFv2 Instance 0 Sham-Links (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface: myshamif1 Remote Nbr: 50.0.1.2
-------------------------------------------------------------------------------
Local IP Address : 50.0.1.1
Area Id          : 0.0.0.0              Last Enabled     : 08/12/2021 13:09:05
Admin Status     : Enabled              Oper State       : Point To Point
Transit Delay    : 1 sec                Retrans Intrvl   : 5 sec
Hello Intrvl     : 1 sec                Rtr Dead Intrvl  : 3 sec
Cfg Metric       : 10                   Auth Type        : None
If Events        : 1
Tot Rx Packets   : 0                    Tot Tx Packets   : 32
Rx Hellos        : 0                    Tx Hellos        : 32
Rx DBDs          : 0                    Tx DBDs          : 0
Rx LSRs          : 0                    Tx LSRs          : 0
Rx LSUs          : 0                    Tx LSUs          : 0
Rx LS Acks       : 0                    Tx LS Acks       : 0
Discards         : 0                    Tx Failures      : 0
                                        Retransmits      : 0
Bad Networks     : 0
Bad Areas        : 0                    Bad Dest Addrs   : 0
Bad Auth Types   : 0                    Auth Failures    : 0
Bad Neighbors    : 0                    Bad Pkt Types    : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Bad Lengths      : 0                    Bad Hello Int.   : 0
Bad Dead Int.    : 0                    Bad Options      : 0
Bad Versions     : 0                    Bad Checksums    : 0
===============================================================================
```

Table 538: Output fields: OSPF sham links

Label	Description
If Name	IP interface name
Nbr IP	IP address of the neighbor
Metric	The metric associated with the interface
Adm	The administrative state of the interface
Oper	The operational state of the interface
No. of OSPF Sham-links	Number of sham links configured
Tx Failures	Transmitted OSPF packets that are dropped due to resource shortage

24.15 sham-link-neighbor

sham-link-neighbor

Syntax

sham-link-neighbor [**detail**]

sham-link-neighbor *interface-name* **remote** *ip-address* [**detail**]

Context

[Tree] (show>router>ospf sham-link-neighbor)

Full Context

show router ospf sham-link-neighbor

Description

This command displays OSPFv2 sham-link neighbor information.

Parameters

interface-name

Displays only the sham-link neighbor identified by this interface name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

remote

Displays sham-link neighbor information for the neighbor identified by the specified remote IP address.

ip-address

Displays only the sham-link neighbor identified by this IP address.

Platforms

All

24.16 shared-queue

shared-queue

Syntax

shared-queue [*shared-queue-policy-name*] [**detail**]

Context

[Tree] (show>qos shared-queue)

Full Context

show qos shared-queue

Description

This command displays shared-queue policy information.

Parameters

shared-queue-policy-name

The shared-queue policy name.

detail

Displays detailed information about the shared-queue policy.

Platforms

All

Output

The following output is an example of shared-queue QoS policy information, and Table 539: Output fields: QoS shared queue describes shared-queue QoS policy output fields.

Output Example

```
*A:PE# show qos shared-queue

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Shared Queue Policies
===============================================================================
Policy-Id                       Description
-------------------------------------------------------------------------------
default                         Default Shared Queue Policy
policer-output-queues           Default Policer Output Shared Queue Policy
egress-pbr-ingress-queues       Egress PBR Ingress Shared Queue Policy
===============================================================================
*A:PE#
```

Table 539: Output fields: QoS shared queue

Label	Description
Policy	The ID that uniquely identifies the policy.
Description	A text string that helps identify the policy context in the configuration file.

24.17 shcv-policy

shcv-policy

Syntax

shcv-policy [*policy-name*]

Context

[Tree] (show>subscr-mgmt shcv-policy)

Full Context

show subscriber-mgmt shcv-policy

Description

This command displays the SHCV policy parameters.

Parameters

policy-name

Specifies the SHCV policy name, up to 32 characters.

Platforms

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

Output

The following output is an example of SHCV policy information. Table 540: Output fields: SHCV policy describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
# show subscriber-mgmt shcv-policy "shcv-1"
===============================================================================
SHCV policy "shcv-1"
===============================================================================
Description                 : (Not Specified)
Last management change      : 09/27/2021 09:50:58
VPLS
IPv4 source address         : (Not Specified)
Source MAC address          : (Not Specified)
Layer 3
Source IP address origin    : interface
Unnumbered source IP address: (Not Specified)
Periodic
Administrative state        : enabled
Action                      : alarm
Interval (minutes)          : 30
Retry count                 : 2
Retry timeout (s)           : 10
-------------------------------------------------------------------------------
Triggered
-------------------------------------------------------------------------------
ip-conflict
Administrative state        : enabled
Retry count                 : 1
Retry timeout (s)           : 1
host-limit-exceeded
Administrative state        : enabled
Retry count                 : 1
Retry timeout (s)           : 1
inactivity
Administrative state        : enabled
Retry count                 : 2
Retry timeout (s)           : 10
mobility
Administrative state        : enabled
Retry count                 : 1
Retry timeout (s)           : 1
mac-learning
Administrative state        : enabled
Retry count                 : 2
Retry timeout (s)           : 10
===============================================================================
```

Table 540: Output fields: SHCV policy

Label	Description
Description	Displays the SHCV policy description
Last management change	Displays the date and time when the policy was last changed
VPLS	SHCV parameters applicable for VPLS services
IPv4 source address	Displays the IPv4 source address (sender IP address) used in SHCV ARP requests sent to host addresses learned using DHCP snooping in a VPLS service

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Source MAC address	Displays the source MAC address used in SHCV ARP requests sent to host addresses learned using DHCP snooping in a VPLS service
Layer 3	SHCV parameters applicable for Layer 3 services
Source IP address origin	Displays the source IP address origin: • interface = use the interface MAC and IP address as source addresses for SHCV ARP requests on regular IES or VPRN interfaces • vrrp = use the VRRP MAC and IP address as source addresses for SHCV ARP requests on regular IES or VPRN interfaces when in SRRP master state
Unnumbered source IP address	Displays the IPv4 source address (sender IP address) used in SHCV ARP requests for unnumbered hosts
Periodic	SHCV parameters applicable for periodic and OAM checks
Administrative state	Displays the administrative state for periodic and OAM checks (enabled, disabled)
Action	Displays the action for unsuccessful checks: • alarm = raise an event • remove = raise and event and delete the subscriber host from the system
Interval (minutes)	Displays the interval between subsequent periodic checks
Retry count	Displays the number of SHCV check retries when no response is received withing the retry timeout interval
Retry timeout (s)	Displays the time to wait for an SHCV check response before the next retry or execution of the SHCV unsuccessful check action
Triggered	SHCV parameters applicable for triggered checks
ip-conflict	SHCV parameters applicable for checks triggered by an IP conflict: a new host with different MAC address and same IP address as an existing host active on the same SAP
Administrative state	Displays the administrative state for ip-conflict triggered checks (enabled, disabled)
Retry count	Displays the number of SHCV check retries when no response is received withing the retry timeout interval
Retry timeout (s)	Displays the time to wait for an SHCV check response before the next retry or deletion of the existing host from the system

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
host-limit-exceeded	SHCV parameters applicable for checks triggered by a host limit exceeded event
Administrative state	Displays the administrative state for host-limit-exceeded triggered checks (enabled, disabled)
Retry count	Displays the number of SHCV check retries when no response is received withing the retry timeout interval
Retry timeout (s)	Displays the time to wait for an SHCV check response before the next retry or deletion of the unresponsive existing host from the system
inactivity	SHCV parameters applicable for checks triggered by an inactivity detection
Administrative state	Displays the administrative state for host-limit-exceeded triggered checks (enabled, disabled)
Retry count	Displays the number of SHCV check retries when no response is received withing the retry timeout interval
Retry timeout (s)	Displays the time to wait for an SHCV check response before the next retry or deletion of the unresponsive inactive host from the system
mobility	SHCV parameters applicable for checks triggered by a mobility event: a new host with same MAC address and same IP address as an existing host active on a different SAP
Administrative state	Displays the administrative state for mobility triggered checks (enabled, disabled)
Retry count	Displays the number of SHCV check retries when no response is received withing the retry timeout interval
Retry timeout (s)	Displays the time to wait for an SHCV check response before the next retry or deletion of the existing host from the system
mac-learning	SHCV parameters applicable for checks triggered for mac learning of IP only static hosts
Administrative state	Displays the administrative state for mac-learning triggered checks (enabled, disabled)
Retry count	Displays the number of SHCV check retries when no response is received withing the retry timeout interval
Retry timeout (s)	Displays the time to wait for an SHCV check response before the next retry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.18 sid-egress-stats

sid-egress-stats

Syntax

sid-egress-stats adj [*interface-name*]

sid-egress-stats adj-set [*id*]

sid-egress-stats all

sid-egress-stats node [*ip-prefix*[/ *prefix-length*]]

Context

[Tree] (clear>router>isis sid-egress-stats)

[Tree] (clear>router>ospf sid-egress-stats)

Full Context

clear router isis sid-egress-stats

clear router ospf sid-egress-stats

Description

This command clears the IS-IS or OSPF egress SID statistics.

Parameters

adj

Clears the egress statistics of the adjacency SID specified by the corresponding interface name. Clears all adjacency SIDs egress statistics if no adjacency SID is specified.

interface-name

Clears the SID egress statistics for the interface specified by this interface name up to 32 characters.

adj-set

Clears the egress statistics of the adjacency set specified by the corresponding ID. Clears all adjacency sets egress statistics if no adjacency set is specified.

id

Clears the SID egress statistics for the identifier specified for this adjacency set.

Values 0 to 4294967295

all

Clears all the SID egress statistics.

node

Clears the egress statistics for the node SID specified by the corresponding prefix. Clears all node SIDs egress statistics if no node SID is specified.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-prefix[/prefix-length]

Clears the IP prefix and prefix length of the node SID.

Values ipv4-prefix:

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

Platforms

All

sid-egress-stats

Syntax

sid-egress-stats adj [*interface-name*]

sid-egress-stats all

sid-egress-stats node [*ip-prefix*[/ *prefix-length*]]

Context

[Tree] (clear>router>ospf3 sid-egress-stats)

Full Context

clear router ospf3 sid-egress-stats

Description

This command clears the OSPF3 egress SID statistics.

Parameters

adj

Clears the egress statistics of the adjacency SID specified by the corresponding interface name. Clears all adjacency SIDs egress statistics if no adjacency SID is specified.

interface-name

Clears the SID egress statistics for the interface specified by this interface name up to 32 characters.

all

Clears all the SID egress statistics.

node

Clears the egress statistics for the node SID specified by the corresponding prefix. Clears all node SIDs egress statistics if no node SID is specified.

ip-prefix[/prefix-length]

Clears the IP prefix and prefix length of the node SID.

Values ipv4-prefix:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ipv6-prefix-length: [0 to 128]

Platforms

All

24.19 sid-ingress-stats

sid-ingress-stats

Syntax

sid-ingress-stats adj [*interface-name*]

sid-ingress-stats adj-set [*id*]

sid-ingress-stats all

sid-ingress-stats node [*ip-prefix*[/ *prefix-length*]]

Context

[Tree] (clear>router>isis sid-ingress-stats)

[Tree] (clear>router>ospf sid-ingress-stats)

Full Context

clear router isis sid-ingress-stats

clear router ospf sid-ingress-stats

Description

This command clears the IS-IS or OSPF ingress SID statistics.

Parameters

adj

Clears the ingress statistics of the adjacency SID specified by the corresponding interface name. Clears all adjacency SIDs ingress statistics if no adjacency SID is specified.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

interface-name

Clears the SID ingress statistics for the interface specified by this interface name up to 32 characters.

adj-set

Clears the ingress statistics of the adjacency set specified by the corresponding ID. Clears all adjacency sets ingress statistics if no adjacency set is specified.

id

Clears the SID ingress statistics for the identifier specified for this adjacency set.

Values 0 to 4294967295

all

Clears all the SID ingress statistics.

node

Clears the ingress statistics for the node SID specified by the corresponding prefix. Clears all node SIDs ingress statistics if no node SID is specified.

ip-prefix[/prefix-length]

Clears the IP prefix and prefix length of the node SID.

Values ipv4-prefix:

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

Platforms

All

sid-ingress-stats

Syntax

sid-ingress-stats adj [*interface-name*]

sid-ingress-stats all

sid-ingress-stats node [*ip-prefix*[/ *prefix-length*]]

Context

[Tree] (clear>router>ospf3 sid-ingress-stats)

Full Context

clear router ospf3 sid-ingress-stats

Description

This command clears the OSPF3 ingress SID statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

adj

Clears the ingress statistics of the adjacency SID specified by the corresponding interface name. Clears all adjacency SIDs ingress statistics if no adjacency SID is specified.

interface-name

Clears the SID ingress statistics for the interface specified by this interface name up to 32 characters.

all

Clears all the SID ingress statistics.

node

Clears the ingress statistics for the node SID specified by the corresponding prefix. Clears all node SIDs ingress statistics if no node SID is specified.

ip-prefix[/prefix-length]

Clears the IP prefix and prefix length of the node SID.

Values ipv4-prefix:

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

ipv6-prefix-length: [0 to 128]

Platforms

All

24.20 sid-stats

sid-stats

Syntax

sid-stats adj [*interface-name*]

sid-stats adj-set [*id*]

sid-stats node [*ip-prefix*[/ *prefix-length*]] [**algo** algo-id]

sid-stats summary

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>isis sid-stats)

[Tree] (show>router>ospf sid-stats)

Full Context

show router isis sid-stats

show router ospf sid-stats

Description

This command displays information about IGP SIDs statistics.

Parameters

interface-name

Displays only the SID statistics identified by this interface name up to 32 characters.

id

Displays the adjacency set ID.

Values 0 to 4294967295

ip-prefix[/prefix-length]

Displays information for the specified IP prefix and prefix length.

Values ipv4-prefix:

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

algo-id

Displays the algorithm identifier.

Values 0 to 255

adj

Displays the ingress and egress statistics, if any, of the adjacency SID specified by the corresponding interface name. Displays statistics for all adjacency SIDs if none is specified.

adj-set

Displays the ingress and egress statistics, if any, of the adjacency set specified by its associated ID. Displays statistics for all adjacency sets if none is specified.

node

Displays the ingress and egress statistics, if any, of the node SID specified by the corresponding prefix. Displays statistics for all node SIDs if none is specified.

algo

Displays statistics for the specified algorithm identifier.

summary

Displays statistics indices usage for SID statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of SID statistics information and Table 541: Output fields: SID statistics adjacency set describes the output fields.

Output Example

The **show router ospf sid-stats adj** command displays statistics for adjacency SIDs.

```
===============================================================================
Label             : 20001               Type              : adjacency
Prefix            : 10.1.2.2/32
Interface         : to_Dut-B
Ingress Oper State: enabled             Egress Oper State : enabled
Ingress Octets    : 0                   Egress Octets     : 0
Ingress Packets   : 0                   Egress Packets    : 0
...
===============================================================================
```

The **show router ospf sid-stats adj-set** command displays statistics for adjacency set SIDs.

```
===============================================================================
Label             : 20001               Type              : adjacencySet
Prefix            : 2.1.20.10/32
Adjacency-set     : 23
Ingress Oper State: enabled             Egress Oper State : enabled
Ingress Octets    : 0                   Egress Octets     : 0
Ingress Packets   : 0                   Egress Packets    : 0
...
===============================================================================
```

The **show router ospf sid-stats node** command displays statistics for the specified algorithm.

```
*A:Dut-C# show router ospf sid-stats node algo 128
===============================================================================
Rtr Base OSPFv2 Instance 0 Sid Statistics
===============================================================================
Ingress Label     : 101282              Type              : node
Prefix            : 10.20.1.2/32
Algorithm         : 128
Ingress Oper State: disabled            Egress Oper State : disabled
Ingress Octets    : 0                   Egress Octets     : 0
Ingress Packets   : 0                   Egress Packets    : 0
Ingress Label     : 101283              Type              : node
Prefix            : 10.20.1.3/32
Algorithm         : 128
Ingress Oper State: disabled            Egress Oper State : disabled
Ingress Octets    : 0                   Egress Octets     : 0
Ingress Packets   : 0                   Egress Packets    : 0
Ingress Label     : 101285              Type              : node
Prefix            : 10.20.1.5/32
Algorithm         : 128
Ingress Oper State: disabled            Egress Oper State : disabled
Ingress Octets    : 0                   Egress Octets     : 0
Ingress Packets   : 0                   Egress Packets    : 0
-------------------------------------------------------------------------------
Sid count : 3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-C#
```

The **show router ospf sid-stats node** command displays statistics for node SIDs.

```
===============================================================================
Label             : 20001              Type              : node
Prefix            : 1.1.1.1/32
Ingress Oper State: enabled            Egress Oper State : enabled
Ingress Octets    : 0                  Egress Octets     : 0
Ingress Packets   : 0                  Egress Packets    : 0
...
===============================================================================
```

The **show router ospf sid-stats summary** command displays summary statistics for SIDs.

```
===============================================================================
Rtr Base OSPFv2 Instance 0 Sid Statistics (summary)
===============================================================================
===============================================================================
SID Statistics summary
===============================================================================
                                Node            Adj             Adj-Set
-------------------------------------------------------------------------------
SID Ingress Statistics indexes : 0/0            0/0             0/0
SID Egress Statistics indexes  : 0/0            0/0             0/0
-------------------------------------------------------------------------------
<stats>/<sids> : <stats> = number of statistics indexes of specified type
                 <sids>  = total number of SIDs of specified type for which the
                           statistic is applicable
===============================================================================
```

Table 541: Output fields: SID statistics adjacency set

Label	Description
Label	The ILM MPLS label corresponding to the SID.
Type	The type of the SID.
Prefix	The prefix corresponding to the node SID, or the IP address of the neighbor (adjacency SID) or the destination IP associated to the adjacency set.
Interface	The OSPF interface.
Ingress Oper State	Indicates if ingress statistics are enabled or disabled, or if no statistics index is allocated to that SID (no resources).
Egress Oper State	Indicates if egress statistics are enabled or disabled, or if no statistics index is allocated to that SID (no resources).
Ingress Octets	The number of octets received on ingress for that SID.
Egress Octets	The number of octets sent on egress for that SID.
Ingress Packets	The number of packets received on ingress for that SID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Egress Packets	The number of packets sent on egress for that SID.

sid-stats

Syntax

sid-stats adj [*interface-name*]

sid-stats node [*ip-prefix*[/ *prefix-length*]]

sid-stats summary

Context

[Tree] (show>router>ospf3 sid-stats)

Full Context

show router ospf3 sid-stats

Description

This command displays information about IGP SIDs statistics.

Parameters

adj

Displays the ingress and egress statistics, if any, of the adjacency SID specified by the corresponding interface name. Displays statistics for all adjacency SIDs if none is specified.

interface-name

Displays only the SID statistics identified by this interface name up to 32 characters.

node

Displays the ingress and egress statistics, if any, of the node SID specified by the corresponding prefix. Displays statistics for all node SIDs if none is specified.

ip-prefix[/prefix-length]

Displays information for the specified IP prefix and prefix length.

Values ipv4-prefix:

- a.b.c.d (host bits must be 0)

ipv4-prefix-length: [0 to 32]

summary

Displays stat indices usage for SID statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following outputs are an example of SID statistics information

Output Example

The **show router ospf3 sid-stats adj** command displays statistics for adjacency SIDs.

```
===============================================================================
Label             : 20001              Type              : adjacency
Prefix            : 10.1.2.2/32
Interface         : to_Dut-B
Ingress Oper State: enabled            Egress Oper State : enabled
Ingress Octets    : 0                  Egress Octets     : 0
Ingress Packets   : 0                  Egress Packets    : 0
...
===============================================================================
```

The **show router ospf3 sid-stats node** command displays statistics for node SIDs.

```
===============================================================================
Label             : 20001              Type              : node
Prefix            : 1.1.1.1/32
Ingress Oper State: enabled            Egress Oper State : enabled
Ingress Octets    : 0                  Egress Octets     : 0
Ingress Packets   : 0                  Egress Packets    : 0
...
===============================================================================
```

The **show router ospf3 sid-stats summary** command displays summary statistics for SIDs.

```
===============================================================================
Rtr Base OSPFv3 Instance 0 Sid Statistics (summary)
===============================================================================
===============================================================================
SID Statistics summary
===============================================================================
                                Node            Adj
-------------------------------------------------------------------------------
SID Ingress Statistics indexes : 0/0            0/0
SID Egress Statistics indexes  : 0/0            0/0
-------------------------------------------------------------------------------
<stats>/<sids> : <stats> = number of statistics indexes of specified type
                 <sids>  = total number of SIDs of specified type for which the
                           statistic is applicable
===============================================================================
```

24.21 site

site

Syntax

site [**detail**]

site *name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id site)

Full Context

show service id site

Description

This command displays site-specific information for the service.

Parameters

name

Specifies the site name, up to 32 characters in length.

Platforms

All

site

Syntax

site *name*

Context

[Tree] (clear>service>id site)

Full Context

clear service id site

Description

This command clears site-specific information for the service.

Parameters

name

Clears information about the specified service name, up to 32 characters.

Values 1 to 2147483648

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.22 site-using

site-using

Syntax

site-using [**site-name** *name*] [**site-id** *site-id*]

Context

[Tree] (show>service site-using)

Full Context

show service site-using

Description

This command displays BGP multihoming sites used by services.

Parameters

name

Specifies the BGP multihoming site name, up to 32 characters.

site-id

Specifies the BGP multihoming site ID.

Values 1 to 65535

Platforms

All

24.23 sla-profile

sla-profile

Syntax

sla-profile [*sla-profile-name* [**association**]]

Context

[Tree] (show>subscr-mgmt sla-profile)

Full Context

show subscriber-mgmt sla-profile

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays SLA profile information.

Parameters

sla-profile-name

Specifies an existing SLA profile name.

association

Displays the association information configured with the specified *sla-profile-name*.

Platforms

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

Output

The following output is an example of subscriber management SLA profile information.

Output Example

```
# show subscriber-mgmt sla-profile "sla-profile-1"
===============================================================================
SLA Profile sla-profile-1
===============================================================================
Description          : (Not Specified)
Control plane(s)     : local
Host Limits          : overall 1
                       ipv4-overall 1
                       ipv4-arp 1
                       ipv4-dhcp 1
                       ipv4-ppp 1
                       ipv6-overall 1
                       ipv6-pd-overall 1
                       ipv6-pd-ipoe-dhcp 1
                       ipv6-pd-ppp-dhcp 1
                       ipv6-wan-overall 1
                       ipv6-wan-ipoe-dhcp 1
                       ipv6-wan-ipoe-slaac 1
                       ipv6-wan-ppp-dhcp 1
                       ipv6-wan-ppp-slaac 1
                       lac-overall 1
                       remove-oldest
Session Limits       : ipoe 1
                       pppoe-local 1
                       pppoe-lac 1
                       pppoe-overall 1
                       l2tp-lns 1
                       l2tp-lts 1
                       l2tp-overall 1
                       overall 1
Egr Sched-Policy     : N/A
Ingress Qos-Policy   : 1                      Egress Qos-Policy : 1
Ingress Queuing Type : Service-queuing (Not Applicable to Policer)
Ingr IP Fltr-Id      : N/A                    Egr IP Fltr-Id    : N/A
Ingr IPv6 Fltr-Id    : N/A                    Egr IPv6 Fltr-Id  : N/A
Ingress Report-Rate  : Maximum
Egress Report-Rate   : Maximum
Egress Remarking     : from Sap Qos
Credit Control Pol.  : N/A
Category Map         : (Not Specified)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Use ing L2TP DSCP    : false
Default SPI sharing  : per-sap
Hs-Agg-Rate-Limit    : Maximum
Egress HS Q stat mode: no-override
Bonding Rate-thresh. : high 90 low 80
Bonding Weight       : weight 100 5
Last Mgmt Change     : 09/30/2020 15:22:30
===============================================================================
-------------------------------------------------------------------------------
Ingress Queue Overrides
-------------------------------------------------------------------------------
Queue Rate       CIR        HiPrio  CBS      MBS        AvgOvrHd  StatMode
-------------------------------------------------------------------------------
No ingress overrides configured.
-------------------------------------------------------------------------------
Egress Queue Overrides
-------------------------------------------------------------------------------
Queue Rate       CIR        HiPrio  CBS      MBS        AvgOvrHd  StatMode
      HsClssWght HsWrrWght  HsWredQueuePol
-------------------------------------------------------------------------------
No egress overrides configured.
-------------------------------------------------------------------------------
Ingress Policer Overrides
-------------------------------------------------------------------------------
Plcr  Rate        CIR         CBS       MBS       ByteOffset StatMode
-------------------------------------------------------------------------------
No ingress overrides configured.
-------------------------------------------------------------------------------
Egress Policer Overrides
-------------------------------------------------------------------------------
Plcr  Rate        CIR         CBS       MBS       ByteOffset StatMode
-------------------------------------------------------------------------------
No egress overrides configured.
-------------------------------------------------------------------------------
QoS statistics aggregation
-------------------------------------------------------------------------------
Ingress policers: all
Ingress queues  : all
Egress policers : all
Egress queues   : all
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Egress HS WRR Group Overrides
-------------------------------------------------------------------------------
WrrGroupId     ClassWeight    Rate
-------------------------------------------------------------------------------
No egress overrides configured.
===============================================================================
```

```
# show subscriber-mgmt sla-profile
===============================================================================
SLA Profiles
===============================================================================
Name                             Description
-------------------------------------------------------------------------------
sla_default
sla_prof100_VOIP
sla_prof110_VOIP
sla_prof120_VOIP
sla_prof130_VOIP
sla_prof140_VOIP
sla_prof230_VOIP
sla_prof80
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
sla_prof80_VOIP
sla_prof81_VOIP
sla_prof90_VOIP
sla_profPC1
sla_profPC2
sla_profPC3
-------------------------------------------------------------------------------
Number of SLA Profiles : 14
===============================================================================
A:Dut-A#


# show subscriber-mgmt sla-profile sla_prof100_VOIP association
===============================================================================
SLA Profile sla_prof100_VOIP
-------------------------------------------------------------------------------
SAP Default-Profile Associations
-------------------------------------------------------------------------------
No associations found.
-------------------------------------------------------------------------------
SAP Static Host Associations
-------------------------------------------------------------------------------
No associations found.
-------------------------------------------------------------------------------
SAP Non-Sub-Traffic-Profile Associations
-------------------------------------------------------------------------------
No associations found.
-------------------------------------------------------------------------------
Sub-Ident-Policy Profile Map Associations
-------------------------------------------------------------------------------
Policy-name : sub_ident_all
 - Key : sla_prof100_VOIP
-------------------------------------------------------------------------------
Sub-Profile Map Associations
-------------------------------------------------------------------------------
No associations found.
-------------------------------------------------------------------------------
Explicit Subscriber Map Associations
-------------------------------------------------------------------------------
No associations found.
===============================================================================
A:Dut-A#
```

Table 542: Output fields: SLA profile describes subscriber management SLA profile output fields.

Table 542: Output fields: SLA profile

Field	Description
Name	The Service Level Agreement (SLA) profile name
Description	The user provided description of this policy
Number of SLA Profiles	The total number of SLA profiles configured on this node
Control plane(s)	The SLA profile controlled by local control plane or CUPS control plane
Host Limits	The configured maximum number of hosts per SLA profile instance

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Session Limits	The configured maximum number of sessions per SLA profile instance
Ingress Qos-Policy	The ingress QoS policy ID
Egress Qos-Policy	The egress QoS policy ID
Ingress Queuing Type	The queuing type
Ingress Filter-Id	The ingress IP filter
Egress Filter-Id	The egress IP filter
Last Mgmt Change	The time and date of the most recent management-initiated change
Queue	The ingress queue ID
Rate	The SLA profile queue rate
CIR	The CIR rate
HiPrio	The number of high priority packets as determined by the SLA profile ingress QoS policy
CBS	The amount of reserved buffer space (in bytes) for the policer
MBS	The amount of buffer space (in bytes) allowed for the policer

24.24 slaac

slaac

Syntax

slaac

Context

[Tree] (clear>service>id slaac)

Full Context

clear service id slaac

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context clear Stateless Address Auto-Configuration (SLAAC) related data for the service.

Platforms

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

slaac

Syntax

slaac

Context

[Tree] (show>service>id slaac)

Full Context

show service id slaac

Description

This command displays SLAAC information.

Platforms

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

24.25 slm

slm

Syntax

slm lmm [**interval** *interval-value*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>oam-pm>session slm)

Full Context

monitor oam-pm session slm

Description

This command monitors the SLM statistics for the raw measurement interval of the specified test.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

interval-value

Specifies the time interval, in seconds.

Values 3 to 60

Default 10

repeat

Specifies the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Keyword to specify the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

Keyword to specify the rate-per-second is displayed.

Default delta

Platforms

All

Output

The following output is an example of raw session measurement information, and Table 543: Output fields: SLM statistics describes the output fields.

Output example

```
A:node-2# monitor oam-pm session "eth-pm-service-4" slm
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
-----------------------------------------------------
                   Frames Sent       Frames Received
-----------------------------------------------------
Forward                  54749                54749
Backward                 54749                54749
-----------------------------------------------------
-------------------------------------------------------------------------------
Availability Counters (Und = Undetermined)
-------------------------------------------------------------------------------
           Available   Und-Avail Unavailable Und-Unavail        HLI       CHLI
-------------------------------------------------------------------------------
Forward         5475           0           0           0          0          0
Backward        5475           0           0           0          0          0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 10 sec (Mode: Delta)
-------------------------------------------------------------------------------
-----------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                    Frames Sent       Frames Received
-------------------------------------------------------
Forward                     100                   100
Backward                    100                   100
-------------------------------------------------------
-------------------------------------------------------------------------------
Availability Counters (Und = Undetermined)
-------------------------------------------------------------------------------
           Available   Und-Avail Unavailable Und-Unavail        HLI       CHLI
-------------------------------------------------------------------------------
Forward           10           0           0           0          0          0
Backward          10           0           0           0          0          0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
At time t = 20 sec (Mode: Delta)
-------------------------------------------------------------------------------
-------------------------------------------------------
                    Frames Sent       Frames Received
-------------------------------------------------------
Forward                     100                   100
Backward                    100                   100
-------------------------------------------------------
-------------------------------------------------------------------------------
Availability Counters (Und = Undetermined)
-------------------------------------------------------------------------------
           Available   Und-Avail Unavailable Und-Unavail        HLI       CHLI
-------------------------------------------------------------------------------
Forward           10           0           0           0          0          0
Backward          10           0           0           0          0          0
-------------------------------------------------------------------------------


monitor oam-pm session "ip-vprn-500" twamp-light
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
-----------------------------------------------------------------
Frame Delay (FD) Bin Counts
-----------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-----------------------------------------------------------------
0              0 us         89719        113813         82529
1           1000 us         51728         43288         62811
2           2000 us         19304          7882         16979
3           3000 us          5207          1300          3067
4           4000 us          1166           335          1280
5           5000 us           469           255           781
6           6000 us           227           129           361
7           7000 us           121           166           152
8           8000 us            83           253           114
9          10000 us           125           728            75
-----------------------------------------------------------------
-----------------------------------------------------------------
Frame Delay Range (FDR) Bin Counts
-----------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
-----------------------------------------------------------------
0              0 us        167124        166618        167138
1           5000 us          1025          1531          1011
-----------------------------------------------------------------
-----------------------------------------------------------------
Inter-Frame Delay Variation (IFDV) Bin Counts
-----------------------------------------------------------------
Bin      Lower Bound       Forward      Backward    Round Trip
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------
0               0 us          29284          45291          36062
1             100 us           9615          10793          28238
2             200 us           9289           9827          20379
3             300 us           8933           8733          14325
4             400 us           8597           8362          10257
5             500 us           8216           7789           7635
6             600 us           8178           7606           5893
7             700 us           7782           7345           4963
8             800 us          14799          14500           8416
9            1000 us          63455          47902          31980
-------------------------------------------------------------
```

Table 543: Output fields: SLM statistics

Label	Description
Frames Sent	The frames sent
Frames Received	The frames received
Forward	The forward direction value
Backward	The backward direction value
Availability Counters	
Available	The overall count of the availability indicators
Und-Avail	The overall count of the undetermined availability indicators
Unavailable	The overall count of the unavailability indicators
Und-Unavail	The overall count of the undetermined unavailability indicators
HLI	The high loss interval threshold
CHLI	The consecutive high loss interval threshold
Forward	The forward direction value
Backward	The backward direction value

slm

Syntax

slm

Context

[Tree] (show>oam-pm>stats>session slm)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show oam-pm statistics session slm

Description

Commands in this context display the Ethernet SLM test for the session.

Platforms

All

24.26 slope-policy

slope-policy

Syntax

slope-policy [*slope-policy-name*] [**detail**]

Context

[Tree] (show>qos slope-policy)

Full Context

show qos slope-policy

Description

This command displays slope policy information.

Parameters

slope-policy-name

The name of the slope policy.

detail

Displays detailed information about the slope policy.

Platforms

All

Output

The following output is an example of slope QoS policy information, and Table 544: Output fields: QoS slope policy describes slope QoS policy output fields.

Output Example

```
*A:PE# show qos slope-policy "slope1"
===============================================================================
QoS Slope Policy
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Policy         : slope1
Description    : (Not Specified)
Time Avg       : 7
-------------------------------------------------------------------------------
HighPlus Slope Parameters
-------------------------------------------------------------------------------
Start Avg      : 75                          Admin State  : Enabled
Max Avg        : 100                         Max Prob.    : 100
-------------------------------------------------------------------------------
High Slope Parameters
-------------------------------------------------------------------------------
Start Avg      : 50                          Admin State  : Enabled
Max Avg        : 65                          Max Prob.    : 100
-------------------------------------------------------------------------------
Low Slope Parameters
-------------------------------------------------------------------------------
Start Avg      : 30                          Admin State  : Enabled
Max Avg        : 40                          Max Prob.    : 100
-------------------------------------------------------------------------------
Exceed Slope Parameters
-------------------------------------------------------------------------------
Start Avg      : 10                          Admin State  : Enabled
Max Avg        : 25                          Max Prob.    : 100
===============================================================================
*A:PE#
*A:PE# show qos slope-policy "slope1" detail
===============================================================================
QoS Slope Policy
===============================================================================
Policy         : slope1
Description    : (Not Specified)
Time Avg       : 7
-------------------------------------------------------------------------------
HighPlus Slope Parameters
-------------------------------------------------------------------------------
Start Avg      : 75                          Admin State  : Enabled
Max Avg        : 100                         Max Prob.    : 100
-------------------------------------------------------------------------------
High Slope Parameters
-------------------------------------------------------------------------------
Start Avg      : 50                          Admin State  : Enabled
Max Avg        : 65                          Max Prob.    : 100
-------------------------------------------------------------------------------
Low Slope Parameters
-------------------------------------------------------------------------------
Start Avg      : 30                          Admin State  : Enabled
Max Avg        : 40                          Max Prob.    : 100
-------------------------------------------------------------------------------
Exceed Slope Parameters
-------------------------------------------------------------------------------
Start Avg      : 10                          Admin State  : Enabled
Max Avg        : 25                          Max Prob.    : 100
-------------------------------------------------------------------------------
Associations
-------------------------------------------------------------------------------
Object Type Object Id     Application          Pool
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
WRED Slot/FP Associations
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Slot       FP
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
WRED SAP Queue Associations
-------------------------------------------------------------------------------
Policy-Id  Queue-Id
-------------------------------------------------------------------------------
No Matching Entries
-------------------------------------------------------------------------------
WRED QoS Queue-Group Associations
-------------------------------------------------------------------------------
Queue-Group                              Queue-Id
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
*A:PE#
```

Table 544: Output fields: QoS slope policy

Label	Description
Policy	The ID that uniquely identifies the policy.
Description	A string that identifies the policy context in the configuration file.
Time Avg	The weighting between the previous shared buffer average utilization result and the new shared buffer utilization.
Slope Parameters	
Start Avg	Specifies the RED slope position for the shared buffer average utilization value where the packet discard probability starts to increase above zero.
Max Avg	Specifies the percentage of the shared buffer space for the buffer pool at which point the drop probability becomes one, expressed as a decimal integer.
Admin State	Enabled The administrative status of the RED slope is enabled. Disabled The administrative status of the RED slope is disabled.
Max Prob.	Specifies the RED slope position for the maximum non-one packet discard probability value before the packet discard probability rises directly to one.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.27 smet

smet

Syntax

smet [**hunt** | **detail**] [**rd** *rd*] [**community** *comm-id*] [**tag** *tag*] [**next-hop** *next-hop*] [**aspath-regex** *reg-exp*] [**originator-ip** *ip-address* | *ipv6-address*]

Context

[Tree] (show>router>bgp>routes>evpn smet)

Full Context

show router bgp routes evpn smet

Description

This command displays BGP-EVPN SMET routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{ *ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535

  – *comm-val1* — 0 to 65535

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- **type** — target, origin
- *ip-address* — a.b.c.d
- *comm-val2* — 0 to 4294967295
- *as-number2* — 0 to 4294967295

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

tag

Specifies the SMET route tag.

Values 0to 4294967295 | MAX-ET

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

ip-address* | *ipv6-address

Specifies the originator IPv4 or IPv6 address, up to 64 characters.

Platforms

All

24.28 snippets

snippets

Syntax

snippets [**detail**]

snippets name *snippet-name* [**instance** *snippet-instance*] [**detail**]

Context

[Tree] (show>service>dynsvc>script snippets)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service dynamic-services script snippets

Description

This command displays the dynamic services snippets information. A snippet is the name of a set of Python functions to create, modify or destroy configuration; for example: a snippet called 'vprn' to create, modify, or destroy VPRN services.

The CLI output generated by a single dynamic service python function call is a snippet instance.

Note:
This command is not available in the MD-CLI.

Parameters

detail

Displays dynamic services snippet information.

snippet-name

Specifies the snippet name.

snippet-instance

*S*pecifies the snippet instance.

Platforms

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

Output

The following output is an example of dynamic service snippets.

Output Example

```
# show service dynamic-services script snippets
===============================================================================
Dynamic Services Snippets
===============================================================================
Name                        Instance                      Ref-count  Dict-len
-------------------------------------------------------------------------------
vprn                        VRF-1                         1          75
vprn_1                      1/1/1:1.901                   0          190
-------------------------------------------------------------------------------
No. of Snippets: 2
===============================================================================


# show service dynamic-services script snippets detail
===============================================================================
Dynamic Service Snippets
===============================================================================
Snippet            : vprn:VRF-1
-------------------------------------------------------------------------------
reference-count    : 1
dictionary-length  : 75

Root-object
-----------
oid                : svcRowStatus.100000
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Reserved-id
-----------
id                  : service-id:100000
-------------------------------------------------------------------------------
Snippet             : vprn_1:1/1/1:1.901
-------------------------------------------------------------------------------
reference-count     : 0
dictionary-length   : 190

Referenced-snippet
------------------
snippet             : vprn:VRF-1
-------------------------------------------------------------------------------
No. of Snippets: 2
===============================================================================
```

Table 545: Output fields: script snippet describes snippets fields.

Table 545: Output fields: script snippet

Output field	Description
Name	The snippet name.
Instance	The snippet instance.
Ref-count reference-count	The number of times this snippet is referenced by other snippets.
Dict-len dictionary-length	The length of the python dictionary stored for this snippet.
Root-object	The object created by a Dynamic Service of which the parent is not created by a Dynamic Service.

24.29 snmp

snmp

Syntax

snmp

Context

[Tree] (show snmp)

Full Context

show snmp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description
Commands in this context display SNMP configuration.

Platforms
All

snmp

Syntax
snmp

Context
[Tree] (show>system>security snmp)

Full Context
show system security snmp

Description
Commands in this context show SNMP information.

Platforms
All

24.30 snmp-trap-group

snmp-trap-group

Syntax
snmp-trap-group [*log-id*]

Context
[Tree] (show>service>id>log snmp-trap-group)

Full Context
show service id log snmp-trap-group

Description
This command displays SNMP trap group configuration information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

log-id

Displays only SNMP trap group information for the specified trap group log ID.

Values 1 to 100

Platforms

All

Output

SNMP Trap Group Output

Table 546: Output fields: SNMP trap group describes SNMP trap group output fields.

Table 546: Output fields: SNMP trap group

Label	Description
Log-ID	The log destination ID for an event stream.
Address	The IP address of the trap receiver.
Port	The destination UDP port used for sending traps to the destination, expressed as a decimal integer.
Version	Specifies the SNMP version format to use for traps sent to the trap receiver. Valid values are snmpv1, snmpv2c, snmpv3.
Community	The community string required by **snmpv1** or **snmpv2c** trap receivers.
Security-Level	The required authentication and privacy levels required to access the views on this node.
Replay	Indicates whether or not the replay parameter has been configured, enabled or disabled, for the trap-target address.
Replay from	Indicates the sequence ID of the first missed notification that will be replayed when a route is added to the routing table by which trap-target address can be reached. If no notifications are waiting to be replayed this field shows n/a.
Last Replay	Indicates the last time missed events were replayed to the trap-target address. If no events have ever been replayed this field shows never.

snmp-trap-group

Syntax

snmp-trap-group [*log-id-or-log-name*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>log snmp-trap-group)

Full Context

show log snmp-trap-group

Description

This command displays SNMP trap group configuration information.

Parameters

log-id-or-log-name

Displays only SNMP trap group information for the specified trap group log ID, up to 64 characters.

Platforms

All

Output

The following output is an example of SNMP trap group information.

Table 547: Output fields: SNMP trap group describes SNMP trap group output fields.

Output Example

```
A:SetupCLI>config>log>snmp-trap-group# show log snmp-trap-group 44
===============================================================================
SNMP Trap Group 44
===============================================================================
Description : none
-------------------------------------------------------------------------------
Name        : ntt-test
Address     : 10.10.10.3
Port        : 162
Version     : v2c
Community   : ntttesting
Sec. Level  : none
Replay      : disabled
Replay from : n/a
Last replay : never
-------------------------------------------------------------------------------
Name        : test2
Address     : 10.20.20.5
Port        : 162
Version     : v2c
Community   : ntttesting
Sec. Level  : none
Replay      : disabled
Replay from : n/a
Last replay : never
===============================================================================
A:SetupCLI>config>log>snmp-trap-group#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 547: Output fields: SNMP trap group

Label	Description
Log-ID/Name	The log destination ID or name for an event stream.
Address	The IP address of the trap receiver,
Port	The destination UDP port used for sending traps to the destination, expressed as a decimal integer.
Version	Specifies the SNMP version format to use for traps sent to the trap receiver. Valid values are snmpv1, snmpv2c, snmpv3.
Community	The community string required by **snmpv1** or **snmpv2c** trap receivers.
Security-Level	The required authentication and privacy levels required to access the views on this node.
Replay	Indicates whether or not the replay parameter has been configured, enabled or disabled, for the trap-target address.
Replay from	Indicates the sequence ID of the first missed notification that will be replayed when a route is added to the routing table by which trap-target address can be reached. If no notifications are waiting to be replayed this field shows n/a.
Last Replay	Indicates the last time missed events were replayed to the trap-target address. If no events have ever been replayed this field shows never.

24.31 sntp

sntp

Syntax

sntp

Context

[Tree] (show>system sntp)

Full Context

show system sntp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays SNTP protocol configuration and state.

Platforms

All

Output

The following output is an example of SNTP information, and Table 548: Output fields: system SNTP describes the output fields.

Output Example

```
A:ALA-1# show system sntp
===============================================================================
SNTP
===============================================================================
SNTP Server            Version            Preference         Interval
-------------------------------------------------------------------------------
10.10.20.253           3                  Preferred          64
===============================================================================
A:ALA-1#
```

Table 548: Output fields: system SNTP

Label	Description
SNTP Server	The SNTP server address for SNTP unicast client mode.
Version	The SNTP version number, expressed as an integer.
Preference	Normal — When more than one time server is configured, one server can be configured to have preference over another. Preferred — Indicates that this server has preference over another.
Interval	The frequency, in seconds, that the server is queried.

24.32 sockets

sockets

Syntax

sockets

Context

[Tree] (tools>dump>router>ldp sockets)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
tools dump router ldp sockets

Description
This command dumps information for all LDP sockets.

Platforms
All

24.33 software-repository

software-repository

Syntax
software-repository [*repository-name*]

Context
[Tree] (show>system software-repository)

Full Context
show system software-repository

Description
This command displays software repository information.

Parameters
repository-name
Specifies the software repository name, up to 32 characters.

Platforms
7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

24.34 source

source

Syntax
source [*ip-address/mask*] [**type** {**configured** | **dynamic** | **both**}] [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>msdp source)

Full Context

show router msdp source

Description

This command displays the discovery method for the multicast source.

Parameters

ip-address/mask

Specifies the source IP address and mask.

Values *ip-address* — a.b.c.d

mask — 1 to 32

configured

Keyword to display user-created sources.

dynamic

Keyword to display dynamically created sources.

both

Keyword to display both user-configured and dynamically created sources.

detail

Keyword to display detailed MSDP source information.

Platforms

All

24.35 source-active

source-active

Syntax

source-active [{**group** *ip-address* | **local** | **originator** *ip-address* | **peer** *ip-address* | **source** *ip-address* | **group** *ip-address* **source** *ip-address*}] [**detail**]

Context

[Tree] (show>router>msdp source-active)

Full Context

show router msdp source-active

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays SA messages accepted by MSDP.

Parameters

group *ip-address*

Displays information about the specified group IP address.

local

Keyword to display information about local source-active messages.

originator *ip-address*

Displays information about the specified originator IP address.

peer *ip-address*

Displays information about the specified peer IP address.

source *ip-address*

Displays information about the specified source IP address.

group *ip-address*

Displays information about the specified group IP address.

detail

Keyword to display detailed MSDP source-active information.

Platforms

All

Output

The following output is an example of MSDP source active information, and Table 549: Output fields: MSDP source active describes the output fields.

Output example

```
A:ALA-48# show router msdp source-active
===============================================================================
MSDP Source Active Info
===============================================================================
Grp Address      Src Address      Origin RP        Peer Address State Timer
-------------------------------------------------------------------------------
239.100.0.0      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.1      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.2      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.3      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.4      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.5      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.6      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.7      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.8      10.112.1.2      10.20.1.1        10.20.1.1 69
239.100.0.9      10.112.1.2      10.20.1.1        10.20.1.1 69
-------------------------------------------------------------------------------
MSDP Source Active : 10
===============================================================================
A:ALA-48#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:ALA-48# show router msdp source-active detail
===============================================================================
MSDP Source Active
===============================================================================
Group Address      : 239.100.0.0        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 3d 01:44:25
Group Address      : 239.100.0.1        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 48d 18:22:29
Group Address      : 239.100.0.2        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 48d 18:22:29
Group Address      : 239.100.0.3        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 48d 18:22:29
Group Address      : 239.100.0.4        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 48d 18:22:29
Group Address      : 239.100.0.5        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 48d 18:22:29
Group Address      : 239.100.0.7        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 48d 18:22:29
Group Address      : 239.100.0.8        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 48d 18:22:29
Group Address      : 239.100.0.9        Source Address     : 10.112.1.2
Origin RP          : 10.20.1.1          Peer Address       : 10.20.1.1
State Timer        : 64                 Up Time            : 48d 18:22:29
-------------------------------------------------------------------------------
MSDP Source Active : 10
===============================================================================
A:ALA-48#
```

Table 549: Output fields: MSDP source active

Label	Description
Grp Address	The IP address of the group
Src Address	The IP address of the source
Origin RP	The origination RP address
Peer Address	The address of the peer
State Timer	The time-out value. If the value reaches zero, the SA is removed.
Up time	The duration that the SA has been active

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.36 source-active-rejected

source-active-rejected

Syntax

source-active-rejected [**peer-group** *name*] [**group** *ip-address*] [**source** *ip-address*] [**originator** *ip-address*] [**peer** *ip-address*]

Context

[Tree] (show>router>msdp source-active-rejected)

Full Context

show router msdp source-active-rejected

Description

This command displays SA messages rejected by MSDP.

Parameters

peer-group *name*

Displays information about rejected SA messages for the specified peer group.

group *ip-address*

Displays information about the specified group IP address.

source *ip-address*

Displays information about the source address of the source active entry that is rejected.

originator *ip-address*

Displays information about the specified originator IP address.

peer *ip-address*

Displays information about the peer from which this rejected source active entry was last received.

Platforms

All

Output

The following output is an example of MSDP rejected source active information, and Table 550: Output fields: MSDP source active rejected describes the output fields.

Output example

```
*A:ALA-48# show router msdp source-active-rejected
===============================================================================
MSDP Source Active Rejected Info
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Grp Address     Src Address     Origin RP       Peer Address    Reject Reason
-------------------------------------------------------------------------------
239.100.0.1     10.0.0.1       10.20.0.1       239.0.0.1        Import Policy
239.100.0.2     10.0.0.2       10.20.0.2       239.0.0.2        Export Policy
239.100.0.3     10.0.0.3       10.20.0.3       239.0.0.3        RPF Failure
239.100.0.4     10.0.0.4       10.20.0.4       239.0.0.4        Limit Exceeded
239.100.0.5     10.0.0.5       10.20.0.5       239.0.0.5        Limit Exceeded
239.100.0.6     10.0.0.6       10.20.0.6       239.0.0.6        Limit Exceeded
239.100.0.7     10.0.0.7       10.20.0.7       239.0.0.7        Limit Exceeded
-------------------------------------------------------------------------------
SA Rejected Entries : 7
===============================================================================
*A:ALA-48#
```

Table 550: Output fields: MSDP source active rejected

Label	Description
Grp Address	The IP address of the group
Src Address	The IP address of the source
Origin RP	The origination rendezvous point (RP) address
Peer Address	The address of the peer
Reject Reason	The reason that the source active entry was rejected

24.37 source-address

source-address

Syntax

source-address

Context

[Tree] (show>service>id source-address)

Full Context

show service id source-address

Description

This command displays the configured source addresses for applications in a VPRN.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of source address output information, and Table 552: Output fields: source address describes the output fields.

Output Example

```
A:SR-7# show service id 1 source-address
===============================================================================
Source-Address applications
===============================================================================
Application         IP address/Interface Name                   Oper status
-------------------------------------------------------------------------------
telnet              10.20.1.7                                   Up
radius              loopback1                                   Up
===============================================================================
A:SR-7#
```

Table 551: Output fields: source address

Label	Description
Application	Displays the application name
IP address/Interface Name	Displays the source IP address or interface name
Oper status	Up - The source address is operationally up Down - The source address is operationally down

source-address

Syntax

source-address

Context

[Tree] (show>system>security source-address)

Full Context

show system security source-address

Description

This command displays the configured source addresses for applications in routing instances.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of source address output information, and Table 552: Output fields: source address describes the output fields.

Output Example

```
A:SR-7# show system security source-address
===============================================================================
Source-Address applications
===============================================================================
Application         IP address/Interface Name                   Oper status
-------------------------------------------------------------------------------
telnet              10.20.1.7                                   Up
radius              loopback1                                   Up
===============================================================================
A:SR-7#
```

Table 552: Output fields: source address

Label	Description
Application	Displays the application name
IP address/Interface Name	Displays the source IP address or interface name
Oper status	Up - The source address is operationally up Down - The source address is operationally down

24.38 spb

spb

Syntax

spb

Context

[Tree] (clear>service>id spb)

Full Context

clear service id spb

Description

This command clears SPB related data.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

spb

Syntax

spb

Context

[Tree] (show>service>id spb)

Full Context

show service id spb

Description

Commands in this context display SPB related information.

Platforms

All

24.39 spf

spf

Syntax

spf

Context

[Tree] (show>service>id>spb spf)

Full Context

show service id spb spf

Description

This command displays SPF information.

Platforms

All

Output

The following output is an example of service SPB SPF information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:cses-B01#  show service id spb spf
===============================================================================
Path Table
===============================================================================
Node                          Interface                 Nexthop
-------------------------------------------------------------------------------

Fwd Tree: unicast,   ECT Alg: low-path-id
-------------------------------------------------------------------------------
cses-B07.00                      sap:1/1/20:500            cses-B07
cses-B01.00                   sap:1/1/20:500            cses-B07
cses-B07.00                      sap:1/1/20:500            cses-B07

Fwd Tree: unicast,   ECT Alg: high-path-id
-------------------------------------------------------------------------------
cses-B07.00                      sap:1/1/20:500            cses-B07
cses-B01.00                  sap:1/1/20:500            cses-B07
cses-B07.00                      sap:1/1/20:500            cses-B07

Fwd Tree: multicast,   ECT Alg: low-path-id
-------------------------------------------------------------------------------
cses-B07.00                      sap:1/1/20:500            cses-B07
cses-B01.00                   sap:1/1/20:500            cses-B07
cses-B07.00                      sap:1/1/20:500            cses-B07

Fwd Tree: multicast,   ECT Alg: high-path-id
-------------------------------------------------------------------------------
cses-B07.00                      sap:1/1/20:500            cses-B07
cses-B01.00                  sap:1/1/20:500            cses-B07
cses-B07.00                      sap:1/1/20:500            cses-B07
===============================================================================
```

spf

Syntax

spf [**lfa**]

Context

[Tree] (show>router>ospf spf)

[Tree] (show>router>ospf3 spf)

Full Context

show router ospf spf

show router ospf3 spf

Description

This command displays statistics of shortest-path-first (SPF) calculations.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

lfa

Displays Loop-Free Alternate (LFA) next-hop information.

Platforms

All

Output

SPF Output Fields

Table 553: Output fields: SPF describes SPF output fields.

Table 553: Output fields: SPF

Label	Description
Total SPF Runs	The total number of SPF runs triggered by new or updated LSAs.
Last Full SPF run @	The date and time when the last full SPF was run.
Last Full SPF Time	The duration, in seconds, of the last full SPF calculation. Last Full SPF Time = Intra SPF Time + Inter SPF Time + Extern SPF Time + RTM Updt Time.
Intra SPF Time	The duration, in seconds, of the Intra-area phase of the last SPF calculation.
Inter SPF Time	The duration, in seconds, of the Inter-area phase of the last SPF calculation.
Extern SPF Time	The duration, in seconds, of the External phase of the last SPF calculation.
RTM Updt Time	The duration, in seconds, of the RTM update phase of the last SPF calculation.
Min/Avg/Max Full SPF Time	Min The minimum time, in seconds, used to perform a full SPF calculation. Avg The average time, in seconds, of all the full SPF calculations performed by this OSPF router. Max The maximum time, in seconds, used to perform a full SPF calculation.
Total Sum Incr SPF Runs	The total number of incremental SPF runs triggered by new or updated type-3 and type-4 summary LSAs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Total Ext Incr SPF Runs	The total number of incremental SPF runs triggered by new or updated type-5 external LSAs.

Output Example

```
*A:Dut-C# show router ospf spf
===============================================================================
Rtr Base OSPFv2 Instance 0 SPF Statistics
===============================================================================
 Total SPF Runs          :  6
 Last Full SPF run @     :  05/27/2015 08:45:25
 Last Full SPF Time      :  < 0.01 secs
      Intra SPF Time     :  < 0.01 secs
      Inter SPF Time     :  < 0.01 secs
      Extern SPF Time    :  < 0.01 secs
      RTM Updt Time      :  < 0.01 secs

 Min/Avg/Max  Full SPF Times : 0.00/0.00/0.00 secs
 Min/Avg/Max  RTM Updt Times : 0.00/0.00/0.00 secs

 Total Sum Incr SPF Runs :  9
 Last Sum Incr SPF run @ :  05/27/2015 08:36:14
 Last Sum Incr Calc Time :  < 0.01 secs

 Total Ext Incr SPF Runs :  0
===============================================================================

*A:Dut-C# show router ospf spf lfa
===============================================================================
Rtr Base OSPFv2 Instance 0 SPF Statistics
===============================================================================
 Total SPF Runs          :  6
 Last Full SPF run @     :  05/27/2015 08:45:25
 Last Full SPF Time      :  < 0.01 secs
      Intra SPF Time     :  < 0.01 secs
      Inter SPF Time     :  < 0.01 secs
      Extern SPF Time    :  < 0.01 secs
      RTM Updt Time      :  < 0.01 secs

 Min/Avg/Max  Full SPF Times : 0.00/0.00/0.00 secs
 Min/Avg/Max  RTM Updt Times : 0.00/0.00/0.00 secs

 Total Sum Incr SPF Runs :  9
 Last Sum Incr SPF run @ :  05/27/2015 08:36:14
 Last Sum Incr Calc Time :  < 0.01 secs

 Total Ext Incr SPF Runs :  0

 Total LFA SPF Runs      :  1
 Last LFA SPF run @      :  05/27/2015 08:45:25
 Last LFA SPF Time       :  < 0.01 secs
 Min/Avg/Max  LFA  SPF Times : 0.00/0.00/0.00 secs
===============================================================================

A:Dut-A# show router ospf 1 spf lfa
===============================================================================
Rtr Base OSPFv2 Instance 1 SPF Statistics
===============================================================================
 Total SPF Runs          :  6
 Last Full SPF run @     :  02/20/2012 09:19:35
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Last Full SPF Time      :  < 0.01 secs
      Intra SPF Time     :  < 0.01 secs
      Inter SPF Time     :  < 0.01 secs
      Extern SPF Time    :  < 0.01 secs
      RTM Updt Time      :  < 0.01 secs

 Min/Avg/Max  Full SPF Times : 0.00/0.00/0.00 secs
 Min/Avg/Max  RTM Updt Times : 0.00/0.00/0.00 secs

 Total Sum Incr SPF Runs :  0

 Total Ext Incr SPF Runs :  0

 Total LFA SPF Runs      :  5
 Last LFA SPF run @      :  02/20/2012 09:19:35
 Last LFA SPF Time       :  < 0.01 secs
 Min/Avg/Max  LFA  SPF Times : 0.00/0.00/0.00 secs
===============================================================================

A:ALA-A# show router ospf 1 spf
===============================================================================
Rtr Base OSPFv2 Instance 1 SPF Statistics
===============================================================================
 Total SPF Runs          :  109
 Last Full SPF run @     :  11/07/2006 18:43:07
 Last Full SPF Time      :  < 0.01 secs
      Intra SPF Time     :  < 0.01 secs
      Inter SPF Time     :  < 0.01 secs
      Extern SPF Time    :  < 0.01 secs
      RTM Updt Time      :  < 0.01 secs

 Min/Avg/Max Full SPF Times   :  0.02/0.00/0.06 secs
 Min/Avg/Max RTM Updt Times   :  0.02/0.00/0.06 secs

 Total Sum Incr SPF Runs :  333
 Last Sum Incr SPF run @ :  11/07/2006 18:43:09
 Last Sum Incr Calc Time :  < 0.01 secs

 Total Ext Incr SPF Runs :  0
===============================================================================
A:ALA-A#
```

24.40 spf-log

spf-log

Syntax

spf-log

Context

[Tree] (show>service>id>spb spf-log)

Full Context

show service id spb spf-log

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays SPF Log information.

Platforms

All

Output

The following output is an example of service SPB SPF log information.

Output Example

```
A:cses-B01#  show service id spb spf-log
===============================================================================
ISIS SPF Log
===============================================================================
When                 Duration       L1 Nodes   L2 Nodes   Event Count      Type
-------------------------------------------------------------------------------
07/23/2012 16:01:13  <0.01s         1          0          1                Reg
07/23/2012 16:01:19  <0.01s         1          0          4                Reg
07/23/2012 16:01:24  <0.01s         3          0          2                Reg
07/23/2012 16:01:29  <0.01s         4          0          1                Reg
-------------------------------------------------------------------------------
Log Entries : 4
-------------------------------------------------------------------------------
```

spf-log

Syntax

spf-log [**detail**]

Context

[Tree] (show>router>isis spf-log)

Full Context

show router isis spf-log

Description

This command displays IS-IS SPF log information.

Parameters

detail

Displays detailed spf-log information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of SPF log information.

Output Example

```
*A:Dut-C# show router isis spf-log

===============================================================================
Rtr Base ISIS Instance 0 SPF Log
===============================================================================
When                  Duration       L1 Nodes   L2 Nodes   Event Count      Type
-------------------------------------------------------------------------------
01/26/2015 11:22:19  <0.01s         -          -          -                pLfa
01/26/2015 11:22:19  <0.01s         -          -          -                rLfa
01/26/2015 11:22:20  <0.01s         4          4          25               Reg
01/26/2015 11:22:20  <0.01s         -          -          -                Lfa
01/26/2015 11:22:20  <0.01s         -          -          -                rLfa
01/26/2015 11:22:24  <0.01s         4          4          11               Reg
01/26/2015 11:22:24  <0.01s         -          -          -                Lfa
01/26/2015 11:22:24  <0.01s         -          -          -                rLfa
01/26/2015 11:22:32  <0.01s         4          4          21               Reg
01/26/2015 11:22:32  <0.01s         -          -          -                Lfa
01/26/2015 11:22:32  <0.01s         -          -          -                rLfa
01/26/2015 11:22:33  <0.01s         -          -          -                pSpf
01/26/2015 11:22:33  <0.01s         -          -          -                pLfa
01/26/2015 11:22:33  <0.01s         -          -          -                rLfa
01/26/2015 11:22:41  <0.01s         -          -          -                pSpf
01/26/2015 11:22:41  <0.01s         -          -          -                pLfa
01/26/2015 11:22:41  <0.01s         -          -          -                rLfa
01/26/2015 11:22:51  <0.01s         4          4          4                Reg
01/26/2015 11:22:51  <0.01s         -          -          -                Lfa
01/26/2015 11:22:51  <0.01s         -          -          -                rLfa
-------------------------------------------------------------------------------
Log Entries : 20
===============================================================================
*A:Dut-C#



A:SetupCLI# show router isis spf-log detail
===============================================================================
Rtr Base ISIS Instance 0 SPF Log
===============================================================================
When       : 10/01/2011 03:40:25             Duration    : <0.01s
L1 Nodes   : 1                               L2 Nodes    : 1
Trigger LSP: SetupCLI.00-00                  Event Count : 78
SPF Type   : Reg
Reason     : LSPCONTENT

When       : 10/01/2011 03:40:26             Duration    : <0.01s
L1 Nodes   : 1                               L2 Nodes    : 1
Trigger LSP: SetupCLI.00-00                  Event Count : 1
SPF Type   : Reg
Reason     : LSPCONTENT

When       : 10/01/2011 03:40:25             Duration    : <0.01s
L1 Nodes   : 1                               L2 Nodes    : 1
Trigger LSP: SetupCLI.00-00                  Event Count : 25
SPF Type   : Reg
Reason     : NEWAREA NEWREACH LSPCONTENT MANUALREQ

When       : 10/01/2011 03:40:27             Duration    : <0.01s
L1 Nodes   : 1                               L2 Nodes    : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Trigger LSP: SetupCLI.00-00                 Event Count : 1
SPF Type   : Reg
Reason     : LSPCONTENT

When       : 10/01/2011 03:40:27            Duration    : <0.01s
L1 Nodes   : 0                              L2 Nodes    : 0
Trigger LSP: SetupCLI.00-00                 Event Count : 1
SPF Type   : Lfa
Reason     : LSPCONTENT

When       : 10/01/2011 03:40:25            Duration    : <0.01s
L1 Nodes   : 1                              L2 Nodes    : 1
Trigger LSP: SetupCLI.00-00                 Event Count : 75
SPF Type   : Reg
Reason     : LSPCONTENT

When       : 10/01/2011 03:40:27            Duration    : <0.01s
L1 Nodes   : 1                              L2 Nodes    : 1
Trigger LSP: SetupCLI.00-00                 Event Count : 1
SPF Type   : Reg
Reason     : LSPCONTENT
===============================================================================
A:SetupCLI#
```

Table 554: Output fields: IS-IS SPF log describes the IS-IS SPF log output fields.

Table 554: Output fields: IS-IS SPF log

Label	Description
When	Displays the timestamp when the SPF run started on the system.
Duration	Displays the time (in hundredths of a second) required to complete the SPF run.
L1 Nodes	Displays the number of Level 1 nodes involved in the SPF run.
L2 Nodes	Displays the number of Level 2 nodes involved in the SPF run.
Event Count	Displays the number of SPF events that triggered the SPF calculation.
Type	Displays the SPF type, Reg (regular) or Lfa (loop free alternative).
Trigger LSP	Displays the LSP that triggered the SPF run.
Reason	Displays the reason(s) for the SPF run. NEWADJ: An adjacency changed. NEWLSP: A new LSP was received. NEWAREA: An area changed. NEWREACH: A prefix changed. ECMPCHANGED: An ECMP path changed. NEWMETRIC: A prefix metric changed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	RESTART: The graceful restart exited. LSPEXPIRED: An LSP expired. DBCHANGED: The LSP database was cleared by an administrator. LSPCONTENT: The content of an LSP changed. NEWPREF: The external route preference changed. NEWNLPID: The routed protocols (IPv4 or IPv6) changed. MANUALREQ: An SPF calculation was requested by an administrator. ADMINTAGCHANGED: An administrative tag changed. TUNNELCHANGED: An MPLS tunnel changed.

spf-log

Syntax

spf-log

Context

[Tree] (clear>router>isis spf-log)

[Tree] (clear>service>id>spb spf-log)

Full Context

clear router isis spf-log

clear service id spb spf-log

Description

This command clears the SPF log.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.41 split-horizon-group

split-horizon-group

Syntax

split-horizon-group [*group-name*]

Context

[Tree] (show>service>id split-horizon-group)

Full Context

show service id split-horizon-group

Description

This command displays service split horizon groups.

Parameters

group-name

Specifies a group name up to 32 characters.

Platforms

All

Output

The following output is an example of service split horizon group information.

Output Example

```
A:ALA-1# show service id 700 split-horizon-group
===============================================================================
Service: Split Horizon Group
===============================================================================
Name                            Description
-------------------------------------------------------------------------------
R DSL-group1                    Split horizon group for DSL
-------------------------------------------------------------------------------
R = Residential Split Horizon Group
No. of Split Horizon Groups: 1
===============================================================================
A:ALA-1#

A:ALA-1# show service id 700 split-horizon-group DSL-group1
===============================================================================
Service: Split Horizon Group
===============================================================================
Name                            Description
-------------------------------------------------------------------------------
R DSL-group1                    Split horizon group for DSL
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Associations
------------------------------------------------------------------------------
SAP                             1/1/3:1

SDP                             108:1
SDP                             109:1
------------------------------------------------------------------------------
R = Residential Split Horizon Group
SAPs Associated : 1             SDPs Associated : 2
==============================================================================
A:ALA-1#
```

24.42 spmsi-ad

spmsi-ad

Syntax

spmsi-ad [**hunt** | **detail**] [**rd** *rd*] [**community** *comm-id*] [**tag** *tag*] [**next-hop** *next-hop*] **[aspath-regex** *reg-exp*] [**originator-ip** *ip-address* **|** *ipv6-address*]

Context

[Tree] (show>router>bgp>routes>evpn spmsi-ad)

Full Context

show router bgp routes evpn spmsi-ad

Description

This command displays BGP-EVPN SPMSI AD routes.

Parameters

hunt

Displays entries for the specified route.

detail

Displays detailed information.

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm*]

where:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as the following: *type*:{ *ip-address:comm-val1* | *as-number1:comm-val2* | *as-number2:comm-val1*}

  where:

  – *as-number1* — 0 to 65535
  – *comm-val1* — 0 to 65535
  – **type** — target, origin
  – *ip-address* — a.b.c.d
  – *comm-val2* — 0 to 4294967295
  – *as-number2* — 0 to 4294967295
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** |

tag

Specifies the SPMSI AD route tag.

Values 0to 4294967295 | MAX-ET

next-hop

Specifies the IPv4 or IPv6 BGP next-hop address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

ip-address* | *ipv6-address

Specifies the originator IPv4 or IPv6 address, up to 64 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.43 spoke-sdp

spoke-sdp

Syntax

spoke-sdp *sdp-id*[**:***vc-id*] {**all** | **counters** | **stp** | **l2pt** | **mrp**}

Context

[Tree] (clear>service>statistics>id spoke-sdp)

Full Context

clear service statistics id spoke-sdp

Description

This command clears statistics for the spoke SDP bound to the service.

Parameters

sdp-id

The spoke SDP ID for which to clear statistics

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID to be reset

Values 1 to 4294967295

all

Clears all queue statistics and STP statistics associated with the SDP

counters

Clears all queue statistics associated with the SDP

stp

Clears all STP statistics associated with the SDP

l2pt

Clears all L2PT statistics associated with the SDP

mrp

Clears all MRP statistics associated with the SDP

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

spoke-sdp

Syntax

spoke-sdp *sdp-id*:*vc-id* **ingress-vc-label**

spoke-sdp *sdp-id:vc-id* **l2tpv3**

spoke-sdp *sdp-id:vc-id* **vccv-bfd** {**session** | **statistics**}

Context

[Tree] (clear>service>id spoke-sdp)

Full Context

clear service id spoke-sdp

Description

This command clears and resets the spoke SDP bindings for the service.

Parameters

sdp-id

The spoke SDP ID to be reset.

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID to be reset.

Values 1 to 4294967295

ingress-vc-label

Specifies to clear the ingress VC label.

l2tpv3

Specifies to clear the session mismatch flag on the spoke-SDP binding after the flag was set to true by a detected mismatch between the configured parameters and the received parameters.

vccv-bfd

Specifies to clear the following information related to VCCV BFD on the spoke-sdp.

session

Clears session information.

statistics

Clears spoke SDP statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.44 spoke-sdp-fec

spoke-sdp-fec

Syntax

spoke-sdp-fec [1 to 4294967295]

Context

[Tree] (show>service>id spoke-sdp-fec)

Full Context

show service id spoke-sdp-fec

Description

This command displays spoke-SDP FEC information.

Parameters

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of spoke-SDP FEC information.

Output Example

```
===============================================================================
Service Spoke-SDP FEC Information
===============================================================================
Spoke-Sdp-Fec-Id     : 1                    Admin State      : enabled
FEC Type             : 129                  AII Type         : 2
Standby Sig Slave    : disabled             ICB              : disabled
Signaling            : auto                 Auto Config      : disabled
PW Template Id       : (none)               Precedence       : 4
Retry Timer          : 10 secs              Retry Count      : 10
Retry Timer Remaining: 0 secs               Retries Remaining: 0
SAII Type2           : 3:10.20.1.3:1
TAII Type2           : 6:10.20.1.6:1
Path                 : n/a
Endpoint             : n/a
Oper SDP-Bind        : 17407:4294967246
Last Error           : <none>
===============================================================================
Entries found: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.45 spoke-sdp-fec-using

spoke-sdp-fec-using

Syntax

spoke-sdp-fec-using [**spoke-sdp-fec-id** *spoke-sdp-fec-id*] [**saii-type2** *global-id:prefix:ac-id*] [**taii-type2** *global-id:prefix:ac-id*] [**path** *name*] [**expired**]

Context

[Tree] (show>service spoke-sdp-fec-using)

Full Context

show service spoke-sdp-fec-using

Description

Displays the SDPs used by spoke-sdp-fecs at this node.

Parameters

spoke-sdp-fec-id

Specifies the spoke-SDP FEC ID for which to show SDP information.

Values 1 to 4294967295

global-id

Specifies the SAII or TAII global ID.

Values 1 to 4294967295

prefix

Specifies the SAII or TAII prefix.

Values a.b.c.d, 1 to 4294967295

ac-id

Specifies the SAII or TAII AC ID.

Values 1 to 4294967295

name

Specifies the path name. 32 characters maximum.

expired

Displays information for expired SDPs.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of spoke-SDP information.

Output Example

```
*A:Dut-C# show service spoke-sdp-fec-using
===============================================================================
Service Spoke-SDP-Fec Information
===============================================================================
SvcId      SpokeSdpFec  Oper-SdpBind     SAII-Type2
 Path                                     TAII-Type2
-------------------------------------------------------------------------------
1          1            17407:4294967245 3:10.20.1.3:1
 n/a                                      6:10.20.1.6:1
2          2            17407:4294967247 3:10.20.1.3:2
 n/a                                      6:10.20.1.6:2
3          3            17407:4294967248 3:10.20.1.3:3
 n/a                                      6:10.20.1.6:3
4          4            17407:4294967249 3:10.20.1.3:4
 n/a                                      6:10.20.1.6:4
5          5            17407:4294967250 3:10.20.1.3:5
 n/a                                      6:10.20.1.6:5
6          6            17407:4294967251 3:10.20.1.3:6
 n/a                                      6:10.20.1.6:6
7          7            17407:4294967252 3:10.20.1.3:7
 n/a                                      6:10.20.1.6:7
8          8            17407:4294967253 3:10.20.1.3:8
 n/a                                      6:10.20.1.6:8
9          9            17407:4294967254 3:10.20.1.3:9
 n/a                                      6:10.20.1.6:9
10         10           17407:4294967255 3:10.20.1.3:10
 n/a                                      6:10.20.1.6:10
-------------------------------------------------------------------------------
Entries found: 10
```

24.46 squelch-ingress-levels

squelch-ingress-levels

Syntax

squelch-ingress-levels [**all** | **ctag-space**] [*sdp-id*[:*vc-id*]]

Context

[Tree] (show>service>sdp-using>eth-cfm squelch-ingress-levels)

Full Context

show service sdp-using eth-cfm squelch-ingress-levels

Description

This command displays the squelch ingress levels associated with SDP bindings.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sdp-id[:vc-id]

Specifies the SDP ID and virtual circuit ID on the SDP ID.

Values sdp-id: 1 to 32767
vc-id: 1 to 4294967295

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

24.47 sr-adj-sets

sr-adj-sets

Syntax

sr-adj-sets [*adjacency-set-id*] [**detail**]

Context

[Tree] (show>router>isis sr-adj-sets)

Full Context

show router isis sr-adj-sets

Description

This command displays IS-IS SR adjacency set log information.

Parameters

adjacency-set-id

Displays SR adjacency set ID information.

Values 1 to 4294967295

detail

Displays detailed SR adjacency set information.

Platforms

All

Output

The following output is an example of **sr-adj-sets** log information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-C# show router isis sr-adj-sets

===============================================================================
Rtr Base ISIS Instance 0 Adjacency Sets
===============================================================================
ID         State            Label  Label Members   Members   Neighbor
                            Value  Type  Total     Active    System Id
-------------------------------------------------------------------------------
1003       active           524285 DL    1         1         0100.2000.1001
1006       active           524284 DL    1         1         0100.2000.1005
1015       active           18448  SL    1         1         0100.2000.1001
1018       active           18451  SL    1         1         0100.2000.1005
1027       active           524283 DL    1         1         0100.2000.1001
1030       active           524282 DL    1         1         0100.2000.1005
1039       active           18460  SL    1         1         0100.2000.1001
1042       active           18463  SL    1         1         0100.2000.1005
1050       active           524281 DL    2         2         none
1056       active           18471  SL    2         2         none
1063       active           524280 DL    1         1         0100.2000.1001
1066       active           524279 DL    1         1         0100.2000.1005
1075       active           18478  SL    1         1         0100.2000.1001
1078       active           18481  SL    1         1         0100.2000.1005
1087       active           524278 DL    1         1         0100.2000.1001
1090       active           524277 DL    1         1         0100.2000.1005
1099       active           18490  SL    1         1         0100.2000.1001
1102       active           18493  SL    1         1         0100.2000.1005
1110       active           524276 DL    2         2         none
1116       active           18501  SL    2         2         none
-------------------------------------------------------------------------------
DL: dynamic local
SL: static local
-------------------------------------------------------------------------------
No. of SR Adjacency Sets: 20
===============================================================================
```

Table 555: Output fields: IS-IS SR adjacency set describes the IS-IS **sr-adj-sets** output fields.

Table 555: Output fields: IS-IS SR adjacency set

Label	Description
ID	Displays the ID
State	Displays the state (active or inactive)
Label Value	Displays the label value
Label Type	Displays the label type, Dynamic Local (DL) or Static Local (SL)
Members Total	Displays the number of total members
Members Active	Displays the number of active members
Neighbor System Id	Displays the neighbor system ID
No. of SR Adjacency Sets	Displays the number of SR adjacency sets

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sr-adj-sets

Syntax

sr-adj-sets [*adjacency-set-id*] [**detail**]

Context

[Tree] (show>router>ospf sr-adj-sets)

Full Context

show router ospf sr-adj-sets

Description

This command displays OSPF SR adjacency set log information.

Parameters

adjacency-set-id

Displays SR adjacency set ID information.

Values 1 to 4294967295

detail

Displays detailed SR adjacency set information.

Platforms

All

Output

The following output is an example of **sr-adj-sets** log information.

Output Example

```
*A:Dut-C# show router ospf sr-adj-sets

===============================================================================
Rtr Base OSPF Instance 0 Adjacency Sets
===============================================================================
ID         State             Label  Label Members   Members   Neighbor
                             Value  Type  Total     Active    System Id
-------------------------------------------------------------------------------
1003       active            524285 DL    1         1         0100.2000.1001
1006       active            524284 DL    1         1         0100.2000.1005
1015       active            18448  SL    1         1         0100.2000.1001
1018       active            18451  SL    1         1         0100.2000.1005
1027       active            524283 DL    1         1         0100.2000.1001
1030       active            524282 DL    1         1         0100.2000.1005
1039       active            18460  SL    1         1         0100.2000.1001
1042       active            18463  SL    1         1         0100.2000.1005
1050       active            524281 DL    2         2         none
1056       active            18471  SL    2         2         none
1063       active            524280 DL    1         1         0100.2000.1001
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1066       active            524279 DL    1         1         0100.2000.1005
1075       active            18478  SL    1         1         0100.2000.1001
1078       active            18481  SL    1         1         0100.2000.1005
1087       active            524278 DL    1         1         0100.2000.1001
1090       active            524277 DL    1         1         0100.2000.1005
1099       active            18490  SL    1         1         0100.2000.1001
1102       active            18493  SL    1         1         0100.2000.1005
1110       active            524276 DL    2         2         none
1116       active            18501  SL    2         2         none
-------------------------------------------------------------------------------
DL: dynamic local
SL: static local
-------------------------------------------------------------------------------
No. of SR Adjacency Sets: 20
===============================================================================
```

Table 556: Output fields: OSPF SR adjacency set describes the OSPF **sr-adj-sets** output fields.

Table 556: Output fields: OSPF SR adjacency set

Label	Description
ID	Displays the ID.
State	Displays the state (active or inactive).
Label Value	Displays the label value.
Label Type	Displays the label type, Dynamic Local (DL) or Static Local (SL).
Members Total	Displays the number of total members.
Members Active	Displays the number of active members.
Neighbor System Id	Displays the neighbor system ID.
No. of SR Adjacency Sets	Displays the number of SR adjacency sets.

24.48 sr-adjacencies

sr-adjacencies

Syntax

sr-adjacencies [*ip-int-name* | *ip-address*] [**detail**]

Context

[Tree] (tools>dump>router>isis sr-adjacencies)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump router isis sr-adjacencies

Description

This command displays IS-IS SR adjacency information.

Parameters

ip-int-name

Specifies the IP interface name. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters long composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

ip-address

Specifies the interface's IP address.

Values a.b.c.d

Platforms

All

sr-adjacencies

Syntax

sr-adjacencies [*ip-int-name* | *ip-address*] [**detail**]

sr-adjacencies [**remote** *ip-address*] [**detail**]

Context

[Tree] (tools>dump>router>ospf3 sr-adjacencies)

[Tree] (tools>dump>router>ospf sr-adjacencies)

Full Context

tools dump router ospf3 sr-adjacencies

tools dump router ospf sr-adjacencies

Description

This command displays OSPFv2 or OSPFv3 SR adjacency information.

Parameters

ip-int-name

Specifies the IP interface name. An interface name cannot be in the form of an IP address. Interface names can be any string up to 32 characters, composed of printable, 7-bit ASCII characters. If the string contains special characters (#, $, spaces, etc.), the entire string must be enclosed within double quotes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Specifies the interface's IP address.

Values a.b.c.d

Platforms

All

Output

Output Example

```
*A:Dut-C>config>router>ospf3#  /tools dump router ospf3 0 sr-adjacencies detail
===============================================================================
Rtr Base OSPFv3 Instance 0 Segment Routing Adjacencies (detail)
Legend:
label stack is ordered from bottom-most to top-most
===============================================================================
-------------------------------------------------------------------------------
Interface DUTC_TO_DUTA.1.0
-------------------------------------------------------------------------------
Nbr RouterID   : 10.20.1.1              Nbr State      : FULL
Label          : 524287                 PgID           : 9
SID Protection : Enabled                Curr Hold Time : 15
Area ID        : 0.0.0.1                SR MTU         : 1492
Neighbor IP    : fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"
LFA Labels     : 30004/70005
LFA Next hop   : fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"
LFA Glob Itf id: 26                     LFA Loc Itf id : 3
-------------------------------------------------------------------------------
Interface DUTC_TO_DUTF.1.0
-------------------------------------------------------------------------------
Nbr RouterID   : 10.20.1.6              Nbr State      : FULL
Label          : 524286                 PgID           : 10
SID Protection : Enabled                Curr Hold Time : 15
Area ID        : 0.0.0.1                SR MTU         : 1492
Neighbor IP    : fe80::200:ff:fe00:6-"DUTC_TO_DUTF.1.0"
LFA Labels     : 30003/20005
LFA Next hop   : fe80::200:ff:fe00:1-"DUTC_TO_DUTA.1.0"
LFA Glob Itf id: 25                     LFA Loc Itf id : 2
-------------------------------------------------------------------------------
No. of SR Adjacencies: 2
===============================================================================
```

24.49 sr-database

sr-database

Syntax

sr-database [**sid** *sid*] [**prefix** *ip-address*] [**nh-type** {**sr** | **bgp** | **rsvp**}] [**ipv4-unicast** | **ipv6-unicast**] [**algo** *algo-id*] [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump>router>isis sr-database)

Full Context

tools dump router isis sr-database

Description

This command displays IS-IS SR database information.

Parameters

sid

Displays information for the specific segment identifier.

Values 0 to 524287

ip-address

Specifies the IP address in dotted decimal notation.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x [eight 16-bit pieces]
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

sr

Displays information for SR next-hop route.

bgp

Displays information for BGP next-hop route.

rsvp

Displays information for RSVP next-hop route.

ipv4-unicast

Displays IPv4 unicast parameters.

ipv6-unicast

Displays IPv6 unicast parameters.

algo *algo-id*

Filters information based on the specific algorithm only.

Values 0 to 255

detail

Displays detailed IS-IS SR database information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of IS-IS SR database information, and Table 557: Output fields: IS-IS SR database describes the output fields.

Output Example

```
*A:Dut-E# tools dump router isis sr-database
===============================================================================
Rtr Base ISIS Instance 0 SR Database
===============================================================================
SID   Label  Prefix          Last-act  Lev MT RtmPref TtmPref Metric  IpNh SrNh
  Mtu    MtuPrim MtuBk  D xL LT Act AdvSystemId    SrErr
-------------------------------------------------------------------------------
0     60000  1.0.33.3        LfaNhops  1   0  15      11      100     1    1
  1484   1500    1500   0 0  T  +R  0100.2000.1003 SR_ERR_OK
1     60001  1.0.44.4        LfaNhops  1   0  15      11      200     1    1
  1484   1500    1500   0 0  Tn +R  0100.2000.1004 SR_ERR_OK
2     60002  1.0.55.5        Local     -   -  -       -       -       -    -
  -      -       -      0 -  -  +R  0100.2000.1005 SR_ERR_OK
3     60003  1.0.66.6        LfaNhops  1   0  15      11      100     1    1
  1484   1500    1500   0 0  T  +R  0100.2000.1006 SR_ERR_OK
4     60004  1.0.11.1        LfaNhops  1   0  15      11      200     1    1
  1484   1500    1500   0 0  Tn +R  0100.2000.1001 SR_ERR_OK
5     60005  1.0.22.2        LfaNhops  1   0  15      11      300     1    1
  1484   1500    1500   0 0  Tn +R  0100.2000.1002 SR_ERR_OK
6     60006  10.20.1.3       LfaNhops  1   0  15      11      100     1    1
  1484   1500    1500   0 0  T  +R  0100.2000.1003 SR_ERR_OK
7     60007  10.20.1.4       LfaNhops  1   0  15      11      200     1    1
  1484   1500    1500   0 0  Tn +R  0100.2000.1004 SR_ERR_OK
8     60008  10.20.1.5       Local     -   -  -       -       -       -    -
  -      -       -      0 -  -  +R  0100.2000.1005 SR_ERR_OK
9     60009  10.20.1.6       LfaNhops  1   0  15      11      100     1    1
  1484   1500    1500   0 0  T  +R  0100.2000.1006 SR_ERR_OK
10    60010  10.20.1.1       LfaNhops  1   0  15      11      200     1    1
  1484   1500    1500   0 0  Tn +R  0100.2000.1001 SR_ERR_OK
11    60011  10.20.1.2       LfaNhops  1   0  15      11      300     1    1
  1484   1500    1500   0 0  Tn +R  0100.2000.1002 SR_ERR_OK
-------------------------------------------------------------------------------
No. of Entries: 12
-------------------------------------------------------------------------------
Lev = route level
IpNh = number of IP next-hops
SrNh = number of SR-tunnel next-hops
D = duplicate pending
xL = exclude from LFA
LT = LFA type (L:LFA, R:RLFA, T:TILFA, n:nodeProtection)
Act = tunnel active state (R:reported, F:failed, +:SR-ack)
===============================================================================
```

Output Example

```
*A:Dut-C# tools dump router isis sr-database detail
===============================================================================
Rtr Base ISIS Instance 0 SR Database
Legend:
label stack is ordered from bottom-most to top-most
===============================================================================
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
SID 601
-------------------------------------------------------------------------------
Label              : 20601                 Adv System Id       : 0010.0100.1001
Prefix             : 1.1.1.1
Route Level        : 1                     MT Id               : 0
Rtm Preference     : 15                    Ttm Preference      : 11
Metric             : 10                    Last Action         : TnlChange
Num Ip NextHop     : 1                     Num SR-Tnl NextHop  : 1
Mtu                : 1560
Mtu Prim           : 1564                  Mtu Backup          : -
Exclude from LFA   : 0                     LFA Type            : -
Duplicate Pending  : 0                     Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
NHOP: IP                       IsTunl GIfId/   IfId/ PgId  IsAdv Label   IsLfaX
                                      TunlType LspId
-------------------------------------------------------------------------------
1.1.3.1                        N      4        2     19    1     20601   0
-------------------------------------------------------------------------------
SID 602
-------------------------------------------------------------------------------
Label              : 20602                 Adv System Id       : 0010.0100.1002
Prefix             : 1.1.1.2
Route Level        : 2                     MT Id               : 0
Rtm Preference     : 18                    Ttm Preference      : 11
Metric             : 10                    Last Action         : AddTnl
Num Ip NextHop     : 1                     Num SR-Tnl NextHop  : 1
Mtu                : 1560
Mtu Prim           : 1564                  Mtu Backup          : -
Exclude from LFA   : 0                     LFA Type            : -
Duplicate Pending  : 0                     Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
NHOP: IP                       IsTunl GIfId/   IfId/ PgId  IsAdv Label   IsLfaX
                                      TunlType LspId
-------------------------------------------------------------------------------
1.2.3.2                        N      5        3     15    1     20602   0
-------------------------------------------------------------------------------
SID 603
-------------------------------------------------------------------------------
Label              : 20603                 Adv System Id       : 0010.0100.1003
Prefix             : 1.1.1.3               Type                : Local
Duplicate Pending  : 0                     Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
-------------------------------------------------------------------------------
SID 604
-------------------------------------------------------------------------------
Label              : 20604                 Adv System Id       : 0010.0100.1004
Prefix             : 1.1.1.4
Route Level        : 2                     MT Id               : 0
Rtm Preference     : 18                    Ttm Preference      : 11
Metric             : 20                    Last Action         : AddTnl
Num Ip NextHop     : 1                     Num SR-Tnl NextHop  : 1
Mtu                : 1560
Mtu Prim           : 1564                  Mtu Backup          : -
Exclude from LFA   : 0                     LFA Type            : -
Duplicate Pending  : 0                     Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
NHOP: IP                       IsTunl GIfId/   IfId/ PgId  IsAdv Label   IsLfaX
                                      TunlType LspId
-------------------------------------------------------------------------------
1.2.3.2                        N      5        3     15    0     20604   0
-------------------------------------------------------------------------------
SID 605
-------------------------------------------------------------------------------
Label              : 20605                 Adv System Id       : 0010.0100.1005
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Prefix             : 1.1.1.5
Route Level        : 2                    MT Id               : 0
Rtm Preference     : 18                   Ttm Preference      : 11
Metric             : 10                   Last Action         : AddTnl
Num Ip NextHop     : 1                    Num SR-Tnl NextHop  : 1
Mtu                : 1560
Mtu Prim           : 1564                 Mtu Backup          : -
Exclude from LFA   : 0                    LFA Type            : -
Duplicate Pending  : 0                    Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
NHOP: IP                       IsTunl GIfId/   IfId/ PgId  IsAdv Label   IsLfaX
                                      TunlType LspId
-------------------------------------------------------------------------------
1.3.5.5                        N      6        4     17    1     20605   0
-------------------------------------------------------------------------------
SID 606
-------------------------------------------------------------------------------
Label              : 20606                Adv System Id       : 0010.0100.1006
Prefix             : 1.1.1.6
Route Level        : 2                    MT Id               : 0
Rtm Preference     : 18                   Ttm Preference      : 11
Metric             : 20                   Last Action         : AddTnl
Num Ip NextHop     : 1                    Num SR-Tnl NextHop  : 1
Mtu                : 1560
Mtu Prim           : 1564                 Mtu Backup          : -
Exclude from LFA   : 0                    LFA Type            : -
Duplicate Pending  : 0                    Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
NHOP: IP                       IsTunl GIfId/   IfId/ PgId  IsAdv Label   IsLfaX
                                      TunlType LspId
-------------------------------------------------------------------------------
1.3.5.5                        N      6        4     17    0     20606   0
-------------------------------------------------------------------------------
SID 611 Algorithm 128
-------------------------------------------------------------------------------
Label              : 20611                Adv System Id       : 0010.0100.1001
Prefix             : 1.1.1.1
Route Level        : 1                    MT Id               : 0
Rtm Preference     : 15                   Ttm Preference      : 11
Metric             : 10                   Last Action         : TnlChange
Num Ip NextHop     : 1                    Num SR-Tnl NextHop  : 1
Mtu                : 1560
Mtu Prim           : 1564                 Mtu Backup          : -
Exclude from LFA   : 0                    LFA Type            : -
Duplicate Pending  : 0                    Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
NHOP: IP                       IsTunl GIfId/   IfId/ PgId  IsAdv Label   IsLfaX
                                      TunlType LspId
-------------------------------------------------------------------------------
1.1.3.1                        N      4        2     19    1     20611   0
-------------------------------------------------------------------------------
SID 613
-------------------------------------------------------------------------------
Label              : 20613                Adv System Id       : 0010.0100.1003
Prefix             : 1.1.1.3              Type                : Local
Duplicate Pending  : 0                    Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
-------------------------------------------------------------------------------
SID 614 Algorithm 128
-------------------------------------------------------------------------------
Label              : 20614                Adv System Id       : 0010.0100.1004
Prefix             : 1.1.1.4
Route Level        : 2                    MT Id               : 0
Rtm Preference     : 18                   Ttm Preference      : 11
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Metric             : 20                    Last Action         : AddTnl
Num Ip NextHop     : 1                     Num SR-Tnl NextHop  : 1
Mtu                : 1560
Mtu Prim           : 1564                  Mtu Backup          : -
Exclude from LFA   : 0                     LFA Type            : -
Duplicate Pending  : 0                     Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
NHOP: IP                       IsTunl GIfId/   IfId/ PgId  IsAdv Label   IsLfaX
                                      TunlType LspId
-------------------------------------------------------------------------------
1.2.3.2                        N      5        3     15    0     20614   0
-------------------------------------------------------------------------------
SID 615 Algorithm 128
-------------------------------------------------------------------------------
Label              : 20615                 Adv System Id       : 0010.0100.1005
Prefix             : 1.1.1.5
Route Level        : 2                     MT Id               : 0
Rtm Preference     : 18                    Ttm Preference      : 11
Metric             : 10                    Last Action         : AddTnl
Num Ip NextHop     : 1                     Num SR-Tnl NextHop  : 1
Mtu                : 1560
Mtu Prim           : 1564                  Mtu Backup          : -
Exclude from LFA   : 0                     LFA Type            : -
Duplicate Pending  : 0                     Tunnel Active State : Reported/Ack
SR Error           : SR_ERR_OK
NHOP: IP                       IsTunl GIfId/   IfId/ PgId  IsAdv Label   IsLfaX
                                      TunlType LspId
-------------------------------------------------------------------------------
1.3.5.5                        N      6        4     17    1     20615   0
```

Table 557: Output fields: IS-IS SR database

Label	Description
Label	The ILM MPLS label corresponding to the SID
Prefix	The route prefix and mask
Metric	Interface metric for Level 1 and Level 2; if none are set to 0

sr-database

Syntax

sr-database [**sid** *sid*] [**prefix** *ip-address*] [**nh-type** {**sr** | **ldp** | **rsvp**}] [**algo** *algo-id*] [**detail**]

Context

[Tree] (tools>dump>router>ospf sr-database)

Full Context

tools dump router ospf sr-database

Description

This command displays OSPFv2 SR database information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sid

Displays information for the specific segment identifier.

Values 0 to 524287

ip-address

Specifies the IP address in dotted decimal notation.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x [eight 16-bit pieces]
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

algo-id

Displays the OSPFv2 database information for the specified algorithm identifier.

Values 0 to 255

Platforms

All

Output

The following output is an example of OSPFv2 SR database information.

Output Example

```
*A:Dut-C# tools dump router ospf sr-database
===============================================================================
Rtr Base OSPFv2 Instance 0 Segment Routing Database
===============================================================================
SID         Label St Type Prefix                                    Stitching
                  Algo          AdvRtr            Area Flags          FRR
-------------------------------------------------------------------------------
2          100002 +R   T1 10.20.1.2/32                                    -
                       0       10.20.1.2         0.0.0.0 [NnP       ]  L(R)
3          100003 +R  LT1 10.20.1.3/32                                    -
                       0       10.20.1.3         0.0.0.0 [NnP       ]     -
5          100005 +R   T1 10.20.1.5/32                                    -
                       0       10.20.1.5         0.0.0.0 [NnP       ]  L(R)
1282       101282 +R   T1 10.20.1.2/32                                    -
                       128     10.20.1.2         0.0.0.0 [NnP       ]     -
1283       101283 +R  LT1 10.20.1.3/32                                    -
                       128     10.20.1.3         0.0.0.0 [NnP       ]     -
1285       101285 +R   T1 10.20.1.5/32                                    -
                       128     10.20.1.5         0.0.0.0 [NnP       ]     -
-------------------------------------------------------------------------------
No. of Entries: 6
-------------------------------------------------------------------------------
St:   R:reported  I:incomplete  W:wrong  N:not reported  F:failed
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
      +:SR-ack  -:no route
Type: L:local  M: mapping Srv  Tx: route type
FRR:  L:Lfa  R:RLfa  T:TiLfa  (R):Reported  (F):Failed
      Ln, Rn, Tn: FRR providing node-protection
===============================================================================
*A:Dut-C# tools dump router ospf sr-database algo 128
===============================================================================
Rtr Base OSPFv2 Instance 0 Algo 128 Segment Routing Database
===============================================================================
SID         Label St Type Prefix                                    Stitching
                     Algo          AdvRtr            Area Flags          FRR
-------------------------------------------------------------------------------
1282       101282 +R   T1 10.20.1.2/32                                    -
                       128       10.20.1.2         0.0.0.0 [NnP       ]     -
1283       101283 +R  LT1 10.20.1.3/32                                     -
                       128       10.20.1.3         0.0.0.0 [NnP       ]     -
1285       101285 +R   T1 10.20.1.5/32                                     -
                       128       10.20.1.5         0.0.0.0 [NnP       ]     -
-------------------------------------------------------------------------------
No. of Entries: 3
-------------------------------------------------------------------------------
St:   R:reported  I:incomplete  W:wrong  N:not reported  F:failed
      +:SR-ack  -:no route
Type: L:local  M: mapping Srv  Tx: route type
FRR:  L:Lfa  R:RLfa  T:TiLfa  (R):Reported  (F):Failed
      Ln, Rn, Tn: FRR providing node-protection
===============================================================================
```

sr-database

Syntax

sr-database [**sid** *sid*] [**prefix** *ip-address*] [**nh-type** {**sr** | **ldp** | **rsvp**}] [**detail**]

Context

[Tree] (tools>dump>router>ospf3 sr-database)

Full Context

tools dump router ospf3 sr-database

Description

This command displays OSPFv3 SR database information.

Parameters

sid

Displays information for the specific segment identifier.

Values 0 to 524287

ip-address

Specifies the IP address in dotted decimal notation.

Values ipv4-address:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x [eight 16-bit pieces]
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

Platforms

All

Output

Output Example

```
A:Dut-E# tools dump router ospf sr-database
===============================================================================
Rtr Base OSPFv2 Instance 0 Segment Routing Database
===============================================================================
SID         Label St Type Prefix                                      Stitching
                                  AdvRtr            Area Flags          FRR
-------------------------------------------------------------------------------
0           60000 +R   T1 1.0.33.3/32                                      -
                           10.20.1.3         0.0.0.0 [NnP       ]  T(R)
1           60001 +R   T1 1.0.44.4/32                                      -
                           10.20.1.4         0.0.0.0 [NnP       ] Tn(R)
2           60002 +R  LT1 1.0.55.5/32                                      -
                           10.20.1.5         0.0.0.0 [NnP       ]     -
3           60003 +R   T1 1.0.66.6/32                                      -
                           10.20.1.6         0.0.0.0 [NnP       ]  T(R)
4           60004 +R   T1 1.0.11.1/32                                      -
                           10.20.1.1         0.0.0.0 [NnP       ] Tn(R)
5           60005 +R   T1 1.0.22.2/32                                      -
                           10.20.1.2         0.0.0.0 [NnP       ] Tn(R)
6           60006 +R   T1 10.20.1.3/32                                     -
                           10.20.1.3         0.0.0.0 [NnP       ]  T(R)
7           60007 +R   T1 10.20.1.4/32                                     -
                           10.20.1.4         0.0.0.0 [NnP       ] Tn(R)
8           60008 +R  LT1 10.20.1.5/32                                     -
                           10.20.1.5         0.0.0.0 [NnP       ]     -
9           60009 +R   T1 10.20.1.6/32                                     -
                           10.20.1.6         0.0.0.0 [NnP       ]  T(R)
10          60010 +R   T1 10.20.1.1/32                                     -
                           10.20.1.1         0.0.0.0 [NnP       ] Tn(R)
11          60011 +R   T1 10.20.1.2/32                                     -
                           10.20.1.2         0.0.0.0 [NnP       ] Tn(R)
-------------------------------------------------------------------------------
No. of Entries: 12
-------------------------------------------------------------------------------
St:   R:reported  I:incomplete  W:wrong  N:not reported  F:failed
      +:SR-ack  -:no route
Type: L:local  M: mapping Srv  Tx: route type
FRR:  L:Lfa  R:RLfa  T:TLfa  (R):Reported  (F):Failed
      Rn: RLfa + node-protect  Tn: TLfa + node-protect
===============================================================================
```

```
*A:Dut-F# tools dump router ospf sr-database detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Rtr Base OSPFv2 Instance 0 Segment Routing Database (detail)
===============================================================================
  SID  Label Sts             Prefix Type          AdvRtr            Area Flags
  TnlID  FRR
       lsId            AdvRtr          Area            Type
-------------------------------------------------------------------------------
    0  70000  +R        1.0.33.3/
32   T1       10.20.1.3         0.0.0.1 [NnP       ]     2 R(R)
       7.16.0.9        10.20.1.2       0.0.0.0         T3
       7.0.0.4         10.20.1.3       0.0.0.1         T1 <<<< Best
    1  70001  +R        1.0.44.4/
32   T1       10.20.1.4         0.0.0.0 [NnP       ]     2 L(R)
       7.16.0.5        10.20.1.2       0.0.0.1         T3
       7.0.0.4         10.20.1.4       0.0.0.0         T1 <<<< Best
    2  70002  +R        1.0.55.5/
32   T1       10.20.1.5         0.0.0.0 [NnP       ]     2 R(R)
       7.16.0.3        10.20.1.2       0.0.0.1         T3
       7.0.0.4         10.20.1.5       0.0.0.0         T1 <<<< Best
    3  70003  +R        1.0.66.6/
32  LT1       10.20.1.6         0.0.0.1 [NnP       ]     0    -
       7.16.0.8        10.20.1.2       0.0.0.0         T3
       7.0.0.6         10.20.1.6       0.0.0.1         T1 <<<< Best
    4  70004  +R        1.0.11.1/
32   T1       10.20.1.1         0.0.0.1 [NnP       ]     2 L(R)
       7.16.0.13       10.20.1.2       0.0.0.0         T3
       7.0.0.4         10.20.1.1       0.0.0.1         T1 <<<< Best
    5  70005  +R        1.0.22.2/
32   T1       10.20.1.2         0.0.0.1 [NnP       ]     2 R(R)
       7.16.0.11       10.20.1.2       0.0.0.0         T3
       7.0.0.6         10.20.1.2       0.0.0.1         T1 <<<< Best
    6  70006  +R       10.20.1.3/
32   T1       10.20.1.3         0.0.0.1 [NnP       ]     2 R(R)
       7.16.0.10       10.20.1.2       0.0.0.0         T3
       7.0.0.5         10.20.1.3       0.0.0.1         T1 <<<< Best
    7  70007  +R       10.20.1.4/
32   T1       10.20.1.4         0.0.0.0 [NnP       ]     2 L(R)
       7.16.0.6        10.20.1.2       0.0.0.1         T3
       7.0.0.5         10.20.1.4       0.0.0.0         T1 <<<< Best
    8  70008  +R       10.20.1.5/
32   T1       10.20.1.5         0.0.0.0 [NnP       ]     2 R(R)
       7.16.0.4        10.20.1.2       0.0.0.1         T3
       7.0.0.5         10.20.1.5       0.0.0.0         T1 <<<< Best
    9  70009  +R       10.20.1.6/
32  LT1       10.20.1.6         0.0.0.0 [NnP       ]     0    -
       7.16.0.2        10.20.1.2       0.0.0.1         T3
       7.0.0.7         10.20.1.6       0.0.0.0         T1 <<<< Best
   10  70010  +R       10.20.1.1/
32   T1       10.20.1.1         0.0.0.1 [NnP       ]     2 L(R)
       7.16.0.12       10.20.1.2       0.0.0.0         T3
       7.0.0.5         10.20.1.1       0.0.0.1         T1 <<<< Best
   11  70011  +R       10.20.1.2/
32   T1       10.20.1.2         0.0.0.0 [NnP       ]     2 R(R)
       7.16.0.7        10.20.1.2       0.0.0.1         T3
       7.0.0.7         10.20.1.2       0.0.0.0         T1 <<<< Best
  994  70994  +R        1.0.44.4/
32   T1       10.20.1.5         0.0.0.0 [NnPB      ]     0    -
       7.16.0.1        10.20.1.5       0.0.0.0         T1 <<<< Best
  995  70995  +R        1.0.55.5/
32   T1       10.20.1.4         0.0.0.0 [NnPB      ]     0    -
       7.16.0.1        10.20.1.4       0.0.0.0         T1 <<<< Best
  996  70996  +R        1.0.22.2/
32  LT1       10.20.1.6         0.0.0.1 [NnPB      ]     0    -
  997  70997   -        1.0.66.6/
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
32   T1       10.20.1.2         0.0.0.1 [NnPB      ]     -    -
        7.16.0.1        10.20.1.2       0.0.0.1         T1 <<<< Best
  998  70998  +R        1.0.33.3/
32   T1       10.20.1.1         0.0.0.1 [NnPB      ]     0    -
        7.16.0.1        10.20.1.1       0.0.0.1         T1 <<<< Best
  999  70999  +R        1.0.11.1/
32   T1       10.20.1.3         0.0.0.1 [NnPB      ]     0    -
        7.16.0.1        10.20.1.3       0.0.0.1         T1 <<<< Best
-------------------------------------------------------------------------------
Sts:  R:reported  I:incomplete  W:wrong  N:not reported  F:failed  +:SR-ack  -
:no route
Type: L:local  M: mapping Srv  Tx: route type
FRR:  L:Lfa  R:RLfa  (R):Reported  (F):Failed
===============================================================================
*A:Dut-F#
```

24.50 sr-label

sr-label

Syntax

sr-label

Context

[Tree] (show>router>bgp sr-label)

Full Context

show router bgp sr-label

Description

This command displays BGP SR label information.

Platforms

All

24.51 sr-lfa-coverage

sr-lfa-coverage

Syntax

sr-lfa-coverage [**flex-algo** {*flex-algo-id* | **all**}]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>isis sr-lfa-coverage)

Full Context

show router isis sr-lfa-coverage

Description

This command displays IS-IS SR LFA coverage information. This corresponds to the coverage provided by the various LFA algorithms for SR-ISIS tunnel, SR-TE LSP, and LDP FEC if the **fast-reroute backup-sr-tunnel** option is enabled. The LFA algorithms activate the backup next hops in the following preference order:

1. TI-LFA
2. LFA
3. R-LFA

Parameters

flex-algo *flex-algo-id*

Displays SR LFA coverage information for the specified algorithm.

Values 128 to 255

all

Displays all the flexible algorithms that are configured.

Values 128 to 255, all

Platforms

All

Output

The following output is an example of SR LFA coverage information, and Table 558: Output fields: IS-IS SR LFA coverage describes the output fields.

Output Example

```
*A:Dut-C>config>router>isis# show router isis 0 sr-lfa-coverage
===============================================================================
Rtr Base ISIS Instance 0 SR LFA Coverage
===============================================================================
MT-ID  SidType  Level  Proto        LFA        RLFA       TILFA      Coverage
-------------------------------------------------------------------------------
       node-sid                    4(40%)     6(60%)     0(0%)      10/10(100%)
       adj-sid                     0(0%)      2(100%)    0(0%)      2/2(100%)
===============================================================================
```

Output Example

```
A:Dut-A# show router isis 0 sr-lfa-coverage flex-algo 128
===============================================================================
Rtr Base ISIS Instance 0 Flex-Algo 128 SR LFA Coverage
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
MT-ID   SidType      Level Proto LFA       RLFA      TILFA     Coverage
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
A:Dut-A# show router isis 0 sr-lfa-coverage flex-algo all
===============================================================================
Rtr Base ISIS Instance 0 Flex-Algo 128 SR LFA Coverage
===============================================================================
MT-ID   SidType      Level Proto LFA       RLFA      TILFA     Coverage
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```

Table 558: Output fields: IS-IS SR LFA coverage describes the IS-IS SR LFA coverage output fields.

Table 558: Output fields: IS-IS SR LFA coverage

Label	Description
MT-ID	Displays the MT identification
SidType	Displays the SID type
Level	Displays the level
Proto	Displays the protocol
LFA	Displays the LFA
RLFA	Displays the RLFA
TIFLA	Displays the TI-LFA
Coverage	Displays the percentage of coverage

sr-lfa-coverage

Syntax

sr-lfa-coverage [**area** *area-id*] [**flex-algo** { *flex-algo-id* | **all**}]

Context

[Tree] (show>router>ospf sr-lfa-coverage)

Full Context

show router ospf sr-lfa-coverage

Description

This command displays the details of the OSPF SR LFA coverage. This corresponds to the coverage provided by the various LFA algorithms for SR-OSPF tunnel, SR-TE LSP, and LDP FEC if **fast-reroute**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

backup-sr-tunnel option is enabled. The LFA algorithms activate the backup next hops using the preference order:

1. TI-LFA
2. LFA
3. R-LFA

Parameters

area *area-id*

Displays all interfaces configured in this area.

Values ip-address — a.b.c.d
area — 0 to 4294967295

flex-algo *flex-algo-id*

Displays the OSPF SR LFA coverage details for the specified segment routing algorithm.

Values 128 to 255

flex-algo all

Displays the OSPF SR LFA coverage details for all segment routing algorithms.

Platforms

All

Output

The following output is an example of OSPF SR LFA coverage, and Table 559: Output fields: OSPF SR LFA coverage describes the output fields.

Output Example

```
*A:Dut-C# show router ospf sr-lfa-coverage flex-algo 128
===============================================================================
Rtr Base OSPFv2 Instance 0 Flex-Algo 128 SR LFA Coverage
===============================================================================
SidType      Area            LFA        RLFA       TILFA      Coverage
-------------------------------------------------------------------------------
node-sid     0.0.0.0         2(100%)    0(0%)      0(0%)      2/2(100%)
===============================================================================
*A:Dut-C#
```

Table 559: Output fields: OSPF SR LFA coverage

Label	Description
SidType	Displays the SID type.
Area	Displays the OSPF area.
LFA	Displays the LFA.
RLFA	Displays the RLFA.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
TIFLA	Displays the TI-LFA.
Coverage	Displays the percentage of coverage.

sr-lfa-coverage

Syntax

sr-lfa-coverage [**area** *area-id*]

Context

[Tree] (show>router>ospf3 sr-lfa-coverage)

Full Context

show router ospf3 sr-lfa-coverage

Description

This command displays the details of the OSPF SR LFA coverage. This corresponds to the coverage provided by the various LFA algorithms for SR-OSPF tunnel, SR-TE LSP, and LDP FEC if **fast-reroute backup-sr-tunnel** option is enabled. The LFA algorithms activate the backup next hops using the preference order:

1. TI-LFA
2. LFA
3. R-LFA

Parameters

area *area-id*

Displays all interfaces configured in this area.

Values ip-address — a.b.c.d
area — 0 to 4294967295

Platforms

All

Output

Output Example

```
*A:Dut-C>config>router>ospf3# show router ospf3 0 sr-lfa-coverage
===============================================================================
Rtr Base OSPFv3 Instance 0 SR LFA Coverage
===============================================================================
SidType      Area            LFA        RLFA       TILFA      Coverage
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
node-sid     0.0.0.1         4(40%)     6(60%)     0(0%)      10/10(100%)
adj-sid      0.0.0.1         0(0%)      2(100%)    0(0%)      2/2(100%)
===============================================================================
```

The following table describes the OSPF SR LFA coverage output fields.

Table 560: Output fields: OSPF3 SR LFA coverage

Label	Description
SidType	Displays the SID type.
Area	Displays the OSPF area.
LFA	Displays the LFA.
RLFA	Displays the RLFA.
TIFLA	Displays the TI-LFA.
Coverage	Displays the percentage of coverage.

24.52 sr-lfa-info

sr-lfa-info

Syntax

sr-lfa-info [**ipv4-unicast** | **ipv6-unicast** | **mt** *mt-id-number*] [**prefix** *ip-prefix*[/*prefix-length*]] [**algo** *algo-id*] [**detail**]

sr-lfa-info adjacency [**id** *ip-int-name* | *ip-address* | *nbr-system-id*] [**mt** *mt-id-number*] [**assign-type** {**static** | **dynamic**}] [**sid** *value*] [**detail**]

Context

[Tree] (show>router>isis sr-lfa-info)

Full Context

show router isis sr-lfa-info

Description

This command displays LFA information for an SR-ISIS remote node SID tunnel and SR-ISIS local adjacency SID tunnel.

Parameters

ipv4-unicast

Keyword used to display LFA information of IPv4 unicast SR-ISIS tunnels.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-unicast

Keyword used to display LFA information of IPv6 unicast SR-ISIS tunnels.

mt-id-number

Filters information based on the specific MT ID value.

Values 0 | 2 | 3 | 4

ip-prefix/prefix-length

Displays the LFA information for the SR-ISIS tunnel of the specified IP prefix.

Values *ipv4-prefix* — a.b.c.d (host bits must be 0)

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

ipv6-prefix-length — 0 to 128

algo-id

Filters information based on a specific SR algorithm only.

Values 0 | 128 to 255

detail

Keyword to display detailed information.

adjacency

Keyword to display adjacency SID LFA information.

ip-int-name | *ip-address* | *nbr-system-id*

Displays the LFA information for the SR-ISIS local adjacency identified as an IP interface, IP address, or neighbor system ID.

Values *ip-int-name* — 32 characters max

ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x [0 to FFFF]H

d [0 to 255]D

nbr-system-id — xxxx.xxxx.xxxx

assign-type

Keyword to display filters information based on the specific SID assignment type.

Values **static** — Displays only the statically configured adjacency SIDs per IS-IS interface.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

dynamic — Displays only the dynamically assigned adjacency SIDs per IS-IS interface.

value

Displays LFA information for the specified SID value.

Values 0 to 1048575

Platforms

All

Output

The following outputs are examples of LFA information, and the associated tables describe the output fields:

- SR-ISIS remote node SID tunnel
  - Output example, Table 561: Output fields: IS-IS SR LFA node SID information
  - Output example (detail), Table 562: Output fields: IS-IS SR LFA node SID detailed information
- SR-ISIS local adjacency SID tunnel
  - Output example (adjacency SID with LFA backup using a parallel interface), Output example (adjacency SID with LFA backup not using a parallel interface), Table 563: Output fields: IS-IS SR LFA adjacency SID information
  - Output example (adjacency SID with LFA backup using a parallel interface detail), Output example (adjacency SID with LFA backup not using a parallel interface detail), Table 564: Output fields: IS-IS SR LFA adjacency SID detailed information

Output example

```
show router isis sr-lfa-info prefix 192.0.2.1/32 algo 253

===============================================================================
Rtr Base ISIS Instance 0 SR LFA Info
===============================================================================
Prefix                          Algo       MT
  NextHop
  LFA-NextHop                                          LfaType (Pr-Type)
  Backup-Node                   NodeType   SID         SID-Type
-------------------------------------------------------------------------------
192.0.2.1/32                    253        0
  192.168.13.1
  192.168.36.2(L)                                      TI-LFA (Link)
  1920.0000.2006                P-Node     524285      Adjacency
  1920.0000.2004                TR-Node    524287      Adjacency
  1920.0000.2002                TR-Node    524287      Adjacency
  1920.0000.2001                Q-Node      -           -
-------------------------------------------------------------------------------
No. of Entries: 1
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 561: Output fields: IS-IS SR LFA node SID information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info	
Prefix	Displays the prefix IP address
Algo	Displays the algorithm ID
MT	Displays the Multi-Topology value
NextHop	Displays the next-hop IP address
LFA-NextHop	Displays the LFA next-hop IP address
LfaType (Pr-Type)	Displays the LFA type and protection type
Backup-Node	Displays the backup node system ID
NodeType	Displays the node type
SID	Displays the SID value
SID-Type	Displays the SID type
No. of Entries	Displays the total number of entries

Output example (detail)

```
show router isis sr-lfa-info prefix 192.0.2.1/32 algo 253 detail

===============================================================================
Rtr Base ISIS Instance 0 SR LFA Info (detail)
===============================================================================
-------------------------------------------------------------------------------
SR Tunnel Prefix : 192.0.2.1/32
-------------------------------------------------------------------------------
Algorithm        : 253
MT               : 0
NextHop          : 192.168.13.1
LFA-NextHop      : 192.168.36.2
LFA-Type         : TI-LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 4
   Node-SysID       : 1920.0000.2006
    Node-Type        : P-Node
    SID              : 524285
    SID-Type         : Adjacency
   Node-SysID       : 1920.0000.2004
    Node-Type        : TR-Node
    SID              : 524287
    SID-Type         : Adjacency
   Node-SysID       : 1920.0000.2002
    Node-Type        : TR-Node
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    SID              : 524287
    SID-Type         : Adjacency
   Node-SysID       : 1920.0000.2001
    Node-Type        : Q-Node
    SID              :  -
    SID-Type         :  -
-------------------------------------------------------------------------------
No. of Entries: 1
===============================================================================
```

Table 562: Output fields: IS-IS SR LFA node SID detailed information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info (detail)	
SR Tunnel Prefix	Displays the SR tunnel prefix IP address
Algorithm	Displays the algorithm ID
MT	Displays the MT value
NextHop	Displays the next-hop IP address
LFA-NextHop	Displays the LFA next-hop IP address
LFA-Type	Displays the LFA type
LFA-Protection	Displays the LFA protection type
Displaying Backup-Node-Info	
Node-count	Displays the number of nodes
Node-SysID	Displays the node system ID
Node-Type	Displays the node type
SID	Displays the SID value
SID-Type	Displays the SID type
No. of Entries	Displays the total number of entries

Output example (adjacency SID with LFA backup using a parallel interface) 3

```
*A:Dut-C# /show router isis sr-lfa-info adjacency id "to_Dut-E"

===============================================================================
Rtr Base ISIS Instance 0 SR LFA Info Adjacency
===============================================================================
Interface                       NbrSysId             MT
NbrIp
  AdjSID                                             Assign-Type
  LFA-NextHop                                        LfaType (Pr-Type)
  Backup-Node                   NodeType   SID       SID-Type
-------------------------------------------------------------------------------
to_Dut-E                        Dut-E                0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
192.168.35.2
  524275                                                Dynamic
  192.169.35.2(L)                                       LFA (Link)
to_Dut-E                          Dut-E                 0
fe80::205:feff:fe00:0
524274                                                  Dynamic
  fe80::205:feff:fe00:0-"to_Dut-E1"(L)                  LFA (Link)
-------------------------------------------------------------------------------
No. of Entries: 2
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```

Output example (adjacency SID with LFA backup not using a parallel interface)

```
/show router isis sr-lfa-info adjacency id "to_Dut-E"

===============================================================================
Rtr Base ISIS Instance 0 SR LFA Info Adjacency
===============================================================================
Interface                         NbrSysId              MT
NbrIp
  AdjSID                                                Assign-Type
  LFA-NextHop                                           LfaType (Pr-Type)
  Backup-Node                     NodeType   SID        SID-Type
-------------------------------------------------------------------------------
to_Dut-E                          Dut-E                 0
192.168.35.2
  524275                                                Dynamic
  192.168.23.1(L)                                       TI-LFA (Link)
  1920.0000.2004                  PQ-Node    30004      Prefix
  1920.0000.2005                  Nbr-Node   50005      Prefix
to_Dut-E                          Dut-E                 0
fe80::205:feff:fe00:0
524274                                                  Dynamic
  fe80::202:feff:fe00:0-"to_Dut-B"(L)                   TI-LFA (Link)
  1920.0000.2004                  PQ-Node    30024      Prefix
  1920.0000.2005                  Nbr-Node   50025      Prefix
-------------------------------------------------------------------------------
No. of Entries: 2
Pr-Type     : Link = linkProtection, Node = nodeProtection
===============================================================================
```

Table 563: Output fields: IS-IS SR LFA adjacency SID information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info Adjacency	
Interface	Displays the interface name and address
NbrSysId	Displays the neighbor system ID
MT	Displays the MT value
NbrIp	Displays the neighbor IP address
AdjSID	Displays the adjacency SID value
Assign-type	Displays the assign type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
LFA-NextHop	Displays the LFA next-hop IP address
Backup-Node	Displays the backup node
NodeType	Displays the node type
LfaType (Pr-Type)	Displays the LFA type and protection type
SID	Displays the SID
SID-Type	Displays the SID type

Output example (adjacency SID with LFA backup using a parallel interface detail)

```
 A:Dut-C# /show router isis sr-lfa-info adjacency id "to_Dut-E" detail

===============================================================================
Rtr Base ISIS Instance 0 SR LFA Info Adjacency (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface        : to_Dut-E          Neighbor IP: 192.168.35.2
-------------------------------------------------------------------------------
Neighbor         : Dut-E
MT               : 0
AdjSID           : 524275
Assign-Type      : Dynamic
LFA-NextHop      : 192.169.35.2
LFA-Type         : LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Interface        : to_Dut-E          Neighbor IP: fe80::205:feff:fe00:0
-------------------------------------------------------------------------------
Neighbor         : Dut-E
MT               : 0
AdjSID           : 524274
Assign-Type      : Dynamic
LFA-NextHop      : fe80::205:feff:fe00:0-"to_Dut-E1"
LFA-Type         : LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of Entries: 2
===============================================================================
```

Output example (adjacency SID with LFA backup not using a parallel interface detail)

```
show router isis sr-lfa-info adjacency id "to_Dut-E" detail

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rtr Base ISIS Instance 0 SR LFA Info Adjacency (detail)
===============================================================================
-------------------------------------------------------------------------------
Interface        : to_Dut-E          Neighbor IP: 192.168.35.2
-------------------------------------------------------------------------------
Neighbor         : Dut-E
MT               : 0
AdjSID           : 524275
Assign-Type      : Dynamic
LFA-NextHop      : 192.168.23.1
LFA-Type         : TI-LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 2
   Node-SysID       : 1920.0000.2004
    Node-Type        : PQ-Node
    SID              : 30004
    SID-Type         : Prefix
   Node-SysID       : 1920.0000.2005
    Node-Type        : Nbr-Node
    SID              : 50005
    SID-Type         : Prefix
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Interface        : to_Dut-E          Neighbor IP: fe80::205:feff:fe00:0
-------------------------------------------------------------------------------
Neighbor         : Dut-E
MT               : 0
AdjSID           : 524274
Assign-Type      : Dynamic
LFA-NextHop      : fe80::202:feff:fe00:0-"to_Dut-B"
LFA-Type         : TI-LFA
LFA-Protection   : Link Protection
-------------------------------------------------------------------------------
Displaying Backup-Node-Info
-------------------------------------------------------------------------------
Node-count       : 2
   Node-SysID       : 1920.0000.2004
    Node-Type        : PQ-Node
    SID              : 30024
    SID-Type         : Prefix
   Node-SysID       : 1920.0000.2005
    Node-Type        : Nbr-Node
    SID              : 50025
    SID-Type         : Prefix
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of Entries: 2
===============================================================================
```

Table 564: Output fields: IS-IS SR LFA adjacency SID detailed information

Label	Description
Rtr Base ISIS Instance 0 SR LFA Info Adjacency	
Interface	Displays the interface name and address
Neighbor IP	Displays the neighbor IP address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
MT	Displays the MT value
Neighbor	Displays the neighbor
AdjSID	Displays the adjacency SID value
Assign-Type	Displays the assign type
LFA-NextHop	Displays the LFA next-hop IP address
LFA-Type	Displays the LFA type
LFA-Protection	Displays the LFA protection type
Displaying Backup-Node-Info	
Node-count	Displays the number of nodes
Node-SysID	Displays the node system ID
Node-Type	Displays the node type
SID	Displays the SID value
SID-Type	Displays the SID type
No. of Entries	Displays the total number of entries

24.53 sr-policies

sr-policies

Syntax

sr-policies

Context

[Tree] (clear>router>seg-rt sr-policies)

Full Context

clear router segment-routing sr-policies

Description

Commands in this context clear SR policies statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

sr-policies

Syntax

sr-policies

Context

[Tree] (show>router>seg-rt sr-policies)

Full Context

show router segment-routing sr-policies

Description

Commands in this context display SR policy information.

Platforms

All

sr-policies

Syntax

sr-policies

Context

[Tree] (monitor>router>seg-rt sr-policies)

Full Context

monitor router segment-routing sr-policies

Description

Commands in this context monitor Segment Routing SR Policy Statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.54 sr-policy-ipv4

sr-policy-ipv4

Syntax

sr-policy-ipv4 [**rd** *rd*] [**color** *color*] [**endpoint** *ip-address*]

Context

[Tree] (show>router>bgp>routes sr-policy-ipv4)

Full Context

show router bgp routes sr-policy-ipv4

Description

This command displays BGP SR policy IPv4 routes.

Parameters

ip-address

Specifies the endpoint IPv4 address.

Values a.b.c.d

Platforms

All

24.55 sr-policy-ipv6

sr-policy-ipv6

Syntax

sr-policy-ipv6 [**rd** *rd*] [**color** *color*] [**endpoint** *ipv6-address*]

sr-policy-ipv6 hunt [**rd** *rd*] [**color** *color*] [**endpoint** *ipv6-address*]

Context

[Tree] (show>router>bgp>routes sr-policy-ipv6)

Full Context

show router bgp routes sr-policy-ipv6

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays BGP SR policy IPv6 routes.

Parameters

ipv6-address

Specifies the endpoint IPv6 address, up to 64 characters

Platforms

All

24.56 sr-te

sr-te

Syntax

sr-te

Context

[Tree] (clear>router>mpls>lsp>auto-lsp sr-te)

Full Context

clear router mpls lsp auto-lsp sr-te

Description

This command resets and restarts all auto SR-TE LSPs.

Platforms

All

sr-te

Syntax

sr-te

Context

[Tree] (clear>router>mpls>lsp sr-te)

Full Context

clear router mpls lsp sr-te

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command resets and restarts all SR-TE LSPs.

Platforms

All

24.57 sr-te-cspf

sr-te-cspf

Syntax

sr-te-cspf [**path-computation-method** *path-computation-method*] **to** *ip-address* [**path** *path-name*] [**from** *ip-address*] [**include-bitmap** *bitmap*] [**exclude-bitmap** *bitmap*] [**hop-limit** *limit*] [**metric-type-te**] [**local-sr-protection** *local-sr-protection*] [**label-stack-reduction**] [**max-sr-labels** *label-stack-size*] [**exclude-address** *excl-addr* [*excl-addr*]] [**exclude-node** *excl-node-id* [*excl-node-id*]] [**skip-interface** *interface-name*] [**metric-type** *metric-type*] [**delay-metric-limit** *delay-metric-limit*]

Context

[Tree] (tools>perform>router>mpls sr-te-cspf)

Full Context

tools perform router mpls sr-te-cspf

Description

This command computes and returns one or more SR-TE paths and corresponding label stack to a specific destination router and with the specified constraints.

By default, or when the user specifies the value of **ip-to-label** for the **path-computation-method** parameter, MPLS passes the **to** path and the **from** parameters to TE-DB, which converts the list of hops into a label stack by scanning the TE database for adjacency and node SID information that belongs to the router or link identified by each hop address. If the conversion is successful, the TE database returns the actual selected hop SIDs plus labels, as well as the configured path hop addresses that were used as the input for this conversion. None of the TE constraint parameters are used in this path computation method.

When the user specifies the value of **local-cspf** for the **path-computation-method** parameter, MPLS passes all parameters of the **tools** command, including the TE constraint parameters. In this case, a full CSPF is run using these parameters.

When the user runs this **tools** command without specifying a path name, CSPF returns the set of candidate ECMP paths. When the user specifies a path name, CSPF returns a single path, which is selected randomly similar to a configured SR-TE LSP, with the **path-computation-method local-cspf** command enabled.

Parameters

to *ip-address*

Specifies the destination address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values a.b.c.d

path *path-name*

Specifies the path name, up to 64 characters.

from *ip-address*

Specifies the originating IP address.

Values a.b.c.d

path-computation-method path-computation-method

Specifies the path computation method of the LSP path.

Values ip-to-label, local-cspf

hop-limit limit

Specifies the maximum number of hops for the path.

Values 0 to 255

exclude-bitmap *bitmap*

Specifies a bit-map of the admin groups that should be excluded in the path computation. Accepted in decimal, hex, or binary.

Values 0 to 4294967295

include-bitmap *bitmap*

Specifies a bit-map of the admin groups that should be included in the path. Accepted in decimal, hex, or binary.

Values 0 to 4294967295

metric-type-te

Specifies the use of the TE metric to optimize the path. By default, the link IGP metric is used.

This parameter is deprecated. When used, it is automatically translated to **metric-type te** and an INFO message is displayed that the parameter is deprecated and **metric-type te** should be used instead.

local-sr-protection

Specifies the local LFA protection desired for the CSPF computed explicit path with adjacency SIDs.

Values none, preferred, mandatory

label-stack-reduction

Specifies to apply label stack reduction to the CSPF computed explicit path with adjacency SIDs.

max-sr-labels label-stack-size

Specifies the maximum label stack size of the CSPF computed path with or without label stack reduction.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 11

exclude-address ***ip-addr***

Specifies a list of up to eight IP addresses that should be excluded in the path computation.

Values a.b.c.d

exclude-node ***excl-node-id***

Specifies a list of up to eight addresses that should be excluded during the path computation.

Values a.b.c.d

skip-interface ***interface-name***

Specifies an interface name, up to 32 characters, that should be skipped during the path computation.

metric-type ***metric-type***

Specifies the metric type.

Values **igp** — Specifies use of the IGP metric.

te — Specifies use of the traffic-engineering metric. This is the default metric type.

delay — Specifies computation delay metrics.

delay-metric-limit ***delay-metric-limit***

This parameter is valid for **metric-type delay** only and specifies the upper limit of the delay for a path, in microseconds. If **metric-type delay** and **delay-metric-limit**are specified, this command returns the lowest latency path that satisfies the **delay-metric-limit**. If **metric-type delay** is specified and the **delay-metric-limit** is not, the lowest latency path through the network is returned.

Values 1 to 16777215

Platforms

All

24.58 sr-te-lsp

sr-te-lsp

Syntax

sr-te-lsp [*lsp-name*] [**status** {**up** | **down**}] [**detail**] **path** [*path-name*] [**auto-lsp** {**all** | **mesh-p2p-srte** | **one-hop-p2p-srte**| **on-demand-p2p-srte**}] [**family** *family*]

sr-te-lsp count

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sr-te-lsp [*lsp-name*] [**detail**] [**auto-lsp** {**all** | **mesh-p2p-srte** | **one-hop-p2p-srte** | **on-demand-p2p-srte**}] [**family** *family*]

sr-te-lsp [*lsp-name*] [**status** {**up** | **down**}] [**to** {*ip-address* | *ipv6-address*}] [**detail**] [**auto-lsp** { **all** | **mesh-p2p-srte** | **one-hop-p2p-srte** | **on-demand-p2p-srte**}] [**family** *family*]

sr-te-lsp [*lsp-name*] **activepath** [**auto-lsp** {**all** | **mesh-p2p-srte** | **one-hop-p2p-srte** | **on-demand-p2p-srte**}] [**family** *family*]

sr-te-lsp [*lsp-name*] **egress-stats**

sr-te-lsp [*lsp-name*] **path** [*path-name*] [**auto-lsp** {**all** | **mesh-p2p-srte** | **one-hop-p2p-srte** | **on-demand-p2p-srte**}] **mbb**

sr-te-lsp [*lsp-name*] **path** [*path-name*] [**auto-lsp** {**all** | **mesh-p2p-srte** | **one-hop-p2p-srte** | **on-demand-p2p-srte**}] [**detail**] [**dns**]

Context

[Tree] (show>router>mpls sr-te-lsp)

Full Context

show router mpls sr-te-lsp

Description

This command displays SR-TE LSP information.

Parameters

lsp-name

Specifies the SR-TE LSP name, up to 64 characters.

status

Keyword used to filter the output based on the status of the SR-TE LSP.

Values **up**, **down**

detail

Keyword used to display detailed information.

path-name

Specifies the SR-TE LSP path name, up to 64 characters.

auto-lsp

Keyword used to display the type of automatic LSP.

Values **all**, **mesh-p2p-srte**, **one-hop-p2p-srte, on-demand-p2p-srte**

family

Displays the family of IP addresses.

Values **ipv4**, **ipv6**

count

Keyword used to display the total number of SR-TE LSPs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

to {*ip-address* | *ipv6-address*}

Keyword used to display the IPv4 or IPv6 address of the egress router for the LSP.

egress-stats

Keyword used to display the traffic statistics for the specified SR-TE LSP or for all SR-TE LSPs if none is explicitly specified. Traffic statistics are provided for primary path, secondary path if any, and secondary standby paths, if any. Statistics are preserved across switchover only for primary and secondary standby paths.

mbb

Keyword used to display make-before-break (MBB) information.

activepath

Keyword used to display the SR-TE active paths, which are candidate paths selected as the best paths by the SR policy make-before-break (MBB) information.

dns

Keyword used to display reverse DNS resolution of actual and explicit hop information.

Platforms

All

Output

The following outputs are examples of MPLS SR-TE LSP information. The associated tables describe the output fields.

Output Example

The following outputs apply to an SR-TE LSP for which the path is computed using the local SR-TE CSPF method.

```
*A:Dut-C# show router mpls sr-te-lsp "C_F_70000"
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
LSP Name                          To              Tun     Protect   Adm  Opr
                                                  Id      Path
-------------------------------------------------------------------------------
C_F_70000                         10.20.1.6       1       N/A       Up   Up
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
```

```
*A:Dut-C# show router mpls sr-te-lsp "C_F_70000" detail
===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
Legend :
    + - Inherited
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name   : C_F_70000
LSP Type        : SrTeLsp                 LSP Tunnel ID        : 1
LSP Index       : 65536                   TTM Tunnel Id        : 655362
From            : 10.20.1.3               To                   : 10.20.1.6
Adm State       : Up                      Oper State           : Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP Up Time     : 0d 11:40:44               LSP Down Time        : 0d 00:00:00
Transitions     : 3                         Path Changes         : 3
Retry Limit     : 0                         Retry Timer          : 10 sec
Hop Limit       : 255                       Negotiated MTU       : 1484
PathCompMethod  : local-cspf
FallbkPathComp  : not-applicable
Metric          : 1000                      Metric Type          : igp
Local Sr Protec*: preferred                 Label Stack Reduction: Enabled
Load Bal Wt     : N/A                       ClassForwarding      : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
BFD Template    : None                      BFD Ping Intvl       : N/A
BFD Enable      : False                     BFD Failure-action   : None
WaitForUpTimer  : 4
Revert Timer    : Disabled                  Next Revert In       : N/A
Entropy Label   : Enabled+                  Oper Entropy Label   : Enabled
Negotiated EL   : Disabled
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 1000
PCE Report      : Disabled+
PCE Control     : Disabled
Max SR Labels   : 6                         Additional FRR Labels: 1
Path Profile    : None
Admin Tags      : None
Primary(a)      : C_F_70000
                                            Up Time              : 0d 11:40:44
Bandwidth       : 0 Mbps
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

```
*A:Dut-C# show router mpls sr-te-lsp "C_F_70000" activepath
===============================================================================
MPLS LSP: C_F_70000 (active paths)
===============================================================================
Legend :
    #  - Manually switched path
    #F - Manually forced switched path
===============================================================================
LSP Name     : C_F_70000
LSP Id       : 26114
Path Name    : C_F_70000
Active Path  : Primary
To           : 10.20.1.6                        LSP Type     : SR-TE
===============================================================================
```

```
*A:Dut-C# tools perform router mpls sr-te-cspf to 10.20.1.6 path "C_F_70000" hop-
limit 3 label-stack-reduction path-computation-method local-cspf max-sr-labels 4
Req CSPF TE path
    From: this node To: 10.20.1.6
CSPF TE Path
 To: 10.20.1.6
 [1] Source Add 10.20.1.3    Cost 4000
   Hop  1 -> Label 524242 NH 10.10.2.3 --> 10.10.2.1 (10.20.1.1) Cost 1000 Color 0x0
   Hop  2 -> Label 434687 NH :: --> 10.20.1.2 (10.20.1.2) Cost 1000 Color 0x0
   Hop  3 -> Label 435087 NH :: --> 10.20.1.4 (10.20.1.4) Cost 1000 Color 0x0
   Hop  4 -> Label 435487 NH :: --> 10.20.1.6 (10.20.1.6) Cost 1000 Color 0x0
*A:Dut-C#

*A:Dut-C# tools perform router mpls resignal sr-te-lsp "C_F_70000" path "C_F_70000"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:Dut-C#
1 2019/07/03 19:36:37.768 UTC WARNING: MPLS #2014 Base VR 1:
"LSP path C_F_70000::C_F_70000 resignaled as a result of manualResignal MBB"


*A:Dut-C# tools perform router mpls sr-te-cspf to 10.20.1.6 path "C_F_70000" hop-
limit 3 label-stack-reduction path-computation-method local-cspf max-sr-labels 4
Req CSPF TE path
    From: this node To: 10.20.1.6
CSPF TE Path
 To: 10.20.1.6
 [1] Source Add 10.20.1.3    Cost 4000
   Hop  1 -> Label 524242 NH 10.10.2.3 --> 10.10.2.1 (10.20.1.1) Cost 1000 Color 0x0
   Hop  2 -> Label 434687 NH :: --> 10.20.1.2 (10.20.1.2) Cost 1000 Color 0x0
   Hop  3 -> Label 435087 NH :: --> 10.20.1.4 (10.20.1.4) Cost 1000 Color 0x0
   Hop  4 -> Label 435487 NH :: --> 10.20.1.6 (10.20.1.6) Cost 1000 Color 0x0
*A:Dut-C#

*A:Dut-C# tools perform router mpls resignal sr-te-lsp "C_F_70000" path "C_F_70000"

*A:Dut-C#
1 2019/07/03 19:36:37.768 UTC WARNING: MPLS #2014 Base VR 1:
"LSP path C_F_70000::C_F_70000 resignaled as a result of manualResignal MBB"
```

Output Example

The following show outputs display an LSP with BFD configured to use controlled return path. The following tables describe the MPLS SR-TE LSP detail fields and the MPLS SR-TE LSP path detail fields.

```
*A:Dut-C# /show router mpls sr-te-lsp detail

===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
Legend :
    + - Inherited
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name   : to_A_SR_TE
LSP Type        : SrTeLsp                   LSP Tunnel ID        : 1
LSP Index       : 65536                     TTM Tunnel Id        : 655362
From            : 3.3.3.3
To              : 1.1.1.1
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 00:00:05               LSP Down Time        : 0d 00:00:00
Transitions     : 1                         Path Changes         : 1
Retry Limit     : 0                         Retry Timer          : 2 sec
Hop Limit       : 255                       Negotiated MTU       : 1496
PathCompMethod  : none
FallbkPathComp  : not-applicable
Metric          : N/A
Local Sr Protec*: preferred                 Label Stack Reduction: Disabled
Load Bal Wt     : N/A                       ClassForwarding      : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
Egress Stats    : Disabled
BFD Template    : None                      BFD Ping Intvl       : N/A
BFD Enable      : False                     BFD Failure-action   : None
WaitForUpTimer  : 4
ReturnPathLabel : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Revert Timer    : Disabled                  Next Revert In       : N/A
Entropy Label   : Enabled+                  Oper Entropy Label   : Enabled
Negotiated EL   : Disabled                  Override Tunnel ELC  : Disabled
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 16777215
PCE Report      : Disabled+
PCE Control     : Disabled
Max SR Labels   : 6                         Additional FRR Labels: 1
Path Profile    : None
Admin Tags      : None

Primary(a)      : path_A
                                            Up Time              : 0d 00:00:09
Bandwidth       : 0 Mbps
Secondary       : path_A2
                                            Down Time            : 0d 00:00:50
Bandwidth       : 0 Mbps
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name   : template-1.1.1.1-671747
LSP Type        : OneHopP2PSrTe             LSP Tunnel ID        : 16386
LSP Index       : 81921                     TTM Tunnel Id        : 671747
From            : 30.30.2.2
To              : 1.1.1.1
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 00:00:08               LSP Down Time        : 0d 00:00:00
Transitions     : 1                         Path Changes         : 1
Retry Limit     : 0                         Retry Timer          : 30 sec
PathCompMethod  : none
FallbkPathComp  : not-applicable
Metric          : N/A
Local Sr Protec*: preferred                 Label Stack Reduction: Disabled
Load Bal Wt     : N/A                       ClassForwarding      : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
Egress Stats    : Disabled
BFD Template    : srte                      BFD Ping Intvl       : N/A
BFD Enable      : True                      BFD Failure-action   : None
WaitForUpTimer  : 4
ReturnPathLabel : 35002

Revert Timer    : Disabled                  Next Revert In       : N/A
Entropy Label   : Enabled+                  Oper Entropy Label   : Enabled
Negotiated EL   : Disabled                  Override Tunnel ELC  : Disabled
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 16777215
OriginTemplName : template

Admin Tags      : None
PCE Report      : Disabled+
PCE Control     : Disabled
Max SR Labels   : 6                         Additional FRR Labels: 1
Path Profile    : None

Primary(a)      : path_A
                                            Up Time              : 0d 00:00:09
Bandwidth       : 0 Mbps
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Table 565: Output fields: MPLS SR-TE-LSP detail

Label	Description
LSP Name	The name of the LSP
LSP Type	The type of the LSP
LSP Tunnel ID	The tunnel ID number for the LSP used in the interaction with PCC/PCE
LSP Index	The LSP index used for indexing the LSP in the MIB table shared with the RSVP-TE LSP
TTM Tunnel Id	The tunnel ID number for the tunnel representing the LSP in the tunnel table
From	The IP address for the ingress router for the LSP
To	The IP address for the egress router for the LSP
Admin State	The administrative state of the LSP
Oper State	The operational state of the LSP
LSP Up Time	The length of time the LSP has been operational
LSP Down Time	The amount of time the LSP has been down
Transitions	The number of transitions that have occurred for the LSP
Path Changes	The number of times the path has changed
Retry Limit	The number of attempts that the software makes to reestablish the LSP after it has failed
Retry Timer	The time, in seconds, for LSP reestablishment attempts after LSP failure
Hop Limit	The maximum number of hops that an LSP can traverse, including the ingress and egress routers
Negotiated MTU	The size of the maximum transmission unit (MTU) that is negotiated during establishment of the LSP
PathCompMethod	pce — PCE path computation method is configured local-cspf — Local CSPF path computation method is configured none — No computation method is configured
FallbkPathComp	none — No fallback method is configured

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	local-cspf — Local CSPF fallback is configured
Metric	The cost of the TE path for the LSP
Local Sr Protection	The local LFA protection wanted for the CSPF computed explicit path with adjacency SIDs
Label Stack Reduction	The label stack reduction applied to the CSPF computed explicit path with adjacency SIDs
Load Bal Wt	The load balance weight value
Include Grps	The included groups. None indicates that no groups are included
Exclude Grps	The excluded groups. None indicates that no groups are excluded
Egress Stats	The traffic statistics for the specified SR-TE LSP or for all SR-TE LSPs if none is explicitly specified. Traffic statistics are provided for primary path, secondary path, if any, and secondary standby paths, if any. Statistics are preserved across switch over for primary and secondary standby paths
BFD Template	The BFD template name
BFD Ping Intvl	The BFD ping interval
BFD Enable	The operational state of the BFD on the LSP
BFD Failure-action	The failure action that is configured for the BFD LSP
WaitForUpTimer	The BFD wait for up timer value
ReturnPathLabel	The return path label added to the MPLS label to the bottom of the label stack for S-BFD. With this configured, the S-BFD packet returns to the initiator through the MPLS return path
Revert Timer	The length of time before a named LSP using the secondary path to revert to the primary path
Next Revert In	The next revert interval
Entropy Label	The enabled or disabled status for the entropy label
Oper Entropy Label	Indicates that the entropy label is in use
Negotiated EL	Indicates if the entropy label is negotiated for the LSP
Override Tunnel ELC	The enabled or disabled status of the override tunnel ELC

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
VPRNAutoBind	The enabled or disabled status for VRPN autobind
IGP Shortcut	The enabled or disabled status for IGP shortcut
BGP Shortcut	The enabled or disabled status for BGP shortcut
IGP LFA	The enabled or disabled status for IGP LFA
BGPTransTun	The enabled or disabled status for BGP transport tunnels
Oper Metric	The enabled or disabled status of the operational metric
PCE Report	The enabled or disabled status of PCE report
PCE Control	The enabled or disabled status of PCE control
Max SR Labels	The maximum label stack size of the computed path with or without label stack reduction
Additional FRR Labels	The additional FRR labels value that the router is configured to take into account during TI-LFA
Path Profile	The path profile value for the LSP
Admin Tags	The administrative tag names. None indicates that there are no tags.
Primary (a)	The preferred path for the LSP
Up Time	The total time in increments that the LSP path has been operational
Bandwidth	The amount of bandwidth in Mb/s reserved for the LSP path
Secondary	The alternate path that the LSP uses if the primary path is not available
Downtime	The time that the LSP has been down
Bandwidth	The amount of bandwidth in Mb/s reserved for the LSP path

```
*A:Dut-C# /show router mpls sr-te-lsp path detail

===============================================================================
MPLS SR-TE LSP
Path  (Detail)
===============================================================================
Legend :
    S      - Strict                     L      - Loose
    A-SID  - Adjacency SID              N-SID  - Node SID
    +      - Inherited
===============================================================================
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP SR-TE to_A_SR_TE
Path  path_A
-------------------------------------------------------------------------------
LSP Name    : to_A_SR_TE
Path LSP ID      : 3072
From             : 3.3.3.3
To               : 1.1.1.1
Admin State      : Up                      Oper State        : Up
Path Name   : path_A
Path Type        : Primary
Path Admin       : Up                      Path Oper         : Up
Path Up Time     : 0d 00:01:11             Path Down Time    : 0d 00:00:00
Retry Limit      : 0                       Retry Timer       : 2 sec
Retry Attempt    : 0                       Next Retry In     : 0 sec

PathCompMethod   : none                    OperPathCompMethod: none
MetricType       : igp                     Oper MetricType   : igp
LocalSrProt      : preferred               Oper LocalSrProt  : N/A
LabelStackRed    : Disabled                Oper LabelStackRed: N/A

Bandwidth        : No Reservation          Oper Bandwidth    : 0 Mbps
Hop Limit        : 255                     Oper HopLimit     : 255
Setup Priority   : 7                       Oper SetupPriority: 7
Hold Priority    : 0                       Oper HoldPriority : 0
Inter-area       : N/A

PCE Updt ID      : 0                       PCE Updt State    : None
PCE Upd Fail Code: noError

PCE Report       : Disabled+               Oper PCE Report   : Disabled
PCE Control      : Disabled                Oper PCE Control  : Disabled

Include Groups   :                         Oper IncludeGroups:
None                                           None
Exclude Groups   :                         Oper ExcludeGroups:
None                                           None
Last Resignal    : n/a

IGP/TE Metric    : 16777215                Oper Metric       : 16777215
Oper MTU         : 1496                    Path Trans        : 1
Degraded         : False
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    1.1.1.1(1.1.1.1)(N-SID)                     Record Label        : 19410

BFD Configuration and State
Template         : srte                    Ping Interval     : N/A
Enable           : True                    State             : up
ReturnPathLabel  : 35001
WaitForUpTimer   : 4 sec                   OperWaitForUpTimer: 4 sec
WaitForUpTmLeft  : 0
StartFail Rsn    : N/A

-------------------------------------------------------------------------------
LSP SR-TE to_A_SR_TE
Path  path_A2
-------------------------------------------------------------------------------
LSP Name    : to_A_SR_TE
Path LSP ID      : 3074
From             : 3.3.3.3
To               : 1.1.1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin State      : Up                       Oper State        : Up
Path Name   : path_A2
Path Type        : Secondary
Path Admin       : Up                       Path Oper         : Down
Path Up Time     : 0d 00:00:00              Path Down Time    : 0d 00:01:53
Retry Limit      : 0                        Retry Timer       : 2 sec
Retry Attempt    : 0                        Next Retry In     : 0 sec

PathCompMethod   : none                     OperPathCompMethod: N/A
MetricType       : igp                      Oper MetricType   : N/A
LocalSrProt      : preferred                Oper LocalSrProt  : N/A
LabelStackRed    : Disabled                 Oper LabelStackRed: N/A

Bandwidth        : No Reservation           Oper Bandwidth    : N/A
Hop Limit        : 255                      Oper HopLimit     : N/A
Setup Priority   : 7                        Oper SetupPriority: N/A
Hold Priority    : 0                        Oper HoldPriority : N/A
Inter-area       : N/A

PCE Updt ID      : 0                        PCE Updt State    : None
PCE Upd Fail Code: noError

PCE Report       : Disabled+                Oper PCE Report   : Disabled
PCE Control      : Disabled                 Oper PCE Control  : Disabled

Include Groups   :                          Oper IncludeGroups:
None                                            N/A
Exclude Groups   :                          Oper ExcludeGroups:
None                                            N/A
Last Resignal    : n/a

IGP/TE Metric    : N/A                      Oper Metric       : N/A
Oper MTU         : N/A                      Path Trans        : 0
Degraded         : False
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    No Hops Specified
Srlg             : Disabled                 Srlg Disjoint     : False

BFD Configuration and State
Template         : srte                     Ping Interval     : N/A
Enable           : True                     State             : notApplicable
ReturnPathLabel  : 35002
WaitForUpTimer   : 4 sec                    OperWaitForUpTimer: 4 sec
WaitForUpTmLeft  : 0
StartFail Rsn    : N/A

-------------------------------------------------------------------------------
LSP SR-TE template-1.1.1.1-671747
Path  path_A
-------------------------------------------------------------------------------
LSP Name    : template-1.1.1.1-671747
Path LSP ID      : 14336
From             : 30.30.2.2
To               : 1.1.1.1
Admin State      : Up                       Oper State        : Up
Path Name   : path_A
Path Type        : Primary
Path Admin       : Up                       Path Oper         : Up
Path Up Time     : 0d 00:01:12              Path Down Time    : 0d 00:00:00
Retry Limit      : 0                        Retry Timer       : 30 sec
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Retry Attempt    : 0                        Next Retry In     : 0 sec

PathCompMethod   : none                     OperPathCompMethod: none
MetricType       : igp                      Oper MetricType   : igp
LocalSrProt      : preferred                Oper LocalSrProt  : N/A
LabelStackRed    : Disabled                 Oper LabelStackRed: N/A

Bandwidth        : No Reservation           Oper Bandwidth    : 0 Mbps
Hop Limit        : 2                        Oper HopLimit     : 2
Setup Priority   : 7                        Oper SetupPriority: 7
Hold Priority    : 0                        Oper HoldPriority : 0
Inter-area       : N/A

PCE Updt ID      : 0                        PCE Updt State    : None
PCE Upd Fail Code: noError

PCE Report       : Disabled+                Oper PCE Report   : Disabled
PCE Control      : Disabled                 Oper PCE Control  : Disabled

Include Groups   :                          Oper IncludeGroups:
None                                            None
Exclude Groups   :                          Oper ExcludeGroups:
None                                            None
Last Resignal    : n/a

IGP/TE Metric    : 16777215                 Oper Metric       : 16777215
Oper MTU         : 1496                     Path Trans        : 1
Degraded         : False
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    30.30.2.1(1.1.1.1)(A-SID)                    Record Label        : 524282

BFD Configuration and State
Template         : None                     Ping Interval     : N/A
Enable           : False                    State             : up
ReturnPathLabel  : None
WaitForUpTimer   : 4 sec                    OperWaitForUpTimer: 4 sec
WaitForUpTmLeft  : 0
StartFail Rsn    : N/A
```

```
show router mpls sr-te-lsp path detail dns

===============================================================================
MPLS SR-TE LSP
Path  (Detail)
===============================================================================
Legend :
    S      - Strict                     L      - Loose
    A-SID  - Adjacency SID              N-SID  - Node SID
    +      - Inherited
===============================================================================
-------------------------------------------------------------------------------
LSP SR-TE C_F_65536
Path  C_F_1
-------------------------------------------------------------------------------
LSP Name    : C_F_65536
Path LSP ID      : 13312
From             : 10.20.1.3
To               : 10.20.1.6
Admin State      : Up                       Oper State        : Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Path Name   : C_F_1
Path Type        : Primary
Path Admin       : Up                        Path Oper         : Up
Path Up Time     : 0d 00:01:27               Path Down Time    : 0d 00:00:00
Retry Limit      : 10                        Retry Timer       : 10 sec
Retry Attempt    : 0                         Next Retry In     : 0 sec

PathCompMethod   : none                      OperPathCompMethod: none
MetricType       : igp                       Oper MetricType   : igp
LocalSrProt      : preferred                 Oper LocalSrProt  : N/A
LabelStackRed    : Disabled                  Oper LabelStackRed: N/A

Bandwidth        : No Reservation            Oper Bandwidth    : 0 Mbps
Hop Limit        : 255                       Oper HopLimit     : 255
Setup Priority   : 7                         Oper SetupPriority: 7
Hold Priority    : 0                         Oper HoldPriority : 0
Inter-area       : N/A

PCE Updt ID      : 0                         PCE Updt State    : None
PCE Upd Fail Code: noError

PCE Report       : Disabled+                 Oper PCE Report   : Disabled
PCE Control      : Disabled                  Oper PCE Control  : Disabled

Include Groups   :                           Oper IncludeGroups:
None                                             None
Exclude Groups   :                           Oper ExcludeGroups:
None                                             None
Last Resignal    : n/a

IGP/TE Metric    : 16777215                  Oper Metric       : 16777215
Oper MTU         : 1488                      Path Trans        : 1
Degraded         : False
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
                    10.20.1.4(S)
                        Dut-D.nokia.com
                -> 10.20.1.5(S)
                        Dut-E.nokia.com
                -> 10.20.1.6(S)
                        Dut-F.nokia.com
Actual Hops      :
    10.10.11.4(10.20.1.4)(A-SID)                 Record Label        : 524279
    toHUB.Dut-D.nokia.com
    (Dut-D.nokia.com)
 -> 10.10.6.5(10.20.1.5)(A-SID)                  Record Label        : 524281
    toD.Dut-E.nokia.com
    (Dut-E.nokia.com)
 -> 10.10.10.6(10.20.1.6)(A-SID)                 Record Label        : 524281
    toE.Dut-F.nokia.com
    (Dut-F.nokia.com)

BFD Configuration and State
Template         : None                      Ping Interval     : N/A
Enable           : False                     State             : notApplicable
ReturnPathLabel  : None
BFD Source Addr  : None
WaitForUpTimer   : 4 sec                     OperWaitForUpTimer: 0 sec
WaitForUpTmLeft  : 0
StartFail Rsn    : N/A

===============================================================================
5. sr-te (ipV6)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
6. Command:
show router mpls sr-te-lsp path detail dns
7. Logs:
===============================================================================
MPLS SR-TE LSP
Path  (Detail)
===============================================================================
Legend :
    S      - Strict                     L      - Loose
    A-SID  - Adjacency SID              N-SID  - Node SID
    +      - Inherited
===============================================================================
-------------------------------------------------------------------------------
LSP SR-TE C_F_65536
Path  C_F_1
-------------------------------------------------------------------------------
LSP Name    : C_F_65536
Path LSP ID      : 60928
From             : 3ffe::a14:103
To               : 3ffe::a14:106
Admin State      : Up                       Oper State        : Up
Path Name   : C_F_1
Path Type        : Primary
Path Admin       : Up                       Path Oper         : Up
Path Up Time     : 0d 00:51:10              Path Down Time    : 0d 00:00:00
Retry Limit      : 10                       Retry Timer       : 10 sec
Retry Attempt    : 0                        Next Retry In     : 0 sec

PathCompMethod   : none                     OperPathCompMethod: none
MetricType       : igp                      Oper MetricType   : igp
LocalSrProt      : preferred                Oper LocalSrProt  : N/A
LabelStackRed    : Disabled                 Oper LabelStackRed: N/A

Bandwidth        : No Reservation           Oper Bandwidth    : 0 Mbps
Hop Limit        : 255                      Oper HopLimit     : 255
Setup Priority   : 7                        Oper SetupPriority: 7
Hold Priority    : 0                        Oper HoldPriority : 0
Inter-area       : N/A

PCE Updt ID      : 0                        PCE Updt State    : None
PCE Upd Fail Code: noError

PCE Report       : Disabled+                Oper PCE Report   : Disabled
PCE Control      : Disabled                 Oper PCE Control  : Disabled

Include Groups   :                          Oper IncludeGroups:
None                                            None
Exclude Groups   :                          Oper ExcludeGroups:
None                                            None
Last Resignal    : n/a

IGP/TE Metric    : 16777215                 Oper Metric       : 16777215
Oper MTU         : 1488                     Path Trans        : 1
Degraded         : False
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
                   3ffe::a14:104(S)
                       Dut-D.nokia.com
                -> 3ffe::a14:105(S)
                       Dut-E.nokia.com
                -> 3ffe::a14:106(S)
                       Dut-F.nokia.com
Actual Hops      :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    3ffe::a0a:b04
    (3ffe::a14:104)(A-SID)
    Record Label        : 524279
    toHUB.Dut-D.nokia.com
    (Dut-D.nokia.com)
    3ffe::a0a:605
 -> (3ffe::a14:105)(A-SID)
    Record Label        : 524281
    toD.Dut-E.nokia.com
    (Dut-E.nokia.com)
    3ffe::a0a:a06
 -> (3ffe::a14:106)(A-SID)
    Record Label        : 524281
    3ffe::a0a:a06
    (Dut-F.nokia.com)

BFD Configuration and State
Template         : None                    Ping Interval     : N/A
Enable           : False                   State             : notApplicable
ReturnPathLabel  : None
BFD Source Addr  : None
WaitForUpTimer   : 4 sec                   OperWaitForUpTimer: 0 sec
WaitForUpTmLeft  : 0
StartFail Rsn    : N/A
```

Table 566: Output fields: MPLS SR-TE-LSP path detail

Label	Description
LSP Name	The name of the LSP
Path LSP ID	The path LSP ID
From	The IP address for the ingress router for the LSP
To	The IP address for the egress router for the LSP
Admin State	The administrative state of the LSP
Oper State	The operational state of the LSP
Path Name	The name of the LSP path
Path Type	The type of LSP path
Path Admin	The administrative state of the LSP path
Path Oper	The operational state of the LSP path
Path Up Time	The length of time the LSP path has been operational
Path Down Time	The length of time the LSP path has been down
Retry Limit	The number of attempts that the software makes to reestablish the path after it has failed
Retry Timer	The time, in seconds, for path reestablishment attempts after LSP failure

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Retry Attempt	The number of retry attempts
Next Retry In	The next retry value
PathCompMethod	The path computation method for the specific LSP pce — PCE path computation method is configured local-cspf — Local CSPF path computation method is configured none — No computation method is configured
OperPathCompMethod	The operational state of the path computation method pce — PCE path computation method is configured local-cspf — Local CSPF path computation method is configured none — No computation method is configured
MetricType	The cost of the TE path for the specific LSP
Oper MetricType	The operational state of cost of the TE path
LocalSrProt	The local LFA protection for the CSPF computed explicit path with adjacency SIDs
Oper LocalSrProt	The operational state of LFA protection for the CSPF computed explicit path with adjacency SIDs
LabelStackRed	The label stack reduction applied to the CSPF computed explicit path with adjacency SIDs
Oper LabelStackRed	The operational state of the label stack reduction applied to the CSPF computed explicit path with adjacency SIDs
Bandwidth	The amount of bandwidth in Mb/s to be reserved
Oper Bandwidth	The operational state of the bandwidth
Hop Limit	The maximum number of hops for the path
Oper HopLimit	The operational state of the maximum number of hops for the path
Setup Priority	The setup priority value to use for the path
Oper SetupPriority	The operational state of the setup priority value for the path
Hold Priority	The hold priority to use for the path
Oper HoldPriority	The operational state of the hold priority for the path

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
PCE Updt ID	The update ID
PCE Updt State	The update state
PCE Upd Fail Code	The update failure code
PCE Report	The enabled or disabled status of PCE report
Oper PCE Report	The operational state of the PCE report
PCE Control	The enabled or disabled status of PCE control
Oper PCE Control	The operational state of PCE control
Include Groups	The included groups. None indicates that no groups are included
Oper IncludeGroups	The operational state of the included groups
Exclude Groups	The excluded groups. None indicates that no groups are included
Oper ExcludeGroups	Oper ExcludeGroups
Last Resignal	The last resignal time
IGP/TE Metric	The IGP or TE metric value
Oper Metric	The operational metric value
Oper MTU	The largest service frame size that can be transmitted to the far-end router without requiring the packet to be fragmented
Path Trans	The path transmission value
Degraded	The degraded status
Failure Code	The reason code for in-progress MBB value. A value of none indicates that no failure has occurred.
Failure Node	The IP address of the node in the LSP path at which the in-progress MBB failed. When no failure has occurred this value is none.
Explicit Hops	The explicit configured hops for an LSP path
Actual Hops	The actual hops an LSP path takes
Record Label	The record label value
BFD Configuration and State	
Template	Indicates if the BFD template configured

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ping Interval	The BFD ping interval value
Enable	Indicates if BFD is enabled
State	The state of BFD
ReturnPathLabel	The return path label to add to the MPLS label on the bottom of the label stack for S-BFD. When configured, the S-BFD packet returns to the initiator through the MPLS return path.
BFD Source Addr	The BFD source address
WaitForUpTimer	The BFD wait for up timer value
OperWaitForUpTimer	The operational state of the wait for up timer value
WaitForUpTmLeft	The length of time remaining for the wait for up timer
StartFail Rsn	The start fail RSN value

Output Example

The following outputs apply to an SR-TE auto-LSP for which the path is computed by the hop-to-label translation method.

```
*A:Phoenix 199# show router mpls sr-te-lsp "sr-te-level2-mesh-192.168.48.223-
716805" detail
===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name        : sr-te-level2-mesh-192.168.48.223-716805
LSP Type        : MeshP2PSrTe               LSP Tunnel ID        : 61444
LSP Index       : 126979                    TTM Tunnel Id        : 716805
From            : 192.168.48.199            To                   : 192.168.48.2*
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 00:02:12               LSP Down Time        : 0d 00:00:00
Transitions     : 3                         Path Changes         : 3
Retry Limit     : 0                         Retry Timer          : 30 sec
PathCompMethod  : none
FallbkComp      : not-applicable
Metric          : N/A                       Use TE metric        : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 16777215
PCE Report      : Enabled
PCE Control     : Disabled
Max SR Labels   : 8                         Additional FRR Labels: 2
Path Profile    :
None
Primary(a)      : loose-anycast-sid         Up Time              : 0d 00:02:12
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Bandwidth       : 0 Mbps
===============================================================================
```

```
*A:Phoenix 199# show router mpls sr-te-lsp "sr-te-level2-mesh-192.168.48.223-
716805" path detail
===============================================================================
MPLS SR-TE LSP sr-te-level2-mesh-192.168.48.223-716805 Path  (Detail)
===============================================================================
Legend :
    S      - Strict                      L      - Loose
    A-SID  - Adjacency SID               N-SID  - Node SID
    +      - Inherited
===============================================================================
-------------------------------------------------------------------------------
SR-TE LSP sr-te-level2-mesh-192.168.48.223-716805 Path loose-anycast-sid
-------------------------------------------------------------------------------
LSP Name         : sr-te-level2-mesh-192.168.48.223-716805
Path LSP ID      : 20480
From             : 192.168.48.199       To                  : 192.168.48.223
Admin State      : Up                   Oper State          : Up
Path Name        : loose-anycast-sid    Path Type           : Primary
Path Admin       : Up                   Path Oper           : Up
Path Up Time     : 0d 02:30:28          Path Down Time      : 0d 00:00:00
Retry Limit      : 0                    Retry Timer         : 30 sec
Retry Attempt    : 1                    Next Retry In       : 0 sec
PathCompMethod   : local-cspf           OperPathCompMethod  : local-cspf
MetricType       : igp                  Oper MetricType     : igp
LocalSrProt      : preferred            Oper LocalSrProt    : preferred
LabelStackRed:   : Disabled             Oper LabelStackRed  : Disabled
Bandwidth        : No Reservation       Oper Bandwidth      : 0 Mbps
Hop Limit        : 255                  Oper HopLimit       : 255
Setup Priority   : 7                    Oper Setup Priority : 7
Hold Priority    : 0                    Oper Hold Priority  : 0
Inter-area       : N/A
PCE Updt ID      : 0                    PCE Updt State      : None
PCE Upd Fail Code: noError
PCE Report       : Enabled              Oper PCE Report     : Disabled
PCE Control      : Disabled             Oper PCE Control    : Disabled
Include Groups   :                      Oper Include Groups :
None                                           None
Exclude Groups   :                      Oper Exclude Groups :
None                                           None
IGP/TE Metric    : 16777215             Oper Metric         : 16777215
Oper MTU         : 1492                 Path Trans          : 1
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    192.168.48.99(L)
Actual Hops      :
    192.168.48.99 (192.168.48.185)(N-SID)        Record Label        : 200099
 -> 192.168.48.223 (192.168.48.223)(N-SID)       Record Label        : 200323
===============================================================================
```

```
*A:Phoneix 199# show router mpls sr-te-lsp
  - sr-te-lsp [<lsp-name>] [status {up|down}] [detail] path [<path-name>]
    [auto-lsp {all|mesh-p2p-srte|one-hop-p2p-srte}]
  - sr-te-lsp [<lsp-name>] [detail] [auto-lsp {all|mesh-p2p-srte|
    one-hop-p2p-srte}]
  - sr-te-lsp [<lsp-name>] [status {up|down}] [to <ip-address>] [detail]
    [auto-lsp {all|mesh-p2p-srte|one-hop-p2p-srte}]
<lsp-name>           : [64 chars max]
<up|down>            : up|down
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
<ip-address>         : a.b.c.d
<detail>             : keyword
<path>               : keyword
<path-name>          : [32 chars max]
<all|mesh-p2p-srte*> : keyword - specify type of auto-lsp
```

```
*A:Phoneix 199# show router mpls sr-te-lsp auto-lsp all
===============================================================================
MPLS Auto SR-TE LSPs (Originating)
===============================================================================
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
sr-te-level2-mesh-192.168.48.221-  192.168.48.221   61443   N/A       Up   Up
716804
sr-te-level2-mesh-192.168.48.223-  192.168.48.223   61444   N/A       Up   Up
716805
-------------------------------------------------------------------------------
LSPs : 2
===============================================================================
```

```
*A:Phoneix 199# show router mpls sr-te-lsp auto-lsp mesh-p2p-srte
===============================================================================
MPLS Auto SR-TE LSPs (Originating)
===============================================================================
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
sr-te-level2-mesh-192.168.48.221-   192.168.48.221    61443   N/A     Up   Up
716804
sr-te-level2-mesh-192.168.48.223-   192.168.48.223    61444   N/A     Up   Up
716805
-------------------------------------------------------------------------------
LSPs : 2
===============================================================================
```

Output Example
The following output is an example of SR-TE LSP count statistics.

```
===============================================================================
MPLS SR-TE LSP Count
===============================================================================
                          Total             IpV4              IpV6
-------------------------------------------------------------------------------
SR-TE LSPs                0                 0                 0
Mesh SR-TE LSPs           0                 0                 0
One Hop SR-TE LSPs        0                 0                 0
PCE Init SR-TE LSPs       0                 0                 0
===============================================================================
```

Table 567: Output fields: MPLS SR-TE LSP describes the MPLS SR-TE LSP count statistics output fields.

Table 567: Output fields: MPLS SR-TE LSP

Label	Description
LSP Name	The name of the LSP used in the path.
Adm State	Down — The path is administratively disabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Up — The path is administratively enabled.
PathCompMethod	pce — PCE path computation method is configured. local-cspf — Local CSPF path computation method is configured.
FallbkPathComp	none — No fallback method is configured. local-cspf — Local CSPF fallback is configured.
Retry Limit	The number of attempts that the software should make to reestablish the LSP after it has failed.
Hop Limit	The maximum number of hops that an LSP can traverse, including the ingress and egress routers.
Retry Timer	The time in seconds, for LSP re-establishment attempts after an LSP failure.
LSP Up Time	The total time in increments that the LSP path has been operational.
LSP Down Time	The total time in increments that the LSP path has not been operational.
SR-TE LSPs	Displays the number of SR-TE LSPs
Mesh SR-TE LSPs	Displays the number of mesh SR-TE LSPs
One Hop-P2P SR-TE LSPs	Displays the number of one-hop SR-TE LSPs
PCE Init SR-TE LSPs	Displays the number of PCE initiated SR-TE LSPs

Output Example

The following outputs apply to a router-controlled or to a PCC-controlled SR-TE LSP for which the path is computed using the hop-to-label transition method.

```
*A:Dut-A# show router mpls sr-te-lsp "srTeRtrControlled" path "1" detail
===============================================================================
MPLS SR-TE LSP srTeRtrControlled Path 1 (Detail)
===============================================================================
Legend :
    S - Strict                          L - Loose
===============================================================================
-------------------------------------------------------------------------------
SR-TE LSP srTeRtrControlled Path 1
-------------------------------------------------------------------------------
LSP Name         : srTeRtrControlled
Path LSP ID      : 1024
From             : 10.20.1.1            To                  : 10.20.1.6
Admin State      : Up                   Oper State          : Up
Path Name        : 1                    Path Type           : Primary
Path Admin       : Up                   Path Oper           : Up
Path Up Time     : 0d 00:03:19          Path Down Time      : 0d 00:00:00
Retry Limit      : 0                    Retry Timer         : 30 sec
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Retry Attempt    : 1                    Next Retry In        : 0 sec

PathCompMethod   : pce                  OperPathCompMethod   : pce
MetricType       : igp                  Oper MetricType      : igp
LocalSrProt      : preferred            Oper LocalSrProt     : preferred
LabelStackRed    : disabled             Oper LabelStackRed   : disabled

Bandwidth        : No Reservation       Oper Bandwidth       : 0 Mbps
Hop Limit        : 255                  Oper HopLimit        : 255
Setup Priority   : 7                    Oper Setup Priority  : 7
Hold Priority    : 0                    Oper Hold Priority   : 0
Inter-area       : N/A

PCE Updt ID      : 0                    PCE Updt State       : None
PCE Upd Fail Code: noError

PCE Report       : Inherited            Oper PCE Report      : Disabled
PCE Control      : Disabled             Oper PCE Control     : Disabled

Include Groups   :                      Oper Include Groups  :
None                                           None
Exclude Groups   :                      Oper Exclude Groups  :
None                                           None

IGP/TE Metric    : 16777215             Oper Metric          : 16777215
Oper MTU         : 1484                 Path Trans           : 1
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    10.20.1.2(S)       -> 10.20.1.3(L)
Actual Hops      :
    10.10.1.2 (10.20.1.2)                       Record Label        : 262143
 -> 10.20.1.3 (10.20.1.3)                       Record Label        : 102003
 -> 10.20.1.6 (10.20.1.6)                       Record Label        : 103006
===============================================================================
```

```
*A:Dut-A# show router mpls sr-te-lsp "srTeRtrControlled" detail
===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name        : srTeRtrControlled
LSP Type        : SrTeLsp                       LSP Tunnel ID  : 2
LSP Index       : 65537                         TTM Tunnel Id  : 655363
From            : 10.20.1.1                     To             : 10.20.1.6
Adm State       : Up                            Oper State     : Up
LSP Up Time     : 0d 00:06:09                   LSP Down Time  : 0d 00:00:00
Transitions     : 1                             Path Changes   : 1
Retry Limit     : 0                             Retry Timer    : 30 sec
Hop Limit       : 255                           Negotiated MTU : 1484
PathCompMethod  : none
FallbkPathComp  : not-applicable
Metric          : N/A
Include Grps    :                               Exclude Grps   :
None                                            None

VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                       BGP Shortcut   : Enabled
IGP LFA         : Disabled                      IGP Rel Metric : Disabled
BGPTransTun     : Enabled
Oper Metric     : 16777215
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PCE Report      : Inherited                    Max SR Labels  : 6
PCE Control     : Disabled
Path Profile:
None

Primary(a)  : 1                            Up Time        : 0d 00:06:09
Bandwidth   : 0 Mbps
===============================================================================
Outputs with other filters:
---------------------------
```

```
*A:Dut-A# show router mpls sr-te-lsp
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
sr-te1                              10.20.1.6       1       N/A       Up   Up
srTeRtrControlled                   10.20.1.6       2       N/A       Up   Up
-------------------------------------------------------------------------------
LSPs : 2
===============================================================================
```

```
*A:Dut-A# show router mpls sr-te-lsp path
===============================================================================
MPLS SR-TE LSP  Path
===============================================================================
-------------------------------------------------------------------------------
LSP Name         : sr-te1              To                  : 10.20.1.6
Adm State        : Up                  Oper State          : Up
-------------------------------------------------------------------------------
Path Name                         Type          Adm  Opr
-------------------------------------------------------------------------------
1                                 Primary         Up   Up
-------------------------------------------------------------------------------
LSP Name         : srTeRtrControlled   To                  : 10.20.1.6
Adm State        : Up                  Oper State          : Up
-------------------------------------------------------------------------------
Path Name                         Type          Adm  Opr
-------------------------------------------------------------------------------
1                                 Primary         Up   Up
===============================================================================
```

```
*A:Dut-A# show router mpls sr-te-lsp to 10.20.1.6
===============================================================================
MPLS SRTE LSPs (Originating)
===============================================================================
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
sr-te1                              10.20.1.6       1       N/A       Up   Up
srTeRtrControlled                   10.20.1.6       2       N/A       Up   Up
-------------------------------------------------------------------------------
LSPs : 2
===============================================================================
```

```
*A:Dut-A# show router mpls sr-te-lsp status up
===============================================================================
MPLS SR-TE LSPs (Originating)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
sr-te1                              10.20.1.6       1       N/A       Up   Up
srTeRtrControlled                   10.20.1.6       2       N/A       Up   Up
-------------------------------------------------------------------------------
LSPs : 2
===============================================================================
```

```
*A:Dut-A# show router mpls sr-te-lsp "srTeRtrControlled" status up detail path "1"
===============================================================================
MPLS SR-TE LSP srTeRtrControlled Path 1 (Detail)
===============================================================================
Legend :
    S - Strict                        L - Loose
===============================================================================
-------------------------------------------------------------------------------
SR-TE LSP srTeRtrControlled Path 1
-------------------------------------------------------------------------------
LSP Name         : srTeRtrControlled
Path LSP ID      : 1024
From             : 10.20.1.1            To                  : 10.20.1.6
Admin State      : Up                   Oper State          : Up
Path Name        : 1                    Path Type           : Primary
Path Admin       : Up                   Path Oper           : Up
Path Up Time     : 0d 00:07:12          Path Down Time      : 0d 00:00:00
Retry Limit      : 0                    Retry Timer         : 30 sec
Retry Attempt    : 1                    Next Retry In       : 0 sec

PathCompMethod   : none
FallbkPathComp   : not-applicable

Bandwidth        : No Reservation       Oper Bandwidth      : 0 Mbps
Hop Limit        : 255                  Oper HopLimit       : 255
Setup Priority   : 7                    Oper Setup Priority  : 7
Hold Priority    : 0                    Oper Hold Priority   : 0
Inter-area       : N/A

PCE Updt ID      : 0                    PCE Updt State      : None
PCE Upd Fail Code: noError

PCE Report       : Inherited            Oper PCE Report     : Disabled
PCE Control      : Disabled             Oper PCE Control    : Disabled

Include Groups   :                      Oper Include Groups  :
None                                           None
Exclude Groups   :                      Oper Exclude Groups  :
None                                           None

IGP/TE Metric    : 16777215             Oper Metric         : 16777215
Oper MTU         : 1484                 Path Trans          : 1
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    10.20.1.2(S)       -> 10.20.1.3(L)
Actual Hops      :
    10.10.1.2 (10.20.1.2)                       Record Label        : 262143
 -> 10.20.1.3 (10.20.1.3)                       Record Label        : 102003
 -> 10.20.1.6 (10.20.1.6)                       Record Label        : 103006

===============================================================================
```

Output Example

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The following outputs apply to PCE-computed SR-TE LSPs.

```
*A:Dut-B>config>router>mpls>lsp# /show router mpls sr-te-lsp "srte_lsp" path detail
===============================================================================
MPLS SR-TE LSP srte_lsp Path  (Detail)
===============================================================================
Legend :
    S - Strict                      L - Loose
===============================================================================
-------------------------------------------------------------------------------
SR-TE LSP srte_lsp Path fully_loose
-------------------------------------------------------------------------------
LSP Name         : srte_lsp
Path LSP ID      : 2
From             : 10.20.1.2           To                  : 10.20.1.5
Admin State      : Up                  Oper State          : Up
Path Name        : fully_loose         Path Type           : Primary
Path Admin       : Up                  Path Oper           : Up
Path Up Time     : 0d 10:48:05         Path Down Time      : 0d 00:00:00
Retry Limit      : 0                   Retry Timer         : 30 sec
Retry Attempt    : 1                   Next Retry In       : 0 sec
PathCompMethod   : pce                 OperPathCompMethod  : pce
MetricType       : igp                 Oper MetricType     : igp
LocalSrProt      : preferred           Oper LocalSrProt    : preferred
LabelStackRed    : Disabled            Oper LabelStackRed  : Disabled
Bandwidth        : No Reservation      Oper Bandwidth      : 0 Mbps
Hop Limit        : 255                 Oper HopLimit       : 255
Setup Priority   : 7                   Oper Setup Priority : 7
Hold Priority    : 0                   Oper Hold Priority  : 0
Inter-area       : N/A

PCE Updt ID      : 0                   PCE Updt State      : None
PCE Upd Fail Code: noError
PCE Report       : Enabled             Oper PCE Report     : Enabled
PCE Control      : Disabled            Oper PCE Control    : Disabled

Include Groups   :                     Oper Include Groups  :
None                                          None
Exclude Groups   :                     Oper Exclude Groups  :
None                                          None

IGP/TE Metric    : 20                  Oper Metric         : 20
Oper MTU         : 1492                Path Trans          : 1
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    192.168.2.1                                  Record Label        : 131071
-> 192.168.5.5                                   Record Label        : 131068
===============================================================================
```

```
*A:Dut-B>config>router>mpls>lsp# /show router mpls sr-te-lsp "srte_lsp" detail
===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name        : srte_lsp
LSP Type        : SrTeLsp                  LSP Tunnel ID       : 1
LSP Index       : 65536                    TTM Tunnel Id       : 655362
From            : 10.20.1.2                To                  : 10.20.1.5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Adm State       : Up                          Oper State           : Up
LSP Up Time     : 0d 10:48:17                 LSP Down Time        : 0d 00:00:00
Transitions     : 1                           Path Changes         : 1
Retry Limit     : 0                           Retry Timer          : 30 sec
Hop Limit       : 255                         Negotiated MTU       : 1492
PathCompMethod  : pce
FallbkPathComp  : none
Metric          : N/A                         Use TE metric        : Disabled
Include Grps    :                             Exclude Grps         :
None                                             None
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                     BGP Shortcut         : Enabled
IGP LFA         : Disabled                    IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 20
PCE Report      : Enabled
PCE Control     : Disabled
Max SR Labels   : 6                           Additional FRR Labels: 1
Path Profile    :
None
Primary(a)      : fully_loose                 Up Time              : 0d 10:48:17
Bandwidth       : 0 Mbps
===============================================================================
```

Output Example

The following outputs apply to a PCE-computed SR-TE LSP when **pce-report sr-te** is enabled under MPLS.

```
*A:Dut-B>config>router>mpls>lsp# /show router mpls sr-te-lsp "srte_lsp" path detail
===============================================================================
MPLS SR-TE LSP srte_lsp Path  (Detail)
===============================================================================
Legend :
    S - Strict                        L - Loose
===============================================================================
-------------------------------------------------------------------------------
SR-TE LSP srte_lsp Path fully_loose
-------------------------------------------------------------------------------
LSP Name         : srte_lsp
Path LSP ID      : 2
From             : 10.20.1.2            To                   : 10.20.1.5
Admin State      : Up                   Oper State           : Up
Path Name        : fully_loose          Path Type            : Primary
Path Admin       : Up                   Path Oper            : Up
Path Up Time     : 0d 10:51:47          Path Down Time       : 0d 00:00:00
Retry Limit      : 0                    Retry Timer          : 30 sec
Retry Attempt    : 1                    Next Retry In        : 0 sec
PathCompMethod   : pce                  OperPathCompMethod:  : pce
MetricType       : igp                  Oper MetricType      : igp
LocalSrProt      : preferred            Oper LocalSrProt     : preferred
LabelStackRed    : Disabled             Oper LabelStackRed   : Disabled
Bandwidth        : No Reservation       Oper Bandwidth       : 0 Mbps
Hop Limit        : 255                  Oper HopLimit        : 255
Setup Priority   : 7                    Oper Setup Priority  : 7
Hold Priority    : 0                    Oper Hold Priority   : 0
Inter-area       : N/A

PCE Updt ID      : 0                    PCE Updt State       : None
PCE Upd Fail Code: noError
PCE Report       : Inherited            Oper PCE Report      : Enabled
PCE Control      : Disabled             Oper PCE Control     : Disabled

Include Groups   :                      Oper Include Groups  :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
None                                            None
Exclude Groups   :                        Oper Exclude Groups  :
None                                            None

IGP/TE Metric    : 20                     Oper Metric          : 20
Oper MTU         : 1492                   Path Trans           : 1
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    192.168.2.1                                 Record Label        : 131071
-> 192.168.5.5                                  Record Label        : 131068
===============================================================================
```

```
*A:Dut-B>config>router>mpls>lsp# /show router mpls sr-te-lsp "srte_lsp" detail
===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name        : srte_lsp
LSP Type        : SrTeLsp                   LSP Tunnel ID        : 1
LSP Index       : 65536                     TTM Tunnel Id        : 655362
From            : 10.20.1.2                 To                   : 10.20.1.5
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 10:52:16               LSP Down Time        : 0d 00:00:00
Transitions     : 1                         Path Changes         : 1
Retry Limit     : 0                         Retry Timer          : 30 sec
Hop Limit       : 255                       Negotiated MTU       : 1492
PathCompMethod  : pce
FallbkPathComp  : none
Metric          : N/A                       Use TE metric        : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 20
PCE Report      : Inherited
PCE Control          : Disabled
Max SR Labels   : 6                         Additional FRR Labels: 1
Path Profile    :
None
Primary(a)      : fully_loose               Up Time              : 0d 10:52:16
Bandwidth       : 0 Mbps
===============================================================================
```

Output Example

The following outputs apply to PCE-controlled SR-TE LSPs.

```
*A:Dut-B>config>router>pcep>pcc# /show router mpls sr-te-lsp "srte_lsp" path detail
===============================================================================
MPLS SR-TE LSP srte_lsp Path  (Detail)
===============================================================================
Legend :
    S - Strict                      L - Loose
===============================================================================
-------------------------------------------------------------------------------
SR-TE LSP srte_lsp Path fully_loose
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
LSP Name         : srte_lsp
Path LSP ID      : 2
From             : 10.20.1.2           To                  : 10.20.1.5
Admin State      : Up                  Oper State          : Up
Path Name        : fully_loose         Path Type           : Primary
Path Admin       : Up                  Path Oper           : Up
Path Up Time     : 0d 00:01:07         Path Down Time      : 0d 00:00:00
Retry Limit      : 0                   Retry Timer         : 30 sec
Retry Attempt    : 1                   Next Retry In       : 0 sec
PathCompMethod   : pce                 OperPathCompMethod:  : pce
MetricType       : igp                 Oper MetricType     : igp
LocalSrProt      : preferred           Oper LocalSrProt    : preferred
LabelStackRed    : Disabled            Oper LabelStackRed  : Disabled
Bandwidth        : No Reservation      Oper Bandwidth      : 0 Mbps
Hop Limit        : 255                 Oper HopLimit       : 255
Setup Priority   : 7                   Oper Setup Priority : 7
Hold Priority    : 0                   Oper Hold Priority  : 0
Inter-area       : N/A

PCE Updt ID      : 0                   PCE Updt State      : None
PCE Upd Fail Code: noError
PCE Report       : Enabled             Oper PCE Report     : Enabled
PCE Control      : Enabled             Oper PCE Control    : Enabled

Include Groups   :                     Oper Include Groups  :
None                                       None
Exclude Groups   :                     Oper Exclude Groups  :
None                                       None

IGP/TE Metric    : 20                  Oper Metric         : 20
Oper MTU         : 1492                Path Trans          : 1
Failure Code     : noError
Failure Node     : n/a
Explicit Hops    :
    No Hops Specified
Actual Hops      :
    192.168.2.1                                  Record Label        : 131071
-> 192.168.5.5                                   Record Label        : 131068
===============================================================================
```

```
*A:Dut-B>config>router>pcep>pcc#  /show router mpls sr-te-lsp "srte_lsp" detail
===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name        : srte_lsp
LSP Type        : SrTeLsp                  LSP Tunnel ID       : 1
LSP Index       : 65536                    TTM Tunnel Id       : 655362
From            : 10.20.1.2                To                  : 10.20.1.5
Adm State       : Up                       Oper State          : Up
LSP Up Time     : 0d 00:01:38              LSP Down Time       : 0d 00:00:00
Transitions     : 1                        Path Changes        : 1
Retry Limit     : 0                        Retry Timer         : 30 sec
Hop Limit       : 255                      Negotiated MTU      : 1492
PathCompMethod  : pce
FallbkPathComp  : none
Metric          : N/A                      Use TE metric       : Disabled
Include Grps    :                          Exclude Grps        :
None                                          None
VprnAutoBind    : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 20
PCE Report      : Enabled
PCE Control     : Enabled
Max SR Labels   : 6                         Additional FRR Labels: 1
Path Profile    :
None
Primary(a)      : fully_loose               Up Time              : 0d 00:01:38
Bandwidth       : 0 Mbps
===============================================================================
```

```
*A:Dut-B>config>router>mpls>lsp# /show router pcep pcc lsp-db
===============================================================================
PCEP Path Computation Client (PCC) LSP Update Info
===============================================================================
PCEP-specific LSP ID: 3
LSP ID              : 2                 LSP Type            : seg-rt
Tunnel ID           : 1                 Extended Tunnel Id  : 10.20.1.2
LSP Name            : srte_lsp::fully_loose
Source Address      : 10.20.1.2         Destination Address : 10.20.1.5
LSP Delegated       : True              Delegate PCE Address: 10.20.1.24
Oper Status         : active
===============================================================================
```

```
*A:Dut-B>config>router>mpls>lsp# /show router mpls sr-te-lsp "srte_lsp" path
===============================================================================
MPLS SR-TE LSP srte_lsp Path
===============================================================================
-------------------------------------------------------------------------------
LSP Name         : srte_lsp             To                   : 10.20.1.5
Adm State        : Up                   Oper State           : Up
-------------------------------------------------------------------------------
Path Name                        Type           Adm  Opr
-------------------------------------------------------------------------------
fully_loose                      Primary         Up   Up
===============================================================================
```

Output Example

The following output applies to SR-TE LSP path statistics.

```
*A:Dut-C# show router mpls sr-te-lsp path family ipv6 status up
===============================================================================
MPLS SR-TE LSP  Path
===============================================================================
-------------------------------------------------------------------------------
LSP Name     : 3ffe::a14:106
To           : 3ffe::a14:106
Adm State    : Up                       Oper State           : Up
-------------------------------------------------------------------------------
Path Name                        Type           Adm  Opr
-------------------------------------------------------------------------------
pe1_pe2                          Primary         Up   Up
pe1_pe2_Stby                     Standby         Up   Up
===============================================================================
```

```
*A:Dut-C# show router mpls sr-te-lsp "3ffe::a14:106"
===============================================================================
MPLS SR-TE LSPs (Originating)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
LSP Name                                          Tun     Protect   Adm  Opr
  To                                              Id      Path
-------------------------------------------------------------------------------
3ffe::a14:106                                     1       N/A       Up   Up
  3ffe::a14:106
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
```

```
*A:Dut-C# show router mpls sr-te-lsp "3ffe::a14:106" detail
===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
Legend :
    + - Inherited
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name   : 3ffe::a14:106
LSP Type        : SrTeLsp                   LSP Tunnel ID        : 1
LSP Index       : 65536                     TTM Tunnel Id        : 655362
From            : 3ffe::a14:103
To              : 3ffe::a14:106
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 00:05:11               LSP Down Time        : 0d 00:00:00
Transitions     : 1                         Path Changes         : 1
Retry Limit     : 0                         Retry Timer          : 30 sec
Hop Limit       : 255                       Negotiated MTU       : 1492
PathCompMethod  : none
FallbkPathComp  : not-applicable
Metric          : N/A
Local Sr Protec*: preferred                 Label Stack Reduction: Disabled
Load Bal Wt     : N/A                       ClassForwarding      : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
Egress Stats    : Disabled
BFD Template    : None                      BFD Ping Intvl       : N/A
BFD Enable      : False                     BFD Failure-action   : None
WaitForUpTimer  : 4

Revert Timer    : Disabled                  Next Revert In       : N/A
Entropy Label   : Enabled+                  Oper Entropy Label   : Enabled
Negotiated EL   : Disabled
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 16777215
PCE Report      : Disabled+
PCE Control     : Disabled
Max SR Labels   : 6                         Additional FRR Labels: 1
Path Profile    : None
Admin Tags      : None

Primary(a)      : pe1_pe2
                                            Up Time              : 0d 00:05:13
Bandwidth       : 0 Mbps
Secondary       : pe1_pe2_Sec
                                            Down Time            : 0d 00:01:23
Bandwidth       : 0 Mbps
Standby         : pe1_pe2_Stby
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                          Up Time              : 0d 00:01:09
Bandwidth       : 0 Mbps
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

```
*A:Dut-C# show router mpls sr-te-lsp "3ffe::a14:106" path
===============================================================================
MPLS SR-TE LSP 3ffe::a14:106 Path
===============================================================================
-------------------------------------------------------------------------------
LSP Name     : 3ffe::a14:106
To           : 3ffe::a14:106
Adm State    : Up                      Oper State           : Up
-------------------------------------------------------------------------------
Path Name                        Type           Adm  Opr
-------------------------------------------------------------------------------
pe1_pe2                          Primary         Up   Up
pe1_pe2_Sec                      Secondary       Up   Dwn
pe1_pe2_Stby                     Standby         Up   Up
===============================================================================
```

```
*A:Dut-C# show router mpls sr-te-lsp "3ffe::a14:106" path detail
===============================================================================
MPLS SR-TE LSP 3ffe::a14:106 Path  (Detail)
===============================================================================
Legend :
    S      - Strict                      L      - Loose
    A-SID  - Adjacency SID               N-SID  - Node SID
    +      - Inherited
===============================================================================
-------------------------------------------------------------------------------
LSP SR-TE 3ffe::a14:106
Path  pe1_pe2
-------------------------------------------------------------------------------
LSP Name     : 3ffe::a14:106
Path LSP ID  : 59904
From         : 3ffe::a14:103
To           : 3ffe::a14:106
Admin State  : Up                      Oper State           : Up
Path Name    : pe1_pe2                 Path Type            : Primary
Path Admin   : Up                      Path Oper            : Up
Path Up Time : 0d 00:09:24             Path Down Time       : 0d 00:00:00
Retry Limit  : 0                       Retry Timer          : 30 sec
Retry Attempt: 0                       Next Retry In        : 0 sec

PathCompMeth*: none                    Oper PathCompMethod  : none
MetricType   : igp                     Oper MetricType      : igp
LocalSrProt  : preferred               Oper LocalSrProt     : preferred
LabelStackRed: Disabled                Oper LabelStackRed   : Disabled

Bandwidth    : No Reservation          Oper Bandwidth       : 0 Mbps
Hop Limit    : 255                     Oper HopLimit        : 255
Setup Priori*: 7                       Oper Setup Priority  : 7
Hold Priority: 0                       Oper Hold Priority   : 0
Inter-area   : N/A

PCE Updt ID  : 0                       PCE Updt State       : None
PCE Upd Fail : noError

PCE Report   : Disabled+               Oper PCE Report      : Disabled
PCE Control  : Disabled                Oper PCE Control     : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Include Grou*:                          Oper Include Groups  :
None                                           None
Exclude Grou*:                          Oper Exclude Groups  :
None                                           None
Last Resignal: n/a

IGP/TE Metric: 16777215                 Oper Metric          : 16777215
Oper MTU     : 1492                     Path Trans           : 1
Failure Code : noError
Failure Node     : n/a
Explicit Hops:
              3ffe::a14:101(L)
           -> 3ffe::a14:106(L)
Actual Hops  :
    3ffe::a14:101
    (3ffe::a14:101)(N-SID)
    Record Label        : 454488
    3ffe::a14:106
 -> (3ffe::a14:106)(N-SID)
    Record Label        : 424493

BFD Configuration and State:
Template     : None                     Ping Interval        : N/A
Enable       : False                    State                : notApplicable
WaitForUpTim*: 4                        OperWaitForUpTimer   : 0
WaitForUpTmL*: 0
Start Fail Reason: N/A

-------------------------------------------------------------------------------
LSP SR-TE 3ffe::a14:106
Path  pe1_pe2_Sec
-------------------------------------------------------------------------------
LSP Name     : 3ffe::a14:106
Path LSP ID  : 59906
From         : 3ffe::a14:103
To           : 3ffe::a14:106
Admin State  : Up                       Oper State           : Up
Path Name    : pe1_pe2_Sec              Path Type            : Secondary
Path Admin   : Up                       Path Oper            : Down
Path Up Time : 0d 00:00:00              Path Down Time       : 0d 00:05:35
Retry Limit  : 0                        Retry Timer          : 30 sec
Retry Attempt: 0                        Next Retry In        : 0 sec

PathCompMeth*: none                     Oper PathCompMethod  : N/A
MetricType   : igp                      Oper MetricType      : N/A
LocalSrProt  : preferred                Oper LocalSrProt     : N/A
LabelStackRed: Disabled                 Oper LabelStackRed   : N/A

Bandwidth    : No Reservation           Oper Bandwidth       : N/A
Hop Limit    : 255                      Oper HopLimit        : N/A
Setup Priori*: 7                        Oper Setup Priority  : N/A
Hold Priority: 0                        Oper Hold Priority   : N/A
Inter-area   : N/A

PCE Updt ID  : 0                        PCE Updt State       : None
PCE Upd Fail : noError

PCE Report   : Disabled+                Oper PCE Report      : Disabled
PCE Control  : Disabled                 Oper PCE Control     : Disabled

Include Grou*:                          Oper Include Groups  :
None                                           N/A
Exclude Grou*:                          Oper Exclude Groups  :
None                                           N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Last Resignal: n/a

IGP/TE Metric: N/A                    Oper Metric          : N/A
Oper MTU     : N/A                    Path Trans           : 2
Failure Code : noError
Failure Node     : n/a
Explicit Hops:
              3ffe::a14:102(L)
           -> 3ffe::a14:106(L)
Actual Hops  :
    No Hops Specified
Srlg         : Disabled               Srlg Disjoint        : False

BFD Configuration and State:
Template     : None                   Ping Interval        : N/A
Enable       : False                  State                : notApplicable
WaitForUpTim*: 4                      OperWaitForUpTimer   : 0
WaitForUpTmL*: 0
Start Fail Reason: N/A

-------------------------------------------------------------------------------
LSP SR-TE 3ffe::a14:106
Path  pe1_pe2_Stby
-------------------------------------------------------------------------------
LSP Name     : 3ffe::a14:106
Path LSP ID  : 59908
From         : 3ffe::a14:103
To           : 3ffe::a14:106
Admin State  : Up                     Oper State           : Up
Path Name    : pe1_pe2_Stby           Path Type            : Standby
Path Admin   : Up                     Path Oper            : Up
Path Up Time : 0d 00:05:21            Path Down Time       : 0d 00:00:00
Retry Limit  : 0                      Retry Timer          : 30 sec
Retry Attempt: 0                      Next Retry In        : 0 sec

PathCompMeth*: none                   Oper PathCompMethod  : none
MetricType   : igp                    Oper MetricType      : igp
LocalSrProt  : preferred              Oper LocalSrProt     : preferred
LabelStackRed: Disabled               Oper LabelStackRed   : Disabled

Bandwidth    : No Reservation         Oper Bandwidth       : 0 Mbps
Hop Limit    : 255                    Oper HopLimit        : 255
Setup Priori*: 7                      Oper Setup Priority  : 7
Hold Priority: 0                      Oper Hold Priority   : 0
Inter-area   : N/A

PCE Updt ID  : 0                      PCE Updt State       : None
PCE Upd Fail : noError

PCE Report   : Disabled+              Oper PCE Report      : Disabled
PCE Control  : Disabled               Oper PCE Control     : Disabled

Include Grou*:                        Oper Include Groups  :
None                                         None
Exclude Grou*:                        Oper Exclude Groups  :
None                                         None
Last Resignal: n/a

IGP/TE Metric: 16777215               Oper Metric          : 16777215
Oper MTU     : 1492                   Path Trans           : 1
Failure Code : noError
Failure Node     : n/a
Explicit Hops:
              3ffe::a14:102(L)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
          -> 3ffe::a14:106(L)
Actual Hops  :
    3ffe::a14:102
    (3ffe::a14:102)(N-SID)
    Record Label        : 454489
    3ffe::a14:106
 -> (3ffe::a14:106)(N-SID)
    Record Label        : 439493
Srlg         : Disabled                Srlg Disjoint        : False

BFD Configuration and State:
Template     : None                    Ping Interval        : N/A
Enable       : False                   State                : notApplicable
WaitForUpTim*: 4                       OperWaitForUpTimer   : 0
WaitForUpTmL*: 0
Start Fail Reason: N/A

===============================================================================
* indicates that the corresponding row element may have been truncated.
```

```
*A:Dut-C# show router mpls sr-te-lsp "3ffe::a14:106" status up detail path "pe1_pe2"
 family ipv6
===============================================================================
MPLS SR-TE LSP 3ffe::a14:106 Path pe1_pe2 (Detail)
===============================================================================
Legend :
    S      - Strict                     L      - Loose
    A-SID  - Adjacency SID              N-SID  - Node SID
    +      - Inherited
===============================================================================
-------------------------------------------------------------------------------
LSP SR-TE 3ffe::a14:106
Path  pe1_pe2
-------------------------------------------------------------------------------
LSP Name     : 3ffe::a14:106
Path LSP ID  : 59904
From         : 3ffe::a14:103
To           : 3ffe::a14:106
Admin State  : Up                      Oper State           : Up
Path Name    : pe1_pe2                 Path Type            : Primary
Path Admin   : Up                      Path Oper            : Up
Path Up Time : 0d 00:16:20             Path Down Time       : 0d 00:00:00
Retry Limit  : 0                       Retry Timer          : 30 sec
Retry Attempt: 0                       Next Retry In        : 0 sec

PathCompMeth*: none                    Oper PathCompMethod  : none
MetricType   : igp                     Oper MetricType      : igp
LocalSrProt  : preferred               Oper LocalSrProt     : preferred
LabelStackRed: Disabled                Oper LabelStackRed   : Disabled

Bandwidth    : No Reservation          Oper Bandwidth       : 0 Mbps
Hop Limit    : 255                     Oper HopLimit        : 255
Setup Priori*: 7                       Oper Setup Priority  : 7
Hold Priority: 0                       Oper Hold Priority   : 0
Inter-area   : N/A

PCE Updt ID  : 0                       PCE Updt State       : None
PCE Upd Fail : noError

PCE Report   : Disabled+               Oper PCE Report      : Disabled
PCE Control  : Disabled                Oper PCE Control     : Disabled

Include Grou*:                         Oper Include Groups  :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
None                                            None
Exclude Grou*:                          Oper Exclude Groups  :
None                                            None
Last Resignal: n/a

IGP/TE Metric: 16777215                 Oper Metric          : 16777215
Oper MTU     : 1492                     Path Trans           : 1
Failure Code : noError
Failure Node     : n/a
Explicit Hops:
              3ffe::a14:101(L)
           -> 3ffe::a14:106(L)
Actual Hops  :
    3ffe::a14:101
    (3ffe::a14:101)(N-SID)
    Record Label        : 454488
    3ffe::a14:106
 -> (3ffe::a14:106)(N-SID)
    Record Label        : 424493

BFD Configuration and State:
Template     : None                     Ping Interval        : N/A
Enable       : False                    State                : notApplicable
WaitForUpTim*: 4                        OperWaitForUpTimer   : 0
WaitForUpTmL*: 0
Start Fail Reason: N/A

===============================================================================
* indicates that the corresponding row element may have been truncated.
```

```
*A:Dut-C# show router mpls sr-te-lsp "3ffe::a14:106" activepath
===============================================================================
MPLS LSP: 3ffe::a14:106 (active paths)
===============================================================================
Legend :
    #  - Manually switched path
    #F - Manually forced switched path
===============================================================================
LSP Name     : 3ffe::a14:106
LSP Id       : 59904
Path Name    : pe1_pe2
Active Path  : Primary
To             : 3ffe::a14:106
LSP Type     : SR-TE

===============================================================================
```

```
*A:Dut-C>config>router>mpls# show router mpls sr-te-lsp "3ffe::a14:106" egress-stats
===============================================================================
SR-TE LSP Egress Statistics
===============================================================================
-------------------------------------------------------------------------------
LSP Name : 3ffe::a14:106
-------------------------------------------------------------------------------
Admin State      : Up

Path Name        : pe1_pe2
StatsOperState   : Up
Aggregate Pkts   : 0                    Aggregate Octets : 0

Path Name        : pe1_pe2_Sec
StatsOperState   : Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Aggregate Pkts   : 0                    Aggregate Octets : 0

Path Name        : pe1_pe2_Stby
StatsOperState   : Up
Aggregate Pkts   : 0                    Aggregate Octets : 0

Total for all paths
Tot.Aggr Pkts    : 0                    Tot.Aggr Octets  : 0
===============================================================================
```

```
*A:Dut-C# show router mpls sr-te-lsp "3ffe::a14:106" to 3ffe::a14:106 detail
===============================================================================
MPLS SR-TE LSPs (Originating) (Detail)
===============================================================================
Legend :
    + - Inherited
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name        : 3ffe::a14:106
LSP Type        : SrTeLsp                   LSP Tunnel ID        : 1
LSP Index       : 65536                     TTM Tunnel Id        : 655362
From            : 3ffe::a14:103
To              : 3ffe::a14:106
Adm State       : Up                        Oper State           : Up
LSP Up Time     : 0d 00:50:36               LSP Down Time        : 0d 00:00:00
Transitions     : 1                         Path Changes         : 1
Retry Limit     : 0                         Retry Timer          : 30 sec
Hop Limit       : 255                       Negotiated MTU       : 1492
PathCompMethod  : none
FallbkPathComp  : not-applicable
Metric          : N/A
Local Sr Protec*: preferred                 Label Stack Reduction: Disabled
Load Bal Wt     : N/A                       ClassForwarding      : Disabled
Include Grps    :                           Exclude Grps         :
None                                           None
Egress Stats    : Disabled
BFD Template    : None                      BFD Ping Intvl       : N/A
BFD Enable      : False                     BFD Failure-action   : None
WaitForUpTimer  : 4

Revert Timer    : Disabled                  Next Revert In       : N/A
Entropy Label   : Enabled+                  Oper Entropy Label   : Enabled
Negotiated EL   : Disabled
VprnAutoBind    : Enabled
IGP Shortcut    : Enabled                   BGP Shortcut         : Enabled
IGP LFA         : Disabled                  IGP Rel Metric       : Disabled
BGPTransTun     : Enabled
Oper Metric     : 16777215
PCE Report      : Disabled+
PCE Control     : Disabled
Max SR Labels   : 6                         Additional FRR Labels: 1
Path Profile    : None
Admin Tags      : None

Primary(a)      : pe1_pe2
                                            Up Time              : 0d 00:50:39
Bandwidth       : 0 Mbps
Secondary       : pe1_pe2_Sec
                                            Down Time            : 0d 00:46:48
Bandwidth       : 0 Mbps
Standby         : pe1_pe2_Stby
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                          Up Time              : 0d 00:46:34
Bandwidth       : 0 Mbps
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output Example
The following output applies to SR-TE LSP egress statistics.

```
*A:Dut-B>config>router>mpls>lsp# /show router mpls sr-te-lsp "lsp1" egress-stats
===============================================================================
SR-TE LSP Egress Statistics
===============================================================================
-------------------------------------------------------------------------------
LSP Name : lsp1
-------------------------------------------------------------------------------
Admin State      : Up
Path Name        : p1
StatsOperState   : Up
Aggregate Pkts   : 0                   Aggregate Octets : 0
Path Name        : p2
StatsOperState   : Up
Aggregate Pkts   : 0                   Aggregate Octets : 0
Total for all paths
Tot.Aggr Pkts    : 0                   Tot.Aggr Octets  : 0
Packet Rate pps  : 0                   Bit Rate Mbps    : 0
===============================================================================
```

Table 568: Output fields: MPLS SR-TE LSP egress statistics describes the MPLS SR-TE LSP egress statistics output fields.

Table 568: Output fields: MPLS SR-TE LSP egress statistics

Label	Description
LSP Name	The name of the LSP for which the statistics are provided
Admin State	The administrative state of the LSP
Path Name	The path name of the LSP
StatsOperState	Indicates whether the system is able to allocate a statistical index to that specific path
Aggregate Pkts	The number of packets recorded by the statistical index for that path
Aggregate Octets	The number of octets recorded by the statistical index for that path
Tot.Aggr Pkts	The sum of packets over all paths of the LSP
Tot.Aggr Octets	The sum of octets over all paths of the LSP
Packet Rate	The packet rate for the LSP (across all paths, for all FCs in/out-of profile) expressed in packets per second

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Bit Rate	The bit rate for the LSP (across all paths, for all FCs in/out-of profile) expressed in Mb/s

24.59 sr-te-lsp-egress-stats

sr-te-lsp-egress-stats

Syntax

sr-te-lsp-egress-stats *lsp-name*

Context

[Tree] (clear>router>mpls sr-te-lsp-egress-stats)

Full Context

clear router mpls sr-te-lsp-egress-stats

Description

This command clears or resets the egress statistics for MPLS SR-TE LSP.

Parameters

lsp-name

Specifies the LSP to clear, up to 64 characters.

Platforms

All

sr-te-lsp-egress-stats

Syntax

sr-te-lsp-egress-stats lsp *lsp-name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute**| **rate**] [**bits**]

Context

[Tree] (monitor>router>mpls sr-te-lsp-egress-stats)

Full Context

monitor router mpls sr-te-lsp-egress-stats

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command monitors MPLS SR-TE LSP Egress Statistics.

Parameters

lsp-name

Specifies the LSP name.

Values 64 characters maximum

seconds

Configures the interval for each display in seconds.

Values 3 to 60

repeat

Configures how many times the command is repeated.

Values 1 to 999

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

bits

Displays output value in bits.

Platforms

All

24.60 src-access-list

src-access-list

Syntax

src-access-list [*list-name*]

Context

[Tree] (show>system>security>snmp src-access-list)

Full Context

show system security snmp src-access-list

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays source access lists and the hosts for each. Including the *list-name* parameter modifies the output show only the specified **src-access-list**.

Platforms

All

Output

The following output is an example of SR access list information.

Table 569: Output fields: source access list describes the source access list output fields.

Output Example

```
A:ALA-1# show system security snmp src-access-list
===============================================================================
Source Access Lists
===============================================================================
List Name
  HostName                              Host Address
-------------------------------------------------------------------------------
L1
  H1                                    10.100.100.1
  H2                                    10.100.100.2
L2
  HA                                    10.100.101.1
  HB                                    10.100.101.2
-------------------------------------------------------------------------------
Total Access Lists: 2
===============================================================================
A:ALA-1#


A:ALA-1# show system security snmp src-access-list L1
===============================================================================
Source Access Lists
===============================================================================
List Name
  HostName                              Host Address
-------------------------------------------------------------------------------
L1
  H1                                    10.100.100.1
  H2                                    10.100.100.2
-------------------------------------------------------------------------------
Total Access Lists: 1
===============================================================================
A:ALA-1#
```

Table 569: Output fields: source access list

Label	Description
List Name	Displays the name of the **src-access-list**.
Host Name	Displays the name of the **src-host**.
Host Address	Displays the IP address of the **src-host**.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Total Access Lists	Displays the total number of source access lists.

24.61 src-bmac-lsb

src-bmac-lsb

Syntax

src-bmac-lsb

Context

[Tree] (tools>dump>redundancy src-bmac-lsb)

Full Context

tools dump redundancy src-bmac-lsb

Description

This command dumps PBB source Backbone MAC address LSB information.

Platforms

All

24.62 srlg-database

srlg-database

Syntax

srlg-database [**router-id** *ip-address*] [**interface** *ip-address*]

Context

[Tree] (show>router>mpls srlg-database)

Full Context

show router mpls srlg-database

Description

This command displays MPLS SRLG database information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

router-id *ip-address*

Specifies a 32-bit integer uniquely identifying the router in the Autonomous System. By convention to ensure uniqueness, this may default to the value of one of the router's IPv4 host addresses, represented as a 32-bit unsigned integer, if IPv4 is configured on the router. The **router-id** can be either the local one or some remote router.

interface *ip-address*

Specifies the IP address of the interface.

Platforms

All

24.63 srlg-group

srlg-group

Syntax

srlg-group [*name*]

Context

[Tree] (show>router>if-attribute srlg-group)

Full Context

show router if-attribute srlg-group

Description

This command displays SRLG statistics.

Parameters

name

Displays entries that are associated with the specified SRLG name, up to 32 characters.

Platforms

All

Output

The following output is an example of SRLG statistics, and Table 570: Output fields: SRLG describes the fields.

Output Example

```
B:CORE2# show router if-attribute srlg-group
===============================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Interface Srlg Groups
================================================
Group Name             Group Value  Penalty Weight
------------------------------------------------
1                      1            100
2                      2            200
3                      3            300
------------------------------------------------
No. of Groups: 3
================================================
B:CORE2#
```

Table 570: Output fields: SRLG

Label	Description
Group Name	The name of the SRLG
Group Value	The integer value of the SRLG
Penalty Weight	The penalty weight that is assigned to the SRLG
No. of Groups	The total number of displayed SRLGs

24.64 srrp

srrp

Syntax

srrp

Context

[Tree] (clear>router srrp)

Full Context

clear router srrp

Description

Commands in this context clear and reset SRRP virtual router instances.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

srrp

Syntax

srrp [*srrp-id* [**detail**]]

Context

[Tree] (show srrp)

Full Context

show srrp

Description

This command displays information related to the SRRP.

Parameters

srrp-id

Specifies the SRRP ID.

Values 1 to 4294967295

detail

Displays detailed information.

Platforms

All

24.65 srrp-sync-database

srrp-sync-database

Syntax

srrp-sync-database [**instance** *instance-id*] [**peer** *ip-address*]

Context

[Tree] (tools>dump>redundancy>multi-chassis srrp-sync-database)

Full Context

tools dump redundancy multi-chassis srrp-sync-database

Description

This command dumps SRRP database information and applies to the 7450 ESS.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-address

Specifies the peer's IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

instance-id

Dumps information for the specified Subscriber Router Redundancy Protocol instance configured on this system.

Values 1 to 4294967295

Platforms

All

24.66 ssh

ssh

Syntax

ssh [**detail** | **server-lists** | **client-lists** | **server-public-keys** | **client-known-hosts** [**host-name**]]

Context

[Tree] (show>system>security ssh)

Full Context

show system security ssh

Description

This command displays all SSH sessions, the SSH status, and fingerprints. The type of SSH application (CLI, SCP, SFTP, or NETCONF) is indicated for each SSH connection.

Parameters

detail

Keyword to display detailed information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

server-lists

Keyword to display the lists of cipher, MAC, KEX, and host key algorithms allowed by the SSH server.

client-lists

Keyword to display the lists of cipher, MAC, KEX, and host key algorithms allowed by the SSH client.

server-public-keys

Keyword to display the SSH server public keys.

client-known-hosts

Keyword to display static and dynamic host public keys accepted by the SSH client.

host-name

Specifies the host name.

Platforms

All

Output

The following outputs are examples of SSH information, and Table 571: Output fields: ssh describes the output fields.

- Output example (show system security ssh)
- Output example (show system security ssh detail)
- Output example (show system security ssh server-lists)
- Output example (show system security ssh client-lists)
- Output example (show system security ssh server-public-keys)
- Output example (show system security ssh client-known-hosts)

Output example (show system security ssh)

```
===============================================================================
SSH Server
===============================================================================
Administrative State      : Enabled
Operational State         : Up
Preserve Key              : Disabled
Key-re-exchange           : 60 minutes / 1024 MB

SSH Protocol Version 2    : Enabled
Host Key Fingerprints     :
    RSA                   : MD5:51:02:1d:28:0e:b3:49:f9:71:79:2e:67:a3:25:55:74
                            SHA256:pYOhLriNg0sXo+Ekh3cl7OsrlteLLjV/MKCGxbQSuXQ
    ECDSA-SHA2-NISTP256   : MD5:d8:63:f5:9a:01:0f:24:4e:26:06:ab:a4:05:08:fb:52
                            SHA256:LZ/CHBwn+zCNyLGtTS45UJd8xvjq75hgsnQHvQRvpkU
    ECDSA-SHA2-NISTP521   : MD5:fa:7d:9f:16:a7:e1:17:89:52:0d:d3:bc:0d:c8:1d:ef
                            SHA256:VWiLxOjcNivVYvJIVc3W2oMNUAT0vMl9ckQsnbXF4+I
-------------------------------------------------------------------------------
Connection                                          ConnectionID
   Username                                         ConnectionStatus
   RouterInstance                                   Key-re-exchange
   Version   KEX
             Cipher
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            MAC
            HostKey
   SessionID                  ChannelID   ServerName  ChannelStatus
-------------------------------------------------------------------------------
192.168.135.227                                       23
   admin                                              connected
   management                                         60 minutes / 1024 MB
   SSHv2     ecdh-sha2-nistp256
             aes128-ctr
             hmac-sha2-256
             ecdsa-sha2-nistp256
   23                         0           cli         connected
-------------------------------------------------------------------------------
Number of SSH connections : 1
Number of SSH sessions    : 1
===============================================
```

Output example (show system security ssh detail)

```
===============================================================================
SSH Server Global
===============================================================================
Administrative State      : Enabled
Operational State         : Up
Preserve Key              : Disabled
Key-re-exchange           : 60 minutes / 1024 MB

SSH Protocol Version 2    : Enabled
Host Key Fingerprints     :
    RSA                   : MD5:51:02:1d:28:0e:b3:49:f9:71:79:2e:67:a3:25:55:74
                            SHA256:pYOhLriNg0sXo+Ekh3cl7OsrlteLLjV/MKCGxbQSuXQ
    ECDSA-SHA2-NISTP256   : MD5:d8:63:f5:9a:01:0f:24:4e:26:06:ab:a4:05:08:fb:52
                            SHA256:LZ/CHBwn+zCNyLGtTS45UJd8xvjq75hgsnQHvQRvpkU
    ECDSA-SHA2-NISTP521   : MD5:fa:7d:9f:16:a7:e1:17:89:52:0d:d3:bc:0d:c8:1d:ef
                            SHA256:VWiLxOjcNivVYvJIVc3W2oMNUAT0vMl9ckQsnbXF4+I

===============================================================================
SSH Server Router Instance [Base]
===============================================================================
Access allowed            : Allowed
-------------------------------------------------------------------------------
Connection                                            ConnectionID
   Username                                           ConnectionStatus
                                                      Key-re-exchange
   Version   KEX
             Cipher
             MAC
             HostKey
   SessionID                  ChannelID   ServerName  ChannelStatus
-------------------------------------------------------------------------------
No entries found

===============================================================================
SSH Server Router Instance [management]
===============================================================================
Access allowed            : Allowed
-------------------------------------------------------------------------------
Connection                                            ConnectionID
   Username                                           ConnectionStatus
                                                      Key-re-exchange
   Version   KEX
             Cipher
             MAC
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
            HostKey
   SessionID                  ChannelID   ServerName  ChannelStatus
-------------------------------------------------------------------------------
192.168.135.227                                       23
   admin                                              connected
                                                      60 minutes / 1024 MB
   SSHv2     ecdh-sha2-nistp256
             aes128-ctr
             hmac-sha2-256
             ecdsa-sha2-nistp256
   23                         0           cli         connected
-------------------------------------------------------------------------------
Number of SSH connections : 1
Number of SSH sessions    : 1
===============================================================================
```

Output example (show system security ssh server-lists)

```
===============================================================================
SSH Server configurable algorithm lists
===============================================================================
SSHv2 Cipher List   : aes256-ctr
                      aes192-ctr
                      aes128-ctr
                      aes128-cbc
                      3des-cbc
                      aes192-cbc
                      aes256-cbc
-------------------------------------------------------------------------------
SSHv2 MAC List      : hmac-sha2-512
                      hmac-sha2-256
                      hmac-sha1
                      hmac-sha1-96
                      hmac-md5
                      hmac-md5-96
-------------------------------------------------------------------------------
SSHv2 KEX List      : ecdh-sha2-nistp521
                      ecdh-sha2-nistp384
                      ecdh-sha2-nistp256
                      diffie-hellman-group16-sha512
                      diffie-hellman-group14-sha256
                      diffie-hellman-group14-sha1
                      diffie-hellman-group-exchange-sha1
                      diffie-hellman-group1-sha1
-------------------------------------------------------------------------------
SSHv2 Host Key List : ecdsa-sha2-nistp521
                      ecdsa-sha2-nistp256
                      rsa-sha2-512
                      rsa-sha2-256
                      ssh-rsa
===============================================================================
```

Output example (show system security ssh client-lists)

```
===============================================================================
SSH Client configurable algorithm lists
===============================================================================
SSHv2 Cipher List   : aes256-ctr
                      aes192-ctr
                      aes128-ctr
                      aes128-cbc
                      3des-cbc
                      aes192-cbc
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                      aes256-cbc
-------------------------------------------------------------------------------
SSHv2 MAC List      : hmac-sha2-512
                      hmac-sha2-256
                      hmac-sha1
                      hmac-sha1-96
                      hmac-md5
                      hmac-md5-96
-------------------------------------------------------------------------------
SSHv2 KEX List      : ecdh-sha2-nistp521
                      ecdh-sha2-nistp384
                      ecdh-sha2-nistp256
                      diffie-hellman-group16-sha512
                      diffie-hellman-group14-sha256
                      diffie-hellman-group14-sha1
                      diffie-hellman-group-exchange-sha1
                      diffie-hellman-group1-sha1
-------------------------------------------------------------------------------
SSHv2 Host Key List : ecdsa-sha2-nistp521
                      ecdsa-sha2-nistp384
                      ecdsa-sha2-nistp256
                      rsa-sha2-512
                      rsa-sha2-256
                      ssh-ed25519
                      ssh-rsa
===============================================================================
```

Output example (show system security ssh server-public-keys)

```
===============================================================================
SSH Server Public Keys
===============================================================================
ECDSA-SHA2-NISTP521       : AAAAE2VjZHNhLXNoYTItbmlzdHA1MjEAAAAIbmlzdHA1MjEAAAC
                            FBAC/KEjM6eNmM6ltKRBqhhimf9VL/
                            l5OXhltfKKmJ28iWh7D7hFQGlVwW1UbvrZkBuuAu4LKobEpxGSx
                            yWnEZBIKZADU9ygImM94ZsznyVRUlK26KhwoglMHfeahsXJLSVt
                            MbAB7AYLfbFBudboPDUOHAAxD4I+hGgo/V8JXY5SmJ22jEA==
ECDSA-SHA2-NISTP256       : AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAAB
                            BBGvOLOnLcBuknK4GVzmh35WSoLZf8WxCvteB1U8ltwvECqSsoP
                            lq3sPhwxaFSHD43HLIzO/848jihVjGqb3owvY=
SSH-RSA                   : AAAAB3NzaC1yc2EAAAADAQABAAABAQDxOTlF36RZBvMlQ1eM+Hx
                            exDUA/DRxdXs+S9IrEhqBczbt9/bNn/
                            8UmzRS5rcvT2Lo3F5x8OUe7VvFJmxDXZjTSWvxS3RqkDA6DR+O5
                            4aWv+m5ZLSDWCeDRUydDPuYfTL6QTHEiL6SC+Q2BTfso3YYi6Yr
                            a0lIhcbiuAnphClBJc9s3t2D/C5rOn2/
                            TjGjOOtikKnpCrJzDdGYQnev2+0O6hTNCx3R4f171HYSZUQP8AU
                            csasQMxOYHDKk5DJH8zSN/JPpsz2lQnNRIH4/
                            xY+KQzYAsvkqSO6RWienXnqBo4H59WeeCgR3WKRX7eRUVaAOkcR
                            ghmLqnS8fIZMmFRyz
===============================================================================
```

Output example (show system security ssh client-known-hosts)

```
A:DUT-A# show system security ssh client-known-hosts user admin host 10.13.1.3
===============================================================================
SSH Known Hosts Public Keys [10.13.1.3]
===============================================================================
Key-Type      : ssh-rsa
Key-Value     : AAAAB3NzaC1yc2EAAAADAQABAAABAQCocuG/
                UHeqmgD9lZPEvRdHPPcLNeS0IdaMUQe9JcVnBU82XKznP4cQU0VgyQd5UGtWBLF
                iC9oKlCVyHOKjFOBESYt2pQDb/
                3HbpoFgUp3LZNYrehNfhbw2BRnOU7JxbT9Tv+4keDwcLRIzrsxAFcxFOym+2K8L
                o8AIKCNXnHjBkn02bXMzau11FofxsvZFGfYGGVG5iC6WN5gf4+zLyy5p1okVPq5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                K/qw8bQHPgvkG1svemuEwkCSfp1wPGmmj8SNgeolYmH7we9xQvmqoF/F/
                ghUIXn30PQqeoRS7n8uQf0CQGAkyknO5poMgpqlD/
                1AWv1LGbilseA4xumRB2Yn9
Source        : dynamic_list
-------------------------------------------------------------------------------
Number of public keys : 1
===============================================================================
```

Table 571: Output fields: ssh

Label	Description
Administrative State	Enabled — The administrative state of the SSH server is enabled Disabled — The administrative state of the SSH server is disabled
Operational State	Up — The operational state of the SSH server is up Down — The operational state of the SSH server is down
Preserve Key	Enabled — preserve-key is enabled Disabled — preserve-key is disabled
Key-re-exchange	The maximum amount of time and the maximum number of megabytes to be transmitted before a key re-exchange is initiated by the server
SSH Protocol Version 2	Enabled — SSH2 is enabled Disabled — SSH2 is disabled
Host Key Fingerprints	The key fingerprint is the server identity. If a client attempts and fails to verify the key fingerprint of the server, the client session is disconnected.
Connection	The IP address of the connected routers (remote client)
ConnectionID	The connection ID
Username	The name of the user
ConnectionStatus	The connection status
Version	The SSH version
KEX	KEX algorithm negotiated between SR OS SSH server and SSH client
Cipher	Cipher algorithm negotiated between SR OS SSH server and SSH client
MAC	MAC algorithm negotiated between SR OS SSH server and SSH client

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
HostKey	Host key algorithm negotiated between SR OS SSH server and SSH client
SessionID	The session ID
ChannelID	The channel ID
ServerName	The server name
ChannelStatus	The channel status
Number of SSH connections	The total number of SSH connections
Number of SSH sessions	The total number of active SSH sessions
Hostname	The IP address or FQDN of the host
Key-Type	The algorithm used to generate the host public key
Key-Value	The host public key value
Source	configuration — static host public key configured by the user dynamic — dynamically-learned host public key
Number of public keys	The total number of known host public keys

24.67 ssid

ssid

Syntax

ssid

Context

[Tree] (show>subscr-mgmt>wlan-gw ssid)

Full Context

show subscriber-mgmt wlan-gw ssid

Description

This command displays SSID information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.68 ssm-translate

ssm-translate

Syntax

ssm-translate

ssm-translate interface *interface-name*

Context

[Tree] (show>router>igmp ssm-translate)

Full Context

show router igmp ssm-translate

Description

This command displays IGMP SSM translate configuration information.

Parameters

interface-name

Specifies the IP interface name, up to 32 characters.

Platforms

All

Output

The following output is an example of SSM translate information. Table 572: Output fields: IGMP provides IGMP field descriptions.

Output Example

```
===============================================================
IGMP SSM Translate Entries
===============================================================
Group Range               Source                    Interface
---------------------------------------------------------------
<239.1.1.1 - 239.1.1.2>   10.1.1.1                     -

<239.1.1.1 - 239.1.1.5>   00.1.1.2                    ies-abc
---------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 572: Output fields: IGMP

Label	Description
Group Range	The address ranges of the multicast groups for which this router can be an RP.
Source	The unicast address that sends data on an interface.
SSM Translate Entries	The total number of SSM translate entries.

ssm-translate

Syntax

ssm-translate

ssm-translate interface *interface-name*

Context

[Tree] (show>router>mld ssm-translate)

Full Context

show router mld ssm-translate

Description

This command displays MLD SSM translate configuration information.

Parameters

interface-name

Specifies the IP interface name, up to 32 characters.

Platforms

All

Output

MLD Interface Output

The following table provides MLD field descriptions.

Table 573: Output fields: MLD

Label	Description
Start Address End Address	The address ranges of the multicast groups for which this router can be an RP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Source Address	The unicast address that sends data on an interface.
Interface	The interface name.
SSM Translate Entries	The total number of SSM translate entries.

Output Example

```
*A:ALA-BA# show router mld static
===============================================================================
MLD SSM Translate Entries
===============================================================================
Start Address      : ff0e::db8:9
End Address        : ff0e::db8:c
   Source Address  : 2001:db8::1

Start Address      : ff04:db8:2
End Address        : ff04:db8:10
   Source Address  : 2001:db8:3:4:5:6:7:8
       Interface   : lax-vls

Start Address      : ff0e:db8:db8:9
End Address        : ff0e:db8:db8:c
   Source Address  : 2001:db8::1
       Interface   : lax-vls
-------------------------------------------------------------------------------
SSM Translate Entries : 3
===============================================================================
*A:ALA-BA#
```

24.69 standby

standby

Syntax

standby

Context

[Tree] (show>system>ptp standby)

Full Context

show system ptp standby

Description

This command displays information for PTP on the standby control module.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-a, 7750 SR-e, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

Output

The following output is an example of PTP standby information.

Output Example

```
# show system ptp standby

===============================================================================
IEEE 1588/PTP Clock Information
===============================================================================
-------------------------------------------------------------------------------
Local Clock
-------------------------------------------------------------------------------
Clock Type        : boundary           PTP Profile        : ITU-T G.8275.1
Domain            : 24                 Network Type       : sdh
Admin State       : up                 Oper State         : up
Announce Interval : 8 pkt/s            Announce Rx Timeout: 3 intervals
Peer Limit        : none (Base Router)
G.8275 Priority   : 128                PTSF-unusable      : disabled
Clock Id          : a47b2cfffe441e1f   Clock Class        : 165
Clock Accuracy    : unknown            Clock Variance     : ffff (not computed)
Clock Priority1   : 128                Clock Priority2    : 128
-------------------------------------------------------------------------------
Parent Clock
-------------------------------------------------------------------------------
Port              : 1/1/3              Remote MAC Address : a4:7b:2c:e2:f1:a2
Parent Clock Id   : 242124fffe49e335   Remote PTP Port    : 1
GM Clock Id       : 242124fffe49e335   GM Clock Class     : 6
GM Clock Accuracy : within 100 ns      GM Clock Variance  : 0x4e5d (1.8E-15)
GM Clock Priority1: 128                GM Clock Priority2 : 128
-------------------------------------------------------------------------------
Time Properties
-------------------------------------------------------------------------------
Timescale           : PTP
Frequency Traceable : yes
Time Traceable      : yes
Time Source         : GPS
UTC Offset          : +37 seconds
Leap Second         : no leap second pending
-------------------------------------------------------------------------------
Frequency Recovery
-------------------------------------------------------------------------------
PTP Recovery State: initial            Last Changed       : 2021/09/02 11:04:48
Frequency Offset  : -367.370 ppb
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.70 standby-ip-addresses

standby-ip-addresses

Syntax

standby-ip-addresses

Context

[Tree] (show>subscr-mgmt>vrgw>brg>gateway standby-ip-addresses)

Full Context

show subscriber-mgmt vrgw brg gateway standby-ip-addresses

Description

This command shows associated home-aware pool standby IP addresses.

Platforms

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

24.71 start

start

Syntax

start

Context

[Tree] (tools>perform>router>l2tp>group>tunnel start)

Full Context

tools perform router l2tp group tunnel start

Description

This command triggers an attempt to start the control connection for a specified L2TP tunnel.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

start

Syntax

start *route-downloader-name* [**force**]

Context

[Tree] (tools>perform>aaa>route-downloader start)

Full Context

tools perform aaa route-downloader start

Description

This command causes the download process to start immediately. If an ongoing download is already in progress then no further action is needed, except if the **force** keyword is added. In case the **force** keyword is added, then the current download is aborted and a new one is immediately restarted. If aborting the current download, the internal route table should not be emptied or cleared.

Parameters

route-downloader-name

Specifies the route downloader name, up to 32 characters.

force

Causes the current download to be aborted and a new one is immediately restarted.

Platforms

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

24.72 static

static

Syntax

static [**sap** *sap-id* | **sdp** *sdp-id:vc-id*]

Context

[Tree] (show>service>id>mld-snooping static)

Full Context

show service id mld-snooping static

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays MLD snooping static group membership data.

Platforms

All

Output

The following output is an example of MLD snooping static group membership information.

Output Example

```
*A:rbae_C# show service id 1 mld-snooping static
===============================================================================
MLD Snooping Static Source Groups for service 1
-------------------------------------------------------------------------------
MLD Snooping Static Source Groups for SDP 36:1
-------------------------------------------------------------------------------
Source
                Group
-------------------------------------------------------------------------------
2011:db8:1
                FF04:db8:2
*
                FF04:db8:3
-------------------------------------------------------------------------------
Static (*,G)/(S,G) entries: 2
===============================================================================
*A:rbae_C#
```

static

Syntax

static [**sap** *sap-id* | **sdp** *sdp-id:vc-id*]

Context

[Tree] (show>service>id>igmp-snooping static)

Full Context

show service id igmp-snooping static

Description

This command displays information on static IGMP snooping source groups for the VPLS service.

Parameters

sap *sap-id*

Displays static IGMP snooping source groups for a specific SAP.

sdp *sdp-id*

Displays the IGMP snooping source groups for a specific spoke or mesh SDP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID for which to display information.

Default For mesh SDPs only, all VC IDs.

Values 1 to 4294967295

Platforms

All

Output

Output Example

```
*A:ALA-1>show>service>id>snooping# static
===============================================================================
IGMP Snooping Static Source Groups for SAP 1/1/2
-------------------------------------------------------------------------------
Source          Group
-------------------------------------------------------------------------------
*               239.0.0.2
*               239.0.0.3
-------------------------------------------------------------------------------
Static (*,G)/(S,G) entries: 2
-------------------------------------------------------------------------------
IGMP Snooping Static Source Groups for SDP 10:10
-------------------------------------------------------------------------------
Source          Group
-------------------------------------------------------------------------------
1.1.1.1         239.0.0.10
-------------------------------------------------------------------------------
Static (*,G)/(S,G) entries: 1
===============================================================================
*A:ALA-1>show>service>id>snooping#
```

Table 574: Output fields: IGMP snooping source groups describes the show output fields.

Table 574: Output fields: IGMP snooping source groups

Label	Description
Source	Displays the IP source address used in IGMP queries.
Group	Displays the static IGMP snooping source groups for a specified SAP.

static

Syntax

static [*ip-int-name* | *ip-address*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>igmp static)

Full Context

show router igmp static

Description

This command displays static IGMP, (*,G) and (S,G) information.

Parameters

ip-int-name

Displays information associated with the specified IP interface name, up to 32 characters.

ip-address

Displays information associated with the specified IP address.

Platforms

All

Output

The following output is an example of IGMP static information. Table 575: Output fields: IGMP static provides static IGMP field descriptions.

Output Example

```
*A:ALA-BA# show router 100 igmp static
===============================================================
IGMP Static Group Source
===============================================================
Source          Group           Interface
---------------------------------------------------------------
10.11.11.11     239.136.22.3    IGMP_to_CE
*               239.1.1.1       IGMP_to_CE
10.22.22.22     239.255.255.255 IGMP_to_CE
---------------------------------------------------------------
Static (*,G)/(S,G) Entries : 3
===============================================================
*A:ALA-BA#
```

Table 575: Output fields: IGMP static

Label	Description
Source	Entries that represent a source address from which receivers are interested/not interested in receiving multicast traffic.
Group	The IP multicast group address for which this entry contains information.
Interface	Displays the interface name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

static

Syntax

static [*ip-int-name* | *ip-address*]

Context

[Tree] (show>router>mld static)

Full Context

show router mld static

Description

This command displays static MLD, (*,G) and (S,G) information.

Parameters

ip-int-name

Displays the information associated with the specified IP interface name.

ip-address

Displays the information associated with the specified IP address.

Platforms

All

Output

The following output is an example of MLD static information. Table 576: Output fields: MLD static provides static MLD field descriptions.

Output Example

```
*A:ALA-BA# show router mld static
===============================================================================
Rtr Base MLD Static Group Sources
===============================================================================
Source                                  Interface
  Group Start                           [Group Step]
  [Group End]                           [Group Count]
-------------------------------------------------------------------------------
2001:db8:2016:10ff::4                   lax-vls
  ff05:db8:1
*                                       lax-vls
  ff06:db8:1
*                                       lax-vls
  ff01:db8:1                               ::4:0
  ff01:db8:100:0                           64
3::1                                    lax-vls
  ff05:db8:1                               ::1
  ff05:db8:20                              32
*                                       lax-vls
  ff05:db8:2:1                             ::1
  ff05:db8:2:3ff                           1023
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
3::1                                    lax-vls
  ff05:db8:3:0                            ::64
  ff05:db8:4:0                            656
3::2                                    lax-vls
  ff05:db8:3:0                            ::64
  ff05:db8:4:0                            656
4::1                                    flax-vlsoo
  ff05:db8:3:0                            ::64
  ff05:db8:4:0                            656
5::1                                    lax-vls
  ff05:db8:3:0                            ::64
  ff05:db8:4:0                            656
-------------------------------------------------------------------------------
Static (*,G)/(S,G) Entries : 9
===============================================================================
*A:ALA-BA#
```

Table 576: Output fields: MLD static

Label	Description
Source	The entries which represents a source address from which receivers are interested/not interested in receiving multicast traffic.
Group	The IP multicast group address for which this entry contains information.
Interface	The interface name.

static

Syntax

static [**head-end** {**local** | *ip-address*}] [**color** *color*] [**end-point** { *ipv4-address* | *ipv6-address*}] [**preference** *preference-id*] [**distinguisher** *distinguisher-id*]

static summary

Context

[Tree] (show>router>seg-rt>sr-policies static)

Full Context

show router segment-routing sr-policies static

Description

This command displays the traffic statistics of all or a filtered set of the static policies, or displays summary parameters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

head-end local

Filters on local head end.

head-end *ip-address*

Filters on the head end IP address value.

Values a.b.c.d

color

Filters on the color.

Values 0 to 4294967295

ipv4-address* | *ipv6-address

Filters on the end-point IPv4 or IPv6 address.

Values ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces) or x:x:x:x:x:x:d:d:d:d

x — [0 to FFFF]H

d — [0 to 255]D

preference-id

Filters on the preference ID.

Values 0 to 4294967295

distinguisher-id

Filters on the distinguisher ID.

Values 0 to 4294967295

summary

Displays the summary information of the static policies.

Platforms

All

Output

The following output is an example of traffic statistics for the static policies.

Output Example Information for Static Policies

```
 *A:Dut-C# show router segment-routing sr-policies static
===============================================================================
SR-Policies Path
===============================================================================
-------------------------------------------------------------------------------
Type            : srv6
Active          : Yes                   Owner           : static
Color           : 10
Head            : 0.0.0.0               Endpoint Addr   : 3ffe::a14:102
RD              : 5                     Preference      : 14
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
SRv6 BSID 1     : 3333:3:3:3:0:b::
TunnelId        : 917510                Age             : 759
Origin ASN      : 0                     Origin          : 0.0.0.0
NumReEval       : 0                     ReEvalReason    : none
NumActPathChange: 0                     Last Change     : 06/13/2022 17:40:54
Maintenance Policy: N/A

Path Segment Lists:
Segment-List    : 1                     Weight          : 1
S-BFD State     : Down                  S-BFD Transitio*: 0
Num Segments    : 1                     Last Change     : 06/10/2022 17:07:01
  Seg 1 SID   : 2222:2:2:2:0:a::                          State : resolved-up

===============================================================================
* indicates that the corresponding row element may have been truncated.
```

Output Example Information for a Subset of Static Policies

```
*A:Dut-C# show router segment-routing sr-policies static end-point 3ffe::a14:102
===============================================================================
SR-Policies Path
===============================================================================
-------------------------------------------------------------------------------
Type            : srv6
Active          : Yes                   Owner           : static
Color           : 10
Head            : 0.0.0.0               Endpoint Addr   : 3ffe::a14:102
RD              : 5                     Preference      : 14
SRv6 BSID 1     : 3333:3:3:3:0:b::
TunnelId        : 917510                Age             : 426
Origin ASN      : 0                     Origin          : 0.0.0.0
NumReEval       : 0                     ReEvalReason    : none
NumActPathChange: 0                     Last Change     : 06/13/2022 17:40:54
Maintenance Policy: N/A

Path Segment Lists:
Segment-List    : 1                     Weight          : 1
S-BFD State     : Down                  S-BFD Transitio*: 0
Num Segments    : 1                     Last Change     : 06/10/2022 17:07:01
  Seg 1 SID   : 2222:2:2:2:0:a::                          State : resolved-up

===============================================================================
* indicates that the corresponding row element may have been truncated.
```

24.73 static-arp

static-arp

Syntax

static-arp [{*ip-int-name* | *ip-address* | **mac** *ieee-mac-address*}]

Context

[Tree] (show>router static-arp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router static-arp

Description

This command displays the router static ARP table sorted by IP address. If no options are present, all ARP entries are displayed.

Parameters

ip-int-name

Only displays static ARP entries associated with the specified IP interface name.

ip-address

Only displays static ARP entries associated with the specified IP address.

ieee-mac-address

Only displays static ARP entries associated with the specified MAC address.

Platforms

All

Output

Static ARP Table Output — The following output is an example of static AARP table information, and Table 577: Output fields: static ARP describes the output fields.

Output Example

```
A:ALA-A# show router static-arp
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Age      Type Interface
-------------------------------------------------------------------------------
10.200.0.253    00:00:5a:40:00:01 00:00:00 Sta  to-ser1
10.200.1.1      00:00:5a:01:00:33 00:00:00 Inv  to-ser1a
-------------------------------------------------------------------------------
No. of ARP Entries: 1
===============================================================================
A:ALA-A#


A:ALA-A# show router static-arp 10.200.1.1
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Age      Type Interface
-------------------------------------------------------------------------------
10.200.1.1      00:00:5a:01:00:33 00:00:00 Inv  to-ser1

===============================================================================
A:ALA-A#


A:ALA-A# show router static-arp to-ser1
===============================================================================
ARP Table
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IP Address      MAC Address       Age      Type Interface
-------------------------------------------------------------------------------
10.200.0.253    00:00:5a:40:00:01 00:00:00 Sta  to-ser1
===============================================================================
A:ALA-A#


A:ALA-A# show router static-arp mac 00:00:5a:40:00:01
===============================================================================
ARP Table
===============================================================================
IP Address      MAC Address       Age      Type Interface
-------------------------------------------------------------------------------
10.200.0.253    00:00:5a:40:00:01 00:00:00 Sta  to-ser1
===============================================================================
A:ALA-A#
```

Table 577: Output fields: static ARP

Label	Description
IP Address	The IP address of the static ARP entry
MAC Address	The MAC address of the static ARP entry
Age	The age of the ARP entry. Static ARPs always have 00:00:00 for the age
Type	Inv — the ARP entry is an inactive static ARP entry (invalid) Sta — the ARP entry is an active static ARP entry
Interface	The IP interface name associated with the ARP entry
No. of ARP Entries	The number of ARP entries displayed in the list

24.74 static-host

static-host

Syntax

static-host [**sap** *sap-id*] [**wholesaler** *service-id*] [**port** *port-id*][**inter-dest-id** *intermediate-destination-id*] [**detail**] [**mac** *ieee-address*] [**ip-address** *ip-prefix*[*/prefix-length*]]

static-host [**sap** *sap-id*][**wholesaler** *service-id*][**port** *port-id*] **no-inter-dest-id** [**detail**]

static-host summary

Context

[Tree] (show>service>id static-host)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id static-host

Description

This command displays static hosts configured on this service.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

intermediate-destination-id

Specifies the intermediate destination identifier which is encoded in the identification strings up to 32 characters.

summary

Displays summary static host information.

detail

Displays detailed static host information.

service-id

The service ID of the wholesaler.

Values 1 to 2147483647

ieee-address

Specifies the MAC address.

***ip-prefix*[*/prefix-length*]**

Specifies the IP address.

Platforms

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

Output

The following output is an example of service static host information.

Output Example

```
*A:ALA-48# show service id 88 static-host
===============================================================================
Static Hosts for service 88
===============================================================================
Sap                         IP Address      Configured MAC    Dynamic MAC
  Subscriber                                  Admin State       Fwding State
-------------------------------------------------------------------------------
1/2/20:0                    10.10.10.104    N/A               N/A
   N/A                                        Down              Not Fwding
3/2/4:50/5                  10.144.145.1    N/A               N/A
   N/A                                        Up                Fwding
-------------------------------------------------------------------------------
Number of static hosts : 2
===============================================================================
*A:ALA-48#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

24.75 static-lsp

static-lsp

Syntax

static-lsp [*lsp-name*]

static-lsp {**transit** | **terminate**}

static-lsp count

Context

[Tree] (show>router>mpls static-lsp)

Full Context

show router mpls static-lsp

Description

This command displays MPLS static LSP information.

Platforms

All

Output

The following output is an example of MPLS static LSP information.

Table 578: Output fields: MPLS static LSP describes the MPLS static LSP output fields.

Table 578: Output fields: MPLS static LSP

Label	Description
Lsp Name	The name of the LSP used in the path up to 64 characters in length.
To	The system IP address of the egress router for the LSP.
Next Hop	The system IP address of the next hop in the LSP path.
In I/F	The ingress interface.
Out Label	The egress interface.
Out I/F	The egress interface.
Adm	Down — The path is administratively disabled. Up — The path is administratively enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Opr	Down — The path is operationally down. Up — The path is operationally up.
LSPs	The total number of static LSPs.

Output Example

```
A:ALA-12# show router mpls static-lsp
===============================================================================
MPLS Static LSPs (Originating)
===============================================================================
Lsp Name          To              Next Hop        Out Label Out I/F   Adm  Opr
-------------------------------------------------------------------------------
NYC_SJC_customer2 100.20.1.10     10.10.1.4       1020      1/1/1     Up   Up
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
A:ALA-12#


*A:SRU4>config>router>mpls# show router mpls static-lsp transit
===============================================================================
MPLS Static LSPs (Transit)
===============================================================================
In Label    In Port     Out Label   Out Port    Next Hop            Adm   Opr
-------------------------------------------------------------------------------
240         aps-1       440         1/1/10      10.22.11.3          Up    Up
241         aps-1       441         1/1/10      10.22.11.3          Up    Up
242         aps-1       442         1/1/10      10.22.11.3          Up    Up
243         aps-1       443         1/1/10      10.22.11.3          Up    Up
244         aps-1       444         1/1/10      10.22.11.3          Up    Up
245         aps-1       445         1/1/10      10.22.11.3          Up    Up
246         aps-1       446         1/1/10      10.22.11.3          Up    Up
247         aps-1       447         1/1/10      10.22.11.3          Up    Up
248         aps-1       448         1/1/10      10.22.11.3          Up    Up
249         aps-1       449         1/1/10      10.22.11.3          Up    Up
250         aps-1       450         1/1/10      10.22.11.3          Up    Up
251         aps-1       451         1/1/10      10.22.11.3          Up    Up
252         aps-1       452         1/1/10      10.22.11.3          Up    Up
253         aps-1       453         1/1/10      10.22.11.3          Up    Up
...
207         3/2/8       407         1/1/9       10.22.10.3          Up    Up
208         3/2/8       408         1/1/9       10.22.10.3          Up    Up
209         3/2/8       409         1/1/9       10.22.10.3          Up    Up
-------------------------------------------------------------------------------
LSPs : 256
===============================================================================
*A:SRU4>config>router>mpls#

A:ALA-12# show router mpls static-lsp terminate
===============================================================================
MPLS Static LSPs (Terminate)
===============================================================================
In Label    In I/F      Out Label   Out I/F     Next Hop            Adm   Opr
-------------------------------------------------------------------------------
1021        1/1/1       n/a         n/a         n/a                 Up    Up
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:ALA-12#
```

24.76 static-policy

static-policy

Syntax

static-policy [**detail**] [**head-end** {**local** | *ip-address*}] [**color** *color*] [**preference** *preference-id*] [**distinguisher** *distinguisher-id*] [**tunnel-id** *tunnel-id*] [**end-point** { *ipv4-address* | *ipv6-address*}]

static-policy *name* [**detail**]

Context

[Tree] (show>router>seg-rt>sr-policies static-policy)

Full Context

show router segment-routing sr-policies static-policy

Description

This command displays information about all static policies or the specified static policy.

Parameters

detail

Keyword used to specify detailed information about the static policy.

head-end local

Keyword used to filter on the local head end.

head-end *ip-address*

Specifies to filter on the head-end IP address value.

Values a.b.c.d

color

Specifies to filter on the color.

Values 0 to 4294967295

preference-id

Specifies to filter on the preference ID.

Values 0 to 4294967295

distinguisher-id

Specifies to filter the distinguisher ID.

Values 0 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tunnel-id

Specifies to filter the tunnel ID.

Values 0 to 4294967295

ipv4-address* | *ipv6-address

Specifies to filter on the endpoint IPv4 or IPv6 address.

Values ipv4-address — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces) or x:x:x:x:x:x:d:d:d:d

x — [0 to FFFF]H

d — [0 to 255]D

name

Specifies the name of the static policy, up to 64 characters.

Platforms

All

Output

The following outputs are examples of static policy information, and Table 579: Output fields: static policy describes the output fields:

- Output example: show router segment-routing sr-policies static-policy
- Output example: show router segment-routing sr-policies static-policy
- Output example: show router segment-routing sr-policies static-policy detail
- Output example: show router segment-routing sr-policies static-policy detail
- Output example: show router segment-routing sr-policies static-policy with the PCE report disabled
- Output example: show router segment-routing sr-policies static-policy detail with the PCE report disabled
- Output example: show router segment-routing sr-policies static-policy with the PCE report enabled
- Output example: show router segment-routing sr-policies static-policy detail with the PCE report enabled

Output example: show router segment-routing sr-policies static-policy

```
A:node-2# show router segment-routing sr-policies static-policy "a1"
===============================================================================
SR-Policies Static Policy
===============================================================================
Policy Name: a1
Type            : srv6
Admin Status    : Up                    Color           : 10
Head End Addr   : 0.0.0.0               Endpoint Addr   : 3ffe::a14:102
Preference      : 14
RD              : 5
SRv6 BSID 1     : N/A
  Locator       : C1
  Function      : End.B6.Encaps.Red     Function Value  : -
  Function Stat*: error
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Segment Lists Configuration:
Segment-List    : 1                     Weight          : 1
Admin Status    : Up                    Last Change     : 06/13/2022 17:40:54
Segment Stack:
   SRv6 SID 1: 2222:2:2:2:0:a::

===============================================================================
* indicates that the corresponding row element may have been truncated.
===============================================================================
```

Output example: show router segment-routing sr-policies static-policy

```
A:node-2# show router segment-routing sr-policies static-policy "srpolicy-cp-name"

===============================================================================
SR-Policies Static Policy
===============================================================================
Policy Name: srpolicy-cp-name
Type            : srMpls
Admin Status    : Up                    Color           : 190001
Head End Addr   : 0.0.0.0               Endpoint Addr   : 1.1.1.108
Preference      : 150                   BSID            : 190001
RD              : 190001
Maintenance Plcy:
Pce Report      : Enabled

Segment Lists Configuration:
Segment-List    : 1                     Weight          : 1
Admin Status    : Up                    Last Change     : 02/11/2026 20:31:02
Segment Stack:
  1 MPLS Label  : 100401
  2 MPLS Label  : 100408
===============================================================================
```

Output example: show router segment-routing sr-policies static-policy detail

```
A:node-2# show router segment-routing sr-policies static-policy "a1" detail
===============================================================================
SR-Policies Static Policy
===============================================================================
Policy Name: a1
Type            : srv6
Admin Status    : Up                    Color           : 10
Head End Addr   : 0.0.0.0               Endpoint Addr   : 3ffe::a14:102
Preference      : 14
RD              : 5
SRv6 BSID 1     : N/A
  Locator       : C1
  Function      : End.B6.Encaps.Red     Function Value  : -
  Function Stat*: error

Path Entry:
Active          : Yes                   Owner           : static
TunnelId        : 917510                Age             : 346
Origin ASN      : 0                     Origin          : 0.0.0.0
NumReEval       : 0                     ReEvalReason    : none
NumActPathChange: 0                     Last Change     : 06/13/2022 17:40:54
Maintenance Policy: N/A
Pce Report      : Disabled
Path Segment Lists:
Segment-List    : 1                     Weight          : 1
S-BFD State     : Down                  S-BFD Transitio*: 0
Num Segments    : 1                     Last Change     : 06/10/2022 17:07:01
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Seg 1 SID   : 2222:2:2:2:0:a::                        State : resolved-up

===============================================================================
* indicates that the corresponding row element may have been truncated.

===============================================================================
```

Output example: show router segment-routing sr-policies static-policy detail

```
A:node-2# show router segment-routing sr-policies static-policy "srpolicy-cp-name" detail

===============================================================================
SR-Policies Static Policy
===============================================================================
Policy Name: srpolicy-cp-name
Type            : srMpls
Admin Status    : Up                    Color           : 190001
Head End Addr   : 0.0.0.0               Endpoint Addr   : 1.1.1.108
Preference      : 150                   BSID            : 190001
RD              : 190001
Maintenance Plcy:
Pce Report      : Enabled

Path Entry:
Active          : Yes                   Owner           : static
Operational     : Yes
TunnelId        : 917506                Age             : 251
Origin ASN      : 0                     Origin          : 0.0.0.0
NumReEval       : 0                     LastReEvalReason: none
NumActPathChange: 0                     Last Change     : 02/12/2026 00:11:11

Path Segment Lists:
Segment-List    : 1                     Weight          : 1
Num Segments    : 2                     Last Change     : 02/11/2026 20:31:00
  1 MPLS Label  : 100401                State           : resolved-up
  2 MPLS Label  : 100408                State           : N/A

===============================================================================
```

Output example: show router segment-routing sr-policies static-policy with the PCE report disabled

```
A:node# show router segment-routing sr-policies static-policy "srpolicy-cp-name"

===============================================================================
SR-Policies Static Policy
===============================================================================
Policy Name: srpol21_cp150_config_d150
Type            : srv6
Admin Status    : Up                    Color           : 121
Head End Addr   : 0.0.0.0               Endpoint Addr   : 5f00:0:116::1
Preference      : 150
RD              : 150
Maintenance Plcy: manpol_linear
Ret Path BFD SID:
Pce Report      : Disabled
SRv6 BSID 1     : 5f00:0:e033::

Segment Lists Configuration:
Segment-List    : 1                     Weight          : 1
Admin Status    : Up                    Last Change     : 06/10/2026 15:14:10
Segment Stack:
  1 SRv6 SID    : 5f00:0:101::
  2 SRv6 SID    : 5f00:0:116::
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Output example: show router segment-routing sr-policies static-policy detail with the PCE report disabled

```
A:node-2# show router segment-routing sr-policies static-policy "srpolicy-cp-name" detail

===============================================================================
SR-Policies Static Policy
===============================================================================
Policy Name: srpol21_cp150_config_d150
Type            : srv6
Admin Status    : Up                    Color           : 121
Head End Addr   : 0.0.0.0               Endpoint Addr   : 5f00:0:116::1
Preference      : 150
RD              : 150
Maintenance Plcy: manpol_linear
Ret Path BFD SID:
Pce Report      : Disabled
SRv6 BSID 1     : 5f00:0:e033::

Path Entry:
Active          : Yes                   Owner           : static
Operational     : Yes
TunnelId        : 917512                Age             : 310532
Origin ASN      : 0                     Origin          : 0.0.0.0
NumReEval       : 0                     LastReEvalReason: none
NumActPathChange: 0                     Last Change     : 06/11/2026 15:40:48
Act S-BFD Sess. : 1                     S-BFD Threshold : 1

Path Segment Lists:
Segment-List    : 1                     Weight          : 1
S-BFD State     : Up                    S-BFD Transitio*: 0
Num Segments    : 2                     Last Change     : 06/11/2026 15:31:04
  1 SRv6 SID  : 5f00:0:101::                             State : resolved-up
    Behavior & Structure
     Behavior   : 43                    Block Length    : 32
     Node Length: 16                    Function Length : 0
  2 SRv6 SID  : 5f00:0:116::                             State : N/A
    Behavior & Structure
     Behavior   : 43                    Block Length    : 32
     Node Length: 16                    Function Length : 0
===============================================================================
```

Output example: show router segment-routing sr-policies static-policy with the PCE report enabled

```
A:node-2# show router segment-routing sr-policies static-policy "srpolicy-cp-name"

===============================================================================
SR-Policies Static Policy
===============================================================================
Policy Name: srpol21_cp150_config_d150
Type            : srv6
Admin Status    : Up                    Color           : 121
Head End Addr   : 0.0.0.0               Endpoint Addr   : 5f00:0:116::1
Preference      : 150
RD              : 150
Maintenance Plcy: manpol_linear
Ret Path BFD SID:
Pce Report      : Enabled
SRv6 BSID 1     : 5f00:0:e033::
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Segment Lists Configuration:
Segment-List    : 1                     Weight          : 1
Admin Status    : Up                    Last Change     : 06/10/2026 15:14:10
Segment Stack:
  1 SRv6 SID    : 5f00:0:101::
  2 SRv6 SID    : 5f00:0:116::
===============================================================================
```

Output example: show router segment-routing sr-policies static-policy detail with the PCE report enabled

```
A:node-2# show router segment-routing sr-policies static-policy "srpolicy-cp-name" detail

===============================================================================
SR-Policies Static Policy
===============================================================================
Policy Name: srpol21_cp150_config_d150
Type            : srv6
Admin Status    : Up                    Color           : 121
Head End Addr   : 0.0.0.0               Endpoint Addr   : 5f00:0:116::1
Preference      : 150
RD              : 150
Maintenance Plcy: manpol_linear
Ret Path BFD SID:
Pce Report      : Enabled
SRv6 BSID 1     : 5f00:0:e033::

Path Entry:
Active          : Yes                   Owner           : static
Operational     : Yes
TunnelId        : 917512                Age             : 310532
Origin ASN      : 0                     Origin          : 0.0.0.0
NumReEval       : 0                     LastReEvalReason: none
NumActPathChange: 0                     Last Change     : 06/11/2026 15:40:48
Act S-BFD Sess. : 1                     S-BFD Threshold : 1

Path Segment Lists:
Segment-List    : 1                     Weight          : 1
S-BFD State     : Up                    S-BFD Transitio*: 0
Num Segments    : 2                     Last Change     : 06/11/2026 15:31:04
  1 SRv6 SID  : 5f00:0:101::                             State : resolved-up
    Behavior & Structure
     Behavior   : 43                    Block Length    : 32
     Node Length: 16                    Function Length : 0
  2 SRv6 SID  : 5f00:0:116::                             State : N/A
    Behavior & Structure
     Behavior   : 43                    Block Length    : 32
     Node Length: 16                    Function Length : 0
===============================================================================
```

Table 579: Output fields: static policy

Label	Description
SR-Policies Static Policy	
Policy Name	Specifies the policy name
Type	Specifies the policy type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Admin Status	Specifies the policy administrative status
Color	Specifies the color value
Head End Addr	Specifies the head end IP address
Endpoint Addr	Specifies the endpoint IP address
Preference	Specifies the preference value
BSID	Specifies the binding segment ID
RD	Specifies the route distinguisher value
Maintenance Plcy	Specifies the maintenance policy
Ret Path BFD SID	Specifies the return path BFD SID
Pce Report	Specifies the PCE reporting status
SRv6 BSID 1	Specifies the SRv6 BSID value
Path Entry	Specifies the path entry value
Active	Specifies the active state
Owner	Specifies the owner type
Operational	Specifies the operational state
TunnelId	Specifies the tunnel ID
Age	Specifies the age
Origin ASN	Specifies the origin autonomous system number
Origin	Specifies the origin IP address
NumReEval	Specifies the number of reevaluations
LastReEvalReason	Specifies the reason for the last reevaluation
NumActPathChange	Specifies the number of active path changes
Last Change	Specifies the date and time of the last change
ACT S-BFD Sess	Specifies the ACT S-BFD session
S-BFD Threshold	Specifies the S-BFD threshold
Path Segment Lists	Specifies the path segment lists
Segment-List	Specifies the segment list number

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Weight	Specifies the weight value
S-BFD State	Specifies the S-BFD state
S-BFD Transitio*	Specifies the S-BFD transition
Admin Status	Specifies the admin status
Last Change	Specifies the last change
Segment Stack	Specifies the segment stack information
Num Segments	Specifies the number of segments
1 MPLS Label	Specifies the first MPLS label value
State	Specifies the state of the first or second MPLS label
2 MPLS Label	Specifies the second MPLS label value
1SRv6 SID/2 SRv6	Specifies the first SRv6 label value
State	Specifies the state of the first or second SRv6 label
Behavior	Specifies the behavior of the first or second SRv6 label
Block Length	Specifies the block length of the first or second SRv6 label
Node Length	Specifies the node length of the first or second SRv6 label
Function Length	Specifies the function length of the first or second SRv6 label

24.77 static-route

static-route

Syntax

static-route [*family*] [{*ip-prefix/prefix-length* | **preference** *preference* | [**next-hop** *ip-address* | **tag** *tag*}] [**detail**]

Context

[Tree] (show>router static-route)

Full Context

show router static-route

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the static entries in the routing table. If no options are present, all static routes are displayed sorted by prefix.

Parameters

family

Specifies the type of routing information to be distributed by this peer group.

Values **ipv4** — Displays only those BGP peers that have the IPv4 family enabled and not those capable of exchanging IP-VPN routes.

ipv6 — Displays the BGP peers that are IPv6 capable.

mcast-ipv4 — Displays the BGP peers that are IPv4 multicast capable.

mcast-ipv6 — Displays the BGP peers that are IPv6 multicast capable.

ip-prefix/prefix-length

Displays static routes only matching the specified *ip-prefix* and *mask*.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-prefix:	a.b.c.d (host bits must be 0)	
	ipv4-prefix-length:	0 to 32
ipv6-prefix:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D
	ipv6-prefix-length:	0 to 128

Values The following values apply to the 7450 ESS:

ipv4-prefix:	a.b.c.d (host bits must be 0)
ipv4-prefix-length:	0 to 32

preference

Only displays static routes with the specified route preference.

Values 0 to 65535

ip-address

Only displays static routes with the specified next hop IP address.

Values The following values apply to the 7750 SR and 7950 XRS:

ipv4-address:	a.b.c.d (host bits must be 0)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)	
	x:x:x:x:x:x:d.d.d.d	
	x:	[0 to FFFF]H
	d:	[0 to 255]D

Values The following values apply to the 7450 ESS:

ipv4-address: a.b.c.d (host bits must be 0)

tag

Displays the tag used to add a 32-bit integer tag to the static route. The tag is used in route policies to control distribution of the route into other protocols.

Values 1 to 4294967295

detail

Displays detailed static routes information.

Platforms

All

Output

Static Route Output — The following output is an example of static route information, and Table 580: Output fields: static route describes the fields.

Output Example

```
A:ALA-A# show router static-route
===============================================================================
Route Table
===============================================================================
IP Addr/mask       Pref Metric Type Nexthop              Interface       Active
-------------------------------------------------------------------------------
192.168.250.0/24   5    1      ID   10.200.10.1          to-ser1              Y
192.168.252.0/24   5    1      NH   10.10.0.254          n/a                  N
192.168.253.0/24   5    1      NH   to-ser1              n/a                  N
192.168.253.0/24   5    1      NH   10.10.0.254          n/a                  N
192.168.254.0/24   4    1      BH   black-hole           n/a                  Y
===============================================================================
A:ALA-A#


A:ALA-A# show router static-route 192.168.250.0/24
===============================================================================
Route Table
===============================================================================
IP Addr/mask       Pref Metric Type Nexthop              Interface       Active
-------------------------------------------------------------------------------
192.168.250.0/24   5    1      ID   10.200.10.1          to-ser1              Y
===============================================================================
A:ALA-A#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:ALA-A# show router static-route preference 4
===============================================================================
Route Table
===============================================================================
IP Addr/mask       Pref Metric Type Nexthop             Interface       Active
-------------------------------------------------------------------------------
192.168.254.0/24   4    1      BH   black-hole          n/a                 Y
===============================================================================
A:ALA-A#


A:ALA-A# show router static-route next-hop 10.10.0.254
===============================================================================
Route Table
===============================================================================
IP Addr/mask       Pref Metric Type Nexthop             Interface       Active
-------------------------------------------------------------------------------
192.168.253.0/24   5    1      NH   10.10.0.254         n/a                 N
===============================================================================
A:ALA-A#


===============================================================================
Static Route Table (Router: Base)  Family: IPv6
===============================================================================
Prefix           : 3ffe::10:10:14:0/120
Nexthop          : 3ffe::10:20:1:6
Type             : Indirect
Interface        : n/a                           Active            : Y
Prefix List      : n/a                           Prefix List Type  : n/a
Metric           : 1                             Preference        : 5
Source Class     : 0                             Dest Class        : 0
Admin  State     : Up                            Tag               : 0
Creation Origin  : manual
BFD              : disabled
Community        :
CPE-check        : disabled
Tunnel Resolution: any                           Disallow-IGP      : disabled
RSVP-TE Tunnels  : disabled                      LDP Tunnels       : disabled
SR-ISIS Tunnels  : disabled                      SR-OSPF Tunnels   : disabled
SR-TE Tunnels    : disabled
-------------------------------------------------------------------------------
Prefix           : 3ffe::10:10:14:0/120
Nexthop          : 3ffe::20:20:1:6
Type             : Indirect
Interface        : n/a                           Active            : Y
Prefix List      : n/a                           Prefix List Type  : n/a
Metric           : 1                             Preference        : 5
Source Class     : 0                             Dest Class        : 0
Admin  State     : Up                            Tag               : 0
Creation Origin  : manual
BFD              : disabled
Community        :
CPE-check        : disabled
Tunnel Resolution: any                           Disallow-IGP      : disabled
RSVP-TE Tunnels  : disabled                      LDP Tunnels       : disabled
SR-ISIS Tunnels  : disabled                      SR-OSPF Tunnels   : disabled
SR-TE Tunnels    : disabled
-------------------------------------------------------------------------------
Prefix           : 3ffe::10:10:14:0/120
Nexthop          : 3ffe::20:20:1:5
Type             : Indirect
Interface        : n/a                           Active            : Y
Prefix List      : n/a                           Prefix List Type  : n/a
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Metric           : 1                                 Preference        : 5
Source Class     : 0                                 Dest Class        : 0
Admin  State     : Up                                Tag               : 0
Creation Origin  : manual
BFD              : disabled
Community        :
CPE-check        : disabled
Tunnel Resolution: any                               Disallow-IGP      : disabled
RSVP-TE Tunnels  : disabled                          LDP Tunnels       : disabled
SR-ISIS Tunnels  : disabled                          SR-OSPF Tunnels   : disabled
SR-TE Tunnels    : disabled
-------------------------------------------------------------------------------
Prefix           : 3ffe::10:10:14:0/120
Nexthop          : 3ffe::10:20:1:5
Type             : Indirect
Interface        : n/a                               Active            : Y
Prefix List      : n/a                               Prefix List Type  : n/a
Metric           : 1                                 Preference        : 5
Source Class     : 0                                 Dest Class        : 0
Admin  State     : Up                                Tag               : 0
Creation Origin  : manual
BFD              : disabled
Community        :
CPE-check        : disabled
Tunnel Resolution: filter                            Disallow-IGP      : disabled
RSVP-TE Tunnels  : disabled                          LDP Tunnels       : disabled
SR-ISIS Tunnels  : enabled                           SR-OSPF Tunnels   : disabled
SR-TE Tunnels    : disabled
-------------------------------------------------------------------------------
No. of Static Routes: 4
===============================================================================
*A:Dut-C#

A:Router#show router static-route 10.10.10.10/32 detail
===============================================================================
Static Route Table (Router: Base)  Family: IPv4
===============================================================================
Prefix           : 10.10.10.10/32
CommunityList    : (Not Specified)
Tag              : 0
Backup Tag       : 0
Nexthop          : 1.13.1.1                          Validate Nexthop  : No
Type             : Nexthop
Backup Nexthop   : 2.23.1.1                          Backup Status     : Active
                                                                         Backup
Interface        : Dut-C-Dut-A-1                     Active            : Y
Prefix List      : n/a                               Prefix List Type  : n/a
Metric           : 1                                 Preference        : 5
Source Class     : 0                                 Dest Class        : 0
Admin  State     : Up                                Nexthop Tag       : 0
Creation Origin  : manual                            Load Bal Weight   : n/a
BFD              : disabled
Nexthop Community:
CPE-check        : disabled
LDP Sync         : disabled
-------------------------------------------------------------------------------
No. of Static Routes: 1

===============================================================================
A:Router#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 580: Output fields: static route

Label	Description
IP Addr/mask	The static route destination address and mask
Pref	The route preference value for the static route
Metric	The route metric value for the static route
Type	BH — the static route is a black hole route; the nexthop for this type of route is black-hole ID — the static route is an indirect route, where the nexthop for this type of route is the non-directly connected next hop NH — the route is a static route with a directly connected next-hop; the next-hop for this type of route is either the next-hop IP address or an egress IP interface name
Nexthop	The next hop for the static route destination
Protocol	The protocol through which the route was learned
Interface	The egress IP interface name for the static route n/a — indicates there is no current egress interface because the static route is inactive or a black hole route
Active	N — the static route is inactive; for example, the static route is disabled or the next hop IP interface is down Y — the static route is active
No. of Routes	The number of routes displayed in the list
Backup Nexthop	The backup next hop for the static route destination
Backup Tag	The tag value used for the static route when the primary next hop fails and the backup next hop is active
Backup Status	The status of the backup next hop

static-route

Syntax

static-route ldp-sync-status

Context

[Tree] (tools>dump>router static-route)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump router static-route

Description

This command enables the synchronization status that static route keeps track of LDP interfaces.

Parameters

ldp-sync-status

Specifies the LDP synchronization status.

Platforms

All

Output

The following output is an example of static route information.

Output Example

```
*A:Dut-C#  tools dump router static-route ldp-sync-status
===============================================================================
Sync Status of LDP interfaces
===============================================================================
If          If Name                     Timer Running?  Timeout     Time
Index                                    Yes/No          Used        Left
-------------------------------------------------------------------------------
2       ip-10.10.2.3                    Yes             30          5
3       ip-10.10.3.3                    No              30          0
4       ip-10.10.5.3                    No              30          0
5       ip-10.10.22.3                   No              30          0
6       ip-10.10.12.3                   No              30          0
===============================================================================
```

24.78 static-sa

static-sa

Syntax

static-sa

static-sa name *sa-name*

static-sa spi *spi*

Context

[Tree] (show>ipsec static-sa)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
show ipsec static-sa

Description
This command displays IPsec static-SA information.

Parameters
sa-name

Specifies the SA name.

Values 32 chars max

spi

Specifies the spi.

Values 256..16383

Platforms
All

24.79 station

station

Syntax
station [*station-name*]

Context
[Tree] (show>router>bmp station)

Full Context
show router bmp station

Description
This command displays BGP monitor (BMP) information.

Parameters
station-name

Specifies the station name of a BMP monitoring station, up to 32 characters.

Platforms
All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of BMP monitor information.

Output Example

```
*A:Dut-C# show router bmp station
===============================================================================
BMP Stations (monitoring router "Base")
===============================================================================
Station Name                    Session State Since                Msgs Sent
-------------------------------------------------------------------------------
lys                             ESTABLISHED    05/08/2018 15:32:12   103054
myr                             ESTABLISHED    05/08/2018 15:32:13   100007
-------------------------------------------------------------------------------
No. of BMP Stations: 2
===============================================================================
*A:Dut-C# show router bmp station "lys"
===============================================================================
BMP Station "lys" (monitoring router "Base")
===============================================================================
Admin State      : enabled              Global BMP State : enabled
Station Address  : 100.3.7.7            Station Port     : 12344
Via Router       : Base                 TCP Auth Keychain:
Stats Report     : 15 seconds           Routes Report    : 5 seconds
Connect Interval : 120 seconds          Local Routes     : reporting
Initiation Msg   : Hello Station Lys
Reported families: ipv4
Session State    : ESTABLISHED          Last Change      : 05/08/2018 15:32:12
Local Address    : 100.3.7.3            Local Port       : 51041
Stat Report Msgs : 3028                 Route Report Msgs: 100021
Peer Up Msgs     : 4                    Peer Down Msgs   : 0
Initiation Msgs  : 1                    Goodbye Msgs     : 0
Bytes sent       : 10926521
Stats Timer      : 1 seconds left       Routes Timer     : 3 seconds left
Connect Timer    : not running          Monitored Peers  : 3 of 4
Output queue     : 0/50                 Last Msg Sent    : 05/15/2018 09:27:31
===============================================================================
*A:Dut-C#
```

station

Syntax

station *station-name*

station all

Context

[Tree] (clear>router>bmp station)

[Tree] (clear>service>id>bmp station)

Full Context

clear router bmp station

clear service id bmp station

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears BMP station connections.

Parameters

station-name

Specifies the BMP monitoring station name, up to 32 characters.

Platforms

All

station

Syntax

station [*station-name*]

Context

[Tree] (show>bmp station)

Full Context

show bmp station

Description

This command displays BMP station information.

Parameters

station-name

Specifies the station name, up to 32 characters.

Platforms

All

24.80 statistics

statistics

Syntax

statistics [**interface** *ip-int-name* | *ip-address*]

Context

[Tree] (show>router>dhcp statistics)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router dhcp statistics

Description

This command displays statistics for DHCP Relay and DHCP snooping.

If no IP address or interface name is specified, all configured interfaces are displayed.

If an IP address or interface name is specified, only data regarding the specified interface is displayed.

Parameters

ip-int-name* | *ip-address

Displays statistics for the specified IP interface.

Values ip-int-name: 32 chars max

ip-address: a.b.c.d

Platforms

All

Output

The following command displays DHCP statistics information, and Table 581: Output fields: DHCP statistics describes the output fields.

```
show router dhcp statistics
```

Output Example

```
===============================================================
DHCP Global Statistics (Router: Base)
===============================================================
Rx Packets                          : 0
Tx Packets                          : 0
Rx Malformed Packets                : 0
Rx Untrusted Packets                : 0
Client Packets Discarded            : 0
Client Packets Relayed              : 0
Client Packets Snooped              : 0
Client Packets Proxied (RADIUS)     : 0
Client Packets Proxied (Diameter)   : 0
Client Packets Proxied (User-Db)    : 0
Client Packets Proxied (Lease-Split) : 0
Server Packets Discarded            : 0
Server Packets Relayed              : 0
Server Packets Snooped              : 0
DHCP RELEASEs Spoofed               : 0
DHCP FORCERENEWs Spoofed            : 0
Client packets streamed             : 0
Routed Subnet Transparent Forwarded
  Client Packets (BOOTREQUEST)      : 0
  Server Packets (BOOTREPLY)        : 0
  Other Opcode Packets              : 0
===============================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 581: Output fields: DHCP statistics

Label	Description
Rx Packets	The number of packets received from the DHCP clients
Tx Packets	The number of packets transmitted to the DHCP clients
Rx Malformed Packets	The number of malformed packets received from the DHCP clients
Rx Untrusted Packets	The number of untrusted packets received from the DHCP clients
Client Packets Discarded	The number of packets received from the DHCP clients that were discarded
Client Packets Relayed	The number of packets received from the DHCP clients that were forwarded
Client Packets Snooped	The number of packets received from the DHCP clients that were snooped
Client Packets Proxied (RADIUS)	The number of client packets proxied through RADIUS
Client Packets Proxied (Diameter)	The number of client packets proxied through Diameter
Client Packets Proxied (User-Db)	The number of client packets proxied through User-Db
Client Packets Proxied (Lease-Split)	The number of client packets proxied through a lease split
Server Packets Discarded	The number of packets received from the DHCP server that were discarded
Server Packets Relayed	The number of packets received from the DHCP server that were forwarded
Server Packets Snooped	The number of packets received from the DHCP server that were snooped
DHCP RELEASEs Spoofed	The number of spoofed DHCP releases
DHCP FORCERENEWs Spoofed	The number of spoofed FORCERENEW messages
Client packets streamed	The number of client packets streamed

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Routed Subnet Transparent Forwarded	
Client Packets (BOOTREQUEST)	The number of DHCP client packets (BOOTREQUEST) received on a subscriber interface with the source IP in a routed subnet that is associated with a routed IPoE session or host. The **routed-subnet-transparent-forwarding** command must be configured in the routing instance.
Server Packets (BOOTREPLY)	The number of DHCP server packets (BOOTREPLY) received on a subscriber interface with the source IP in a routed subnet that is associated with a routed IPoE session or host. The **routed-subnet-transparent-forwarding** command must be configured in the routing instance.
Other Opcode Packets	The number of DHCP packets (Opcode field that are different from BOOTREQUEST and BOOTREPLY) received on a subscriber interface with the source IP in a routed subnet associated with a routed IPoE session or host. The **routed-subnet-transparent-forwarding** command must be configured in the routing instance. **Note:** When transparent forwarding is enabled, the system does not check if the DHCP packet is valid and therefore packets with an Opcode field different from BOOTREQUEST and BOOTREPLY are forwarded.

statistics

Syntax

statistics [**interface** *ip-int-name*]

Context

[Tree] (show>router>dhcp6 statistics)

Full Context

show router dhcp6 statistics

Description

This command displays statistics for DHCPv6 relay and snooping.

Parameters

ip-int-name

Specifies to display interface name information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of DHCP6 statistics information.

Output Example

```
A:Dut-A# show service id 20 dhcp6 statistics
===============================================================================
DHCP Statistics, service 20, all interfaces
===============================================================================
Packets received : 0
Packets transmitted : 0
Packets dropped : 0
===============================================================================

===============================================================================
DHCP Statistics, service 21, all SAPs
===============================================================================
Client packets snooped : 2
Client packets forwarded   : 2
Client packets dropped : 19
Server packets snooped : 2
Server packets forwarded            : 2
Server packets dropped : 0
===============================================================================
```

```
A:Dut-A# show service id 1000 dhcp6 statistics

===============================================================================
DHCP Statistics, service 1000, all interfaces
===============================================================================
Packets received                    : 16063
Packets transmitted                 : 16061
Packets dropped                     : 0
===============================================================================

===============================================================================
DHCP Statistics, service 1000, all SAPs
===============================================================================
Client packets snooped              : 0
Client packets forwarded            : 0
Client packets dropped              : 0
Server packets snooped              : 0
Server packets forwarded            : 0
Server packets dropped              : 0
===============================================================================
```

Table 582: Output fields: DHCP6 statistics describes DHCP6 output statistics.

Table 582: Output fields: DHCP6 statistics

Field	Description
Client Packets Dropped	The number of DHCPv6 client packets snooped on SAP ingress and dropped, for example: DHCPv6 client packet received on an LDRA enabled network-facing SAP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Client Packets Forwarded	The number of DHCPv6 client packets snooped on SAP ingress and forwarded
Client Packets Snooped	The number of DHCPv6 client packets snooped on SAP ingress
Server Packets Dropped	The number of DHCPv6 server packets snooped on SAP ingress and dropped, for example: DHCPv6 server packet received on an LDRA enabled client-facing SAP
Server Packets Forwarded	The number of DHCPv6 server packets snooped on SAP ingress and forwarded
Server Packets Snooped	The number of DHCPv6 server packets snooped on SAP ingress

statistics

Syntax

statistics [[**bgp-evpn**] | [**sap** *sap-id*] | [**sdp** *sdp-id:vc-id*] | [**interface** *interface-name*]]

Context

[Tree] (show>service>id>dhcp statistics)

Full Context

show service id dhcp statistics

Description

This command displays DHCP relay and snooping statistics.

Parameters

bgp-evpn

Keyword used to display DHCP snooping statistics for all EVPN destinations.

ip-int-name

Displays DHCP relay statistics for the specified interface.

sap-id

Displays DHCP snooping statistics for the specified VPLS SAP.

***sdp-id*[:*vc-id*]**

Displays DHCPv6 snooping statistics for the specified VPLS SDP binding.

Values sdp-id: 1 to 32767
vc-id: 1 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of DHCP statistics information:

- DHCP statistics for service:Table 583: Output fields: DHCP statistics for SAPs, SDPs, and BGP-EVPN
- DHCP statistics for interface: Table 584: Output fields: DHCP statistics interface

Output Example: (dhcp statistics for SAPs, SDPs, and BGP-EVPN)

```
# show service id 20 dhcp statistics

=====================================================
DHCP Statistics, service 20
=====================================================
Client Packets Snooped               : 0
Client Packets Forwarded             : 0
Client Packets Dropped               : 0
Client Packets Proxied (RADIUS)      : 0
Client Packets Proxied (Diameter)    : 0
Client Packets Proxied (User-Db)     : 0
Client Packets Proxied (Lease-Split) : 0
Server Packets Snooped               : 0
Server Packets Forwarded             : 0
Server Packets Dropped               : 0
DHCP RELEASEs Spoofed                : 0
DHCP FORCERENEWs Spoofed             : 0
=====================================================
```

Table 583: Output fields: DHCP statistics for SAPs, SDPs, and BGP-EVPN

Field	Description
Client packets snooped	The number of DHCP client packets snooped on ingress
Client Packets Forwarded	The number of DHCP client packets snooped on ingress and forwarded
Client Packets Dropped	The number of DHCP client packets snooped on ingress and dropped
Client Packets Proxied (RADIUS)	The number of client packets proxied through RADIUS
Client Packets Proxied (Diameter)	The number of client packets proxied through Diameter
Client Packets Proxied (User-Db)	The number of client packets proxied through local user database
Client Packets Proxied (Lease-Split)	The number of client packets proxied through a lease split
Server Packets Snooped	The number of DHCP server packets snooped on ingress

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Server Packets Forwarded	The number of DHCP server packets snooped on ingress and forwarded
Server Packets Dropped	The number of DHCP server packets snooped on ingress and dropped
DHCP RELEASEs Spoofed	The number of spoofed DHCP releases
DHCP FORCERENEWs Spoofed	The number of spoofed FORCERENEW messages

Output Example: (dhcp statistics for interface)

```
# show service id 88 dhcp statistics interface SpokeTerm
===============================================================
DHCP Statistics for interface SpokeTerm
===============================================================
Rx Packets                          : 0
Tx Packets                          : 0
Rx Malformed Packets                : 0
Rx Untrusted Packets                : 0
Client Packets Discarded            : 0
Client Packets Relayed              : 0
Client Packets Snooped              : 0
Client Packets Proxied (RADIUS)     : 0
Client Packets Proxied (Diameter)   : 0
Client Packets Proxied (User-Db)    : 0
Client Packets Proxied (Lease-Split) : 0
Server Packets Discarded            : 0
Server Packets Relayed              : 0
Server Packets Snooped              : 0
DHCP RELEASEs Spoofed               : 0
DHCP FORCERENEWs Spoofed            : 0
Client packets streamed             : 0
===============================================================
```

Table 584: Output fields: DHCP statistics interface

Field	Description
Rx Packets	The number of received packets
Tx Packets	The number of transmitted packets
Rx Malformed	The number of malformed packets received
Rx Untrusted Packets	The number of untrusted packets received
Client Packets Discarded	The number of client packets discarded
Client Packets Relayed	The number of client packets relayed
Client Packets Snooped	The number of client packets snooped

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Client Packets Proxied (RADIUS)	The number of client packets proxied through RADIUS
Client Packets Proxied (Diameter)	The number of client packets proxied through diameter
Client Packets Proxied (User-Db)	The number of client packets proxied through user database
Client Packets Proxied (Lease-Split)	The number of client packets proxied through a lease split
Server Packets Discarded	The number of discarded server packets
Server Packets Relayed	The number of relayed server packets
Server Packets Snooped	The number of snooped server packets
DHCP RELEASEs Spoofed	The number of spoofed DHCP releases
DHCP FORCERENEWs Spoofed	The number of spoofed FORCERENEW messages
Client packets streamed	The number of client packets streamed

statistics

Syntax

statistics [[**bgp-evpn**] | [**sap** *sap-id*] | [**sdp** *sdp-id:vc-id*] | [**interface** *interface-name*]]

Context

[Tree] (show>service>id>dhcp6 statistics)

Full Context

show service id dhcp6 statistics

Description

This command displays DHCPv6 relay and snooping statistics.

Parameters

bgp-evpn

Keyword used to display DHCPv6 snooping statistics for all EVPN destinations.

sap-id

Displays DHCPv6 snooping statistics for the specified VPLS SAP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

***sdp-id*[:*vc-id*]**

Displays DHCPv6 snooping statistics for the specified VPLS SDP binding.

Values sdp-id: 1 to 32767
vc-id: 1 to 4294967295

interface-name

Specifies the interface name, up to 32 characters, for DHCPv6 relay statistics.

Platforms

All

Output

The following output is an example of DHCPv6 statistics information and Table 585: Output fields: DHCPv6 statistics describes DHCP statistics output fields.

Output Example

```
# show service id 20 dhcp6 statistics

===============================================================
DHCP Statistics, service 20, all interfaces
===============================================================
Packets received                    : 0
Packets transmitted                 : 0
Packets dropped                     : 0
===============================================================

===============================================================
DHCP Statistics, service 20, all
===============================================================
Client packets snooped              : 2
Client packets forwarded            : 2
Client packets dropped              : 19
Server packets snooped              : 2
Server packets forwarded            : 2
Server packets dropped              : 0
===============================================================
```

Table 585: Output fields: DHCPv6 statistics

Field	Description
Packets received	Displays the number of packets received on all interfaces
Packets transmitted	Displays the number of packets transmitted on all interfaces
Packets dropped	Displays the number of packets dropped on all interfaces
Client packets snooped	Displays the number of DHCPv6 client packets snooped on ingress
Client packets forwarded	Displays the number of DHCPv6 client packets snooped on ingress and forwarded

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Client packets snooped	Displays the number of DHCPv6 client packets snooped on ingress and dropped, for example: DHCPv6 client packet received on an LDRA enabled network-facing SDP
Server packets snooped	Displays the number of DHCPv6 server packets snooped on ingress
Server packets forwarded	Displays the number of DHCPv6 server packets snooped on ingress and forwarded
Server packets dropped	Displays the number of DHCPv6 server packets snooped on ingress and dropped, for example: DHCPv6 server packet received on an LDRA enabled client-facing SAP

statistics

Syntax

statistics

statistics interface {*ip-int-name* | *ip-address*}

statistics sap *sap-id*

Context

[Tree] (show>service>id>ppp statistics)

Full Context

show service id ppp statistics

Description

This command displays PPP statistics.

Parameters

ip-int-name

Displays information about the specified interface, up to 32 characters.

ip-address

Displays information about the specified IP address.

Values a.b.c.d

sap-id

Displays information for the specified SAP.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of PPPoE statistics information, and Table 586: Output fields: PPP statistics describes the output fields.

Output Example

```
show service id "vpls-205" ppp statistics sap "1/1/c1/4:2411.205"

-------------------------------------------------------------------------------
PPPoE Intermediate Agent
-------------------------------------------------------------------------------
Packet Type         Received        Transmitted
-------------------------------------------------------------------------------
PADI                39              -
PADO spoofed        -               0
PADR                11              -
PADS spoofed        -               0
PADT                9               -
-------------------------------------------------------------------------------
Drop Counters
-------------------------------------------------------------------------------
Rx Invalid Version   : 0
Rx Invalid Type      : 0
Rx Invalid Code      : 0
Rx Invalid Session   : 0
Rx Invalid Length    : 0
Rx Invalid Tags      : 0
Rx Invalid MAC       : 0
MTU exceeded         : 0
Tag too long         : 0
-------------------------------------------------------------------------------
```

Table 586: Output fields: PPP statistics

Field	Description
PPPoE Intermediate Agent	
PADI	Specifies the
PADO spoofed	Specifies the number of spoofed PADO packets transmitted on this SAP. A spoofed PADO packet is sent with a Generic Error tag when a received PADI packet is dropped by the PPPoE Intermediate Agent.
PADR	Specifies the number of PADR packets received on this SAP or service
PADS spoofed	Specifies the number of spoofed PADS packets transmitted on this SAP. A spoofed PADS packet is sent with a Generic Error tag when a received PADR packet is dropped by the PPPoE Intermediate Agent.
PADT	Specifies the number of PADT packets received on this SAP or service
Drop Counters	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Rx Invalid Version	Specifies the number of PPPoE packets received with an invalid version field
Rx Invalid Type	Specifies the number of PPPoE packets received with an invalid type field
Rx Invalid Code	Specifies the number of PPPoE PADO or PADS packets received on a SAP with PPPoE Intermediate Agent enabled. These SAPs are PPPoE client facing.
Rx Invalid Session	Specifies the number of PPPoE packets received with an invalid session-id field
Rx Invalid Length	Specifies the number of PPPoE packets received with an invalid length field
Rx Invalid Tags	Specifies the number of PPPoE Active Discovery packets received with invalid tags
Rx Invalid MAC	Specifies the number of PPPoE packets received with an invalid MAC address
MTU exceeded	Specifies the number of PPPoE packets dropped on this SAP or service because the length of the packet after inserting the BBF vendor-specific tag is too long
Tag too long	Specifies the number of PPPoE packets dropped on this SAP or service because the generated tag is too long. For example, when the Circuit ID sub-tag after variable expansion is larger than 63 bytes.

statistics

Syntax

statistics map-domain *domain-name* **esa-vm** *vapp-id*

statistics map-domain *domain-name* **fp**

statistics map-domain *domain-name* **esa-vm** *vapp-id* **frag-stats** [**lists**]

statistics map-domain *domain-name* **mapping-rule** *rule-name* **esa-vm** *vapp-id*

statistics map-domain *domain-name* **mapping-rule** *rule-name* **fp**

statistics map-e-domain *domain-name* **esa-vm** *vapp-id*

statistics map-e-domain *domain-name* **esa-vm** *vapp-id* **fragmentation-handling** [**lists**]

statistics map-e-domain *domain-name* **esa-vm** *vapp-id* **ipv6-reassembly**

statistics map-e-domain *domain-name* **fp**

statistics map-e-domain *domain-name* **mapping-rule** *rule-name* **esa-vm** *vapp-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics map-e-domain *domain-name* **mapping-rule** *rule-name* **fp**

Context

[Tree] (clear>nat>map statistics)

Full Context

clear nat map statistics

Description

This command clears MAP statistics.

Parameters

map-domain

Keyword that clears MAP-T domain statistics.

map-e-domain

Keyword that clears MAP-E domain statistics.

domain-name

Clears MAP statistics for the specified domain name.

Values 32 chars max

rule-name

Clears MAP statistics for the specified mapping-rule name.

Values 32 chars max

vapp-id

Specifies the ESA-VM.

Values esa-id/vm-id
esa-id: 1 to 16
vm-id: 1 to 4

mapping-rule

Keyword that clears mapping-rule statistics.

esa-vm

Keyword that clears ESA-VM statistics.

fp

Keyword that clears FP statistics.

frag-stats

Keyword that clears fragmentation statistics.

fragmentation-handling

Keyword that clears fragmentation-handling statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-reassembly

Keyword that clears IPv6 reassembly statistics.

lists

Keyword that clears fragment lists histogram statistics.

Platforms

7750 SR-1-24D, 7750 SR-1-46S, 7750 SR-1-48D, 7750 SR-1-92S, 7750 SR-1x-48D, 7750 SR-1x-92S, 7750 SR-1se, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, VSR

statistics

Syntax

statistics [{*ip-address* | *ip-int-name*}]

Context

[Tree] (clear>router>dhcp statistics)

Full Context

clear router dhcp statistics

Description

This command clears statistics for DHCP statistics.

If no IP address or interface name is specified, then statistics are cleared for all configured interfaces.

If an IP address or interface name is specified, then only data regarding the specified interface is cleared.

Parameters

ip-int-name

Clears DHCP statistics for the specified interface name.

ip-address

Clears DHCP statistics for the specified IP address.

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (clear>router>dhcp6 statistics)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear router dhcp6 statistics

Description

This command clears DHCP6 statistics.

Platforms

All

statistics

Syntax

statistics

statistics bgp-evpn

statistics interface *ip-int-name* | *ipv6-address*

statistics sap *sap-id*

statistics sdp *sdp-id:vc-id*

Context

[Tree] (clear>service>id>dhcp6 statistics)

Full Context

clear service id dhcp6 statistics

Description

This command clears DHCPv6 statistics for interfaces and VPLS SAPs.

Parameters

ip-int-name

Clears DHCPv6 statistics for the specified interface name.

ipv6-address

Clears DHCPv6 statistics for the specified IP address.

sap-id

Clears DHCPv6 statistics for the specified VPLS SAP.

bgp-evpn

Clears DHCPv6 statistics for BGP-EVPN.

sdp-id:vc-id

Clears DHCPv6 statistics for the specified SDP.

Values sdp-id - 1 to 32767
vc-id - 1 to 4294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

statistics

Syntax

statistics [[**bgp-evpn**] | [**sap** *sap-id*] | [**sdp** *sdp-id:vc-id*] | [**interface** *ip-int-name* | *ip-address*]]

Context

[Tree] (clear>service>id>dhcp statistics)

Full Context

clear service id dhcp statistics

Description

This command clears DHCP statistics.

Parameters

bgp-evpn

Keyword used to clear DHCP snooping statistics for all EVPN destinations.

sap-id

Clears DHCP snooping statistics for the specified VPLS SAP.

sdp-id

Clears DHCP snooping statistics for the specified VPLS SDP binding.

Values 1 to 17407

vc-id

Clears DHCP snooping statistics for the specified VPLS SDP binding.

Values 1 to 4294967295

ip-address

Clears DHCP statistics for interfaces with the specified IP address.

Values a.b.c.d

ip-int-name

Clears DHCP statistics for the specified interface name.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics

Context

[Tree] (show>subscr-mgmt>gtp statistics)

Full Context

show subscriber-mgmt gtp statistics

Description

This command displays GTP statistics information.

Platforms

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

Output

The following output is an example of GTP statistics.

Output Example

```
Node# show subscriber-mgmt gtp statistics
===============================================================================
GTP statistics
===============================================================================
tx echo requests                                    : 23
tx echo responses                                   : 0
tx errors                                           : 0
rx echo requests                                    : 0
rx echo responses                                   : 23
rx errors                                           : 0
rx version not supported                            : 0
rx zero TEID responses                              : 0
path faults                                         : 0
path restarts                                       : 0
tx invalid msgs                                     : 0
tx create PDP context requests                      : 0
tx create PDP context responses                     : 0
tx delete PDP context requests                      : 0
tx delete PDP context responses                     : 0
tx create session requests                          : 0
tx create session responses                         : 1
tx delete session requests                          : 0
tx delete session responses                         : 0
tx delete bearer requests                           : 0
tx delete bearer responses                          : 0
tx create bearer responses                          : 0
tx update bearer responses                          : 0
tx modify bearer requests                           : 0
tx modify bearer responses                          : 1
tx change notification responses                    : 0
tx rls access bearers responses                     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
tx error indication count                                 : 0
tx downlink notifications                                 : 0
tx stop paging indication                                 : 0
tx end marker                                             : 0
rx invalid msgs                                           : 0
rx create PDP context requests                            : 0
rx create PDP context responses                           : 0
rx delete PDP context requests                            : 0
rx delete PDP context responses                           : 0
rx create session requests                                : 1
rx create session responses                               : 0
rx delete session requests                                : 0
rx delete session responses                               : 0
rx delete bearer requests                                 : 0
rx delete bearer responses                                : 0
rx create bearer requests                                 : 0
rx update bearer requests                                 : 0
rx modify bearer requests                                 : 1
rx modify bearer responses                                : 0
rx change notification requests                           : 0
rx rls access bearers request                             : 0
rx error indication count                                 : 0
rx downlink notification ack                              : 0
rx downlink notification fail                             : 0
rx invalid pkt length                                     : 0
rx unknown pkts                                           : 0
rx missing IE pkts                                        : 0
rx bad UDP header pkts                                    : 0
rx discarded pkts                                         : 0
rx in-session discarded pkts                              : 0
rx pkts                                                   : 25
tx discarded pkts                                         : 0
tx pkts                                                   : 25
rx UDP checksum error                                     : 0
===============================================================================
```

statistics

Syntax

statistics

Context

[Tree] (show>router>l2tp statistics)

Full Context

show router l2tp statistics

Description

This command displays L2TP statistics.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of L2TP statistics information.

Output Example

```
*A:Dut-C# show router l2tp statistics
===============================================================================
L2TP Statistics
===============================================================================
Tunnels                                 Sessions
-------------------------------------------------------------------------------
Active             : 3                  Active             : 6

Setup history since 04/17/2009 18:38:41

Total              : 4                  Total              : 9
Failed             : 0                  Failed             : 0
Failed Auth        : 0
===============================================================================
*A:Dut-C#
```

statistics

Syntax

statistics [{**sap** *sap-id* | **interface** *ip-int-name* | *ip-address*}]

Context

[Tree] (show>service>id>pppoe statistics)

Full Context

show service id pppoe statistics

Description

This command displays PPPoE statistics.

Parameters

sap-id

Displays information about the specified SAP.

ip-int-name

Displays information about the specified interface.

ip-address

Displays information about the specified IP address.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

See the following output examples and Table 587: Output fields: PPPoE statistics describes the output fields.:

- Output Example: show service id pppoe statistics
- Output Example: show service id pppoe statistics sap

Output Example: show service id pppoe statistics

```
*A:ALA-49# show service id 20 pppoe statistics
===============================================================================
PPPoE statistics for IES service 20
===============================================================================
Packet Type         Received        Transmitted
-------------------------------------------------------------------------------
PADI                2               -
PADO                -               2
PADR                2               -
PADS                -               2
PADT                0               0
session             9838            9839
-------------------------------------------------------------------------------
Drop Counters
-------------------------------------------------------------------------------
Rx Invalid Version   : 0
Rx Invalid Type      : 0
Rx Invalid Code      : 0
Rx Invalid Session   : 0
Rx Invalid Length    : 0
Rx Invalid Tags      : 0
Rx Invalid AC-Cookie : 0
Rx Dropped           : 0
===============================================================================*A:ALA-49#
```

Output Example: show service id pppoe statistics sap

```
# show service id "vpls-205" pppoe statistics sap "1/1/c1/4:2411.205"

-------------------------------------------------------------------------------
PPPoE Intermediate Agent
-------------------------------------------------------------------------------
Packet Type         Received        Transmitted
-------------------------------------------------------------------------------
PADI                39              -
PADO spoofed        -               0
PADR                11              -
PADS spoofed        -               0
PADT                9               -
-------------------------------------------------------------------------------
Drop Counters
-------------------------------------------------------------------------------
Rx Invalid Version   : 0
Rx Invalid Type      : 0
Rx Invalid Code      : 0
Rx Invalid Session   : 0
Rx Invalid Length    : 0
Rx Invalid Tags      : 0
Rx Invalid MAC       : 0
MTU exceeded         : 0
Tag too long         : 0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 587: Output fields: PPPoE statistics

Field	Description
PPPoE Intermediate Agent	
PADI	Specifies the number of PADI (PPPoE Active Discovery Initiation) packets received on this SAP or service
PADO spoofed	Specifies the number of spoofed PADO packets transmitted on this SAP. A spoofed PADO packet is sent with a Generic Error tag when a received PADI packet is dropped by the PPPoE Intermediate Agent.
PADR	Specifies the number of PADR packets received on this SAP or service
PADS spoofed	Specifies the number of spoofed PADS packets transmitted on this SAP. A spoofed PADS packet is sent with a Generic Error tag when a received PADR packet is dropped by the PPPoE Intermediate Agent.
PADT	Specifies the number of PADT packets received on this SAP or service
Drop Counters	
Rx Invalid Version	Specifies the number of PPPoE packets received with an invalid version field
Rx Invalid Type	Specifies the number of PPPoE packets received with an invalid type field
Rx Invalid Code	Specifies the number of PPPoE PADO or PADS packets received on a SAP with PPPoE Intermediate Agent enabled. These SAPs are PPPoE client facing.
Rx Invalid Session	Specifies the number of PPPoE packets received with an invalid session-id field
Rx Invalid Length	Specifies the number of PPPoE packets received with an invalid length field
Rx Invalid Tags	Specifies the number of PPPoE Active Discovery packets received with invalid tags
Rx Invalid MAC	Specifies the number of PPPoE packets received with an invalid MAC address
MTU exceeded	Specifies the number of PPPoE packets dropped on this SAP or service because the length of the packet after inserting the BBF vendor-specific tag is too long

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Tag too long	Specifies the number of PPPoE packets dropped on this SAP or service because the generated tag is too long. For example, when the Circuit ID sub-tag after variable expansion is larger than 63 bytes.

statistics

Syntax

statistics

Context

[Tree] (clear>router>l2tp>group statistics)

[Tree] (clear>router>l2tp>tunnel statistics)

[Tree] (clear>router>l2tp statistics)

[Tree] (clear>router>l2tp>peer statistics)

Full Context

clear router l2tp group statistics

clear router l2tp tunnel statistics

clear router l2tp statistics

clear router l2tp peer statistics

Description

This command clears statistics for the specified context.

Platforms

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

statistics

Syntax

statistics [{**sap** *sap-id* | **interface** *ip-int-name* | *ip-address*}]

Context

[Tree] (clear>service>id>pppoe statistics)

Full Context

clear service id pppoe statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears PPPoE statistics, including the PPPoE Intermediate Agent statistics.

Parameters

sap-id

The ID that displays SAPs for the service.

ip-int-name

Displays information about the specified interface, up to 32 characters.

ip-address

Displays information about the specified IP address.

Values a.b.c.d

sap-id

Displays information for the specified SAP.

Platforms

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

statistics

Syntax

statistics [{**sap** *sap-id* | **interface** *ip-int-name* | *ip-address*}]

Context

[Tree] (clear>service>id>ppp statistics)

Full Context

clear service id ppp statistics

Description

This command clears PPP statistics, including the PPPoE Intermediate Agent statistics.

Parameters

sap-id

The ID that displays SAPs for the service.

ip-int-name

Displays information about the specified interface, up to 32 characters.

ip-address

Displays information about the specified IP address.

Values a.b.c.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sap-id

Displays information for the specified SAP.

Platforms

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

statistics

Syntax

statistics

Context

[Tree] (show>service>dynsvc>script statistics)

Full Context

show service dynamic-services script statistics

Description

This command displays dynamic service script statistics. Only non-zero values are shown.

The script statistics can be cleared with the "clear service statistics dynamic-services” command.

Note:
This command is not available in the MD-CLI.

Platforms

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

Output

The following output is an example of Dynamic Services script statistics information, and Table 588: Output fields: dynamic services script statistics describes the output fields.

Output Example

```
# show service dynamic-services script statistics
===============================================================================
Dynamic Services Script Statistics
===============================================================================
Description                                                          Counter
-------------------------------------------------------------------------------
python scripts with 0 retries due to timeout                         46
setup    - jobs launched                                             16
setup    - jobs handled                                              16
setup    - success                                                   13
setup    - syntax error                                              1
setup    - execution failed                                          2
teardown - jobs launched                                             15
teardown - jobs handled                                              15
teardown - success                                                   14
teardown - syntax error                                              1
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No. of Script Statistics: 10
-------------------------------------------------------------------------------
Last Cleared Time: 02/26/2013 09:59:07
===============================================================================
```

Table 588: Output fields: dynamic services script statistics

Output field	Description
Description	The name of the script.
Counter	The number of times the script executed.
python scripts with 0 retries due to timeout	The number of retries due to timeouts.
setup	The setup script action. jobs launched — The number of times the setup jobs launched. jobs handled — The number of times the setup jobs were handled. success — The number of times the setup jobs were successful. syntax error — The number of setup syntax errors. execution failed — The number of times the setup failed.
teardown	The teardown script action. jobs launched — The number of times the teardown jobs launched. jobs handled — The number of times the teardown jobs were handled. success — The number of times the teardown jobs were successful. syntax error — The number of teardown syntax errors.

statistics

Syntax

statistics iom (*slot* | **all**) [**host** | **session** | **subscriber** | **summary**] [**non-zero-value-only**]

statistics mda (*mda* | **all**) [**host** | **session** | **subscriber** | **summary**] [**non-zero-value-only**]

statistics port (*port-id* | **all**) [**host** | **session** | **subscriber** | **summary**] [**non-zero-value-only**]

statistics pw-port (*pw-port* | **all**) [**host** | **session** | **subscriber** | **summary**] [**non-zero-value-only**]

statistics system (*pw-port* | **all**) [**host** | **session** | **subscriber** | **summary**] [**non-zero-value-only**]

statistics service (*svc-id* | **all**) [**host** | **session** | **summary**] [**non-zero-value-only**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics service {*svc-id*} **subscriber-interface** { *sub-itf* | **all**} [**host** | **session** | **summary**] [**non-zero-value-only**]

statistics service {*svc-id*} **group-interface** { *grp-itf* | **all**} [**host** | **session** | **summary**] [**non-zero-value-only**]

statistics sla-profiles

statistics sub-profiles

statistics system [**host** | **session** | **subscriber** | **summary**] [**non-zero-value-only**]

Context

[Tree] (show>subscr-mgmt statistics)

Full Context

show subscriber-mgmt statistics

Description

This command displays enhanced subscriber management statistics per port, PW port, MDA, IOM, system, service, subscriber interface, or group interface.

For each statistic, a current value and peak value is displayed. The peak value is the highest generated value since the last reset as a result of a system boot or the **clear subscriber-mgmt peakvalue-stats** command.

Note:
The user can execute the **clear subscriber-mgmt peakvalue-stats** command to reset the peak values.

Parameters

iom *slot*

Displays specified IOM slot information.

mda *mda*

Displays specified slot and mda information.

port *port-id*

Specifies to display information for both the physical port ID and LAG.

pw-port *pw-port*

Specifies to display information for a pseudowire port ID.

Values 1 to 10239

all

Displays statistics of all IOM or MDA or port or pseudowire port in the system

host

Displays v4/v6 host statistics only.

session

Displays PPPoX/LAC/LNS session statistics only.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sla-profiles

Displays the current and historical statistics for SLA profiles.

service *svc-id*

Displays the current and historical statistics for service level profiles.

Values 1 to 2148278386 | *svc-name*: up to 64 characters

sub-profiles

Displays the current and historical statistics for subscriber profiles.

subscriber

Displays subscriber statistics only.

subscriber-interface *sub-itf*

Displays specified subscriber interface level statistics, up to 32 characters.

group-interface *grp-itf*

Displays specified group-interface level statistics, up to 32 characters.

summary

Displays summary statistics only.

non-zero-value-only

Displays only non-zero value counters.

The following tables describe the counters available in the **show subscriber management statistics** command output.

The following terminology is used to indicate applicability of the stats:

- ESM — Enhanced Subscriber Management. Subscriber traffic forwarded via subscriber queues. Enabled with SAP **sub-sla-mgmt** in no shutdown state
- BSM — Basic Subscriber Management. Subscriber traffic forwarded via SAP queues. SAP sub-sla-mgmt must be in shutdown state. For DHCP, dhcp lease-populate or dhcp6-relay lease-populate must be enabled to count the leases. For IPv4, if anti-spoof is enabled on the SAP, a subscriber host is instantiated.
- Routed CO — IES or VPRN service with subscriber interface and group interface constructs
- Bridged CO — VPLS service with DHCPv4 lease management enabled (lease-populate)
- regular interface — IES or VPRN interface (none subscriber-interface or group-interface)
- Host (also subscriber host) — A resource in the system that is used for traffic forwarding and security related actions. The creation of a subscriber host entry is linked to anti-spoof being enabled on a SAP. For ESM, anti-spoof is mandatory and hence every connected {IP/MAC} consumes by default a subscriber host entry. A DHCP6 IA-PD can also be modeled as a managed route. In this case, no subscriber host is instantiated. For BSM, anti-spoof is optional on regular interfaces. An IPv4 static-host and DHCPv4 lease do not result in a subscriber host instantiation when anti-spoof is disabled on the SAP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 589: Output fields: host and protocol statistics

Section	Counter	Counts	Applies to
IPv4	PPP Hosts - IPCP	IPv4 local terminated PPP hosts (PTA, LNS)	ESM, Routed CO
	IPOE Hosts - DHCP	DHCPv4 hosts (lease states)	ESM, Routed CO, Bridged CO
	IPOE Hosts - ARP	ARP hosts	ESM, Routed CO, Bridged CO
	IPOE Hosts – Static	IPv4 static hosts	ESM, Routed CO, Bridged CO
	IPOE Mngd Hosts – Data-trig	Data triggered IPv4 hosts	ESM, Routed CO
	IPOE Mngd Hosts – AAA	vRGW managed static IPv4 addresses: IPv4 static hosts created via RADIUS (Alc-Reserved-Addresses)	ESM, Routed CO
	IPOE Mngd Hosts – GTP	IPv4 GTP access host	ESM, Routed CO
	IPOE Mngd Hosts – Bonding	IPv4 hosts associated with an internal IPoE session of a connection bonding subscriber context	ESM, Routed CO
	IPOE Hosts BSM - DHCP	DHCPv4 hosts (lease states: anti-spoof and lease-populate enabled)	BSM, Routed CO, Bridged CO, regular interface
	IPOE Hosts BSM – Static	IPv4 static hosts (with anti-spoof enabled)	BSM, Routed CO, Bridged CO, regular interface
	IPOE BSM - DHCP	DHCPv4 lease states (with lease-populate enabled, no anti-spoof)	BSM, Routed CO, Bridged CO, regular interface
	IPOE BSM – Static	IPv4 static hosts (no anti-spoof)	BSM, Routed CO, Bridged CO, regular interface
IPv6	PPP Hosts – SLAAC	Local terminated IPv6 wan-host – SLAAC (PTA, LNS)	ESM, Routed CO
	PPP Hosts - DHCP6 (NA)	Local terminated IPv6 wan-host (PTA, LNS) – DHCP6 IA-NA leases over PPP	ESM, Routed CO

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Section	Counter	Counts	Applies to
	PPP Hosts - DHCP6 (PD)	Local terminated IPv6 pd-host (PTA, LNS) – DHCP6 IA-PD leases over PPP (excluding PD as managed route)	ESM, Routed CO
	PPP Mngd Routes - DHCP6 (PD)	IPv6 (PTA, LNS) – DHCP6 IA-PD leases over PPP (PD as managed route only)	ESM, Routed CO
	IPOE Hosts – SLAAC	IPv6 wan-host – SLAAC	ESM, Routed CO
	IPOE Hosts - DHCP6 (NA)	IPv6 wan-host – DHCP6 IA-NA leases	ESM, Routed CO
	IPOE Hosts - DHCP6 (PD)	IPv6 pd-host – DHCP6 IA-PD leases (excluding PD as managed route)	ESM, Routed CO
	IPOE Mngd Routes - DHCP6 (PD)	IPv6 – DHCP6 IA-PD leases (PD as managed route only)	ESM, Routed CO
	IPOE Hosts – Static (WAN)	IPv6 static hosts with prefix-length equal to /128	ESM, Routed CO
	IPOE Hosts – Static (Pfx)	IPv6 static hosts with prefix-length shorter than /128	ESM, Routed CO
	IPOE Mngd Hosts – Data-trig (Pfx)	Data triggered IPv6 Prefix host (prefix length shorter than /128)	ESM, Routed CO
	IPOE Mngd Hosts – Data-trig (Pfx)	Data triggered IPv6 Prefix host (prefix length shorter than /128)	ESM, Routed CO
IPv6 (Cont)	IPOE Mngd Routes – Data-trig (Pfx)	Data triggered IPv6 Prefix (prefix length shorter than /128) modeled as a managed route	ESM, Routed CO
	IPOE Mngd Hosts - AAA	(currently unused)	Not applicable
	IPOE Mngd Hosts – GTP (SLAAC)	IPv6 (SLAAC) GTP Access host	ESM, Routed CO
	IPOE Mngd Hosts - Bonding	IPv6 hosts associated with an internal IPoE session of a connection bonding subscriber context..	ESM, Routed CO
	IPOE BSM - DHCP6 (NA)	IPv6 – DHCP6 IA-NA leases (lease-populate)	BSM, regular interface
	IPOE BSM - DHCP6 (PD)	IPv6 – DHCP6 IA-PD leases (lease-populate)	BSM, regular interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Section	Counter	Counts	Applies to
Total	PPP Hosts	Local terminated PPP hosts (PTA, LNS)	ESM
	IPOE Hosts	Total IPv4 and IPv6 IPOE hosts	ESM
	IPv4 Hosts	Total IPv4 hosts, PPP (PTA, LNS) and IPOE	ESM
	IPv6 Hosts	Total IPv6 hosts, PPP (PTA, LNS) and IPOE	ESM
	IPv6 PD Mngd Routes	Total DHCP6 IA-PD leases modeled as a managed route. PPP (PTA, LNS) and IPOE	ESM
	L2TP LAC Hosts	L2TP LAC hosts – single host per single or dual stack PPP session Counter also increases for outgoing LTS sessions.	ESM, Routed CO
	L2TP LNS Hosts	L2TP LNS hosts – single host per single or dual stack PPP session	ESM, Routed CO
	Internal Hosts	Subscriber hosts for internal use. For example, LNS redirect hosts (for LTS, an LNS redirect host is also instantiated). The internal LNS redirect host only counts against the system limit and not against the per line card limit.	ESM
Total (Cont)	Non-Sub-Traffic L2-Hosts	A host on a single subscriber SAP in a VPLS service that enables non-IP traffic to be forwarded using the specified SLA profile instance queues. Host on a single subscriber SAP attached to an IES or VPRN group-interface that enables traffic normally forwarded using the SAP queues to flow using the specified SLA profile instance queues. **configure>service>vpls** *service-id*>**sap** *sap-id*>**sub-sla-mgmt single-sub-parameters**>**non-sub-traffic sub-profile** *sub-profile-name* **sla-profile** *sla-profile-name* [**subscriber** *sub-ident-string*] [**app-profile** *app-profile-name*]	ESM, Routed CO, Bridged CO

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Section	Counter	Counts	Applies to
	DHCP leases	Total number of DHCPv4 lease states	ESM, BSM
	DHCPv6 leases	Total number of DHCPv6 lease states	ESM, BSM
	Subscriber Hosts	Counter displayed in the output of **show**>**subscriber-mgmt**>**statistics** [**iom** | **mda** | **port** | **pw-port**]	ESM
	System Hosts Scale	Counter displayed in the output of **show**>**subscriber-mgmt**>**statistics system** This counter matches the number of hosts accounted for in the system wide limit.	ESM

Table 590: Output fields: PPP session statistics

Section	Counter	Counts	Applies to
Local	PPP Sessions - PPPoE	Local terminated PPPoE sessions (PTA)	ESM, Routed CO
	PPP Sessions - PPPo EoA	Local terminated PPPoEoA sessions (PTA)	ESM, Routed CO
	PPP Sessions - PPPoA	Local terminated PPPoA sessions (PTA)	ESM, Routed CO
	PPP Sessions - L2TP (LNS)	Local terminated PPP sessions (L2TP LNS)	ESM, Routed CO
LAC	PPP Sessions - PPPoE	Tunneled PPPoE session (L2TP LAC)	ESM, Routed CO
	PPP Sessions - PPPo EoA	Tunneled PPPoEoA session (L2TP LAC)	ESM, Routed CO
	PPP Sessions - PPPoA	Tunneled PPPoA session (L2TP LAC)	ESM, Routed CO
	PPP Sessions - L2TP (LTS)	Tunneled PPP session (L2TP LTS)	ESM, Routed CO
Total	PPP Sessions - established	PPP sessions that are established (at least one active host attached) – PTA/ LAC/LTS/LNS	ESM, Routed CO
	PPP Sessions - in setup	PPP sessions in setup (session created, host setup in progress) – PTA/LAC/LTS/LNS	ESM, Routed CO
	PPP Sessions - local	Local terminated PPPoX sessions (PTA, L2TP LNS)	ESM, Routed CO

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Section	Counter	Counts	Applies to
	PPP Sessions - LAC	Tunneled PPPoX session (L2TP LAC, L2TP LTS)	ESM, Routed CO
L2TP	L2TP Tunnels - originator	Number of L2TP Tunnels originated on this node. (LAC/LTS)	ESM, Routed CO
	.L2TP Tunnels - receiver	Number of L2TP Tunnels terminated on this node. (LNS/LTS)	ESM, Routed CO
	Total L2TP Tunnels	Number of L2TP Tunnels originated or terminated on this node.	ESM, Routed CO

Table 591: Output fields: IPoE session statistics

Section	Counter	Counts	Applies to
Total	IPOE Sessions - established	IPoE sessions that are established (at least one active host attached).	ESM, Routed CO
	IPOE Sessions- in setup	IPoE sessions in setup (session created, host setup in progress).	ESM, Routed CO

Table 592: Output fields: subscriber statistics

Section	Counter	Counts	Applies to
Total	Subscribers	Total number of active subscribers.	ESM, Routed CO, Bridged CO

Table 593: Output fields: subscriber management statistics summary

Section	Counter	Counts
Hosts	IPv4	Total IPv4 hosts
	IPv6	Total IPv6 hosts
Sessions	PPP	Total PPP sessions established
	IPOE	Total IPOE sessions established
Subscribers		Total number of active subscribers

Platforms

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

Output

The following outputs are examples of subscriber management statistics information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:PE-1# show subscriber-mgmt statistics port 1/1/4 summary
===============================================================================
SubMgmt Statistics
===============================================================================
                 |       Hosts        |      Sessions      |    Subscribers
Port Id          |   IPv4      IPv6   |    PPP      IPOE   |
-------------------------------------------------------------------------------
1/1/4            |        2         2 |        1         1 |        2   (Curr)
                 |        3         3 |        1         2 |        3   (Peak)
===============================================================================
```

Output Example

```
A:PE-1# show subscriber-mgmt statistics sla-profiles
===============================================================================
SLA Profile Statistics
===============================================================================
SLA-Profile Name                          Current       Peak       Peak Timestamp
-------------------------------------------------------------------------------
tv-prof                                       0          0
hsi-prof                                      1          1  12/29/2016 15:50:50
hsi-iptv--prof                                0          0
no-prof-1                                     1          1  01/03/2017 20:00:37
hsi-voip-prof                                 0          2  12/29/2016 18:42:44
-------------------------------------------------------------------------------
Total                                         2
===============================================================================
```

Output Example

```
A:PE-1# show subscriber-mgmt statistics sub-profiles
===============================================================================
Subscriber Profile Statistics
===============================================================================
Subscriber-Profile Name                  Current       Peak       Peak Timestamp
-------------------------------------------------------------------------------
no-prof                                      2          3  12/29/2016 18:42:44
sub-10M                                      0          0
sub-10M-UPNP                                 0          0
sub-20M                                      0          0
sub-20M-UPNP                                 0          0
-------------------------------------------------------------------------------
Total                                        2
===============================================================================
```

Output Example

```
A:pe1# show subscriber-mgmt statistics system
===============================================================================
Subscriber Management Statistics for System
===============================================================================
       Type                                Current     Peak      Peak Timestamp
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Host & Protocol Statistics
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IPv4   PPP Hosts        - IPCP                  0        0
       PPP Hosts        - PFCP                  0        0
       IPOE Hosts       - DHCP                  0        0
       IPOE Hosts       - ARP                   0        0
       IPOE Hosts       - Static                0        0
       IPOE Hosts       - PFCP                  0        0
       IPOE Mngd Hosts  - Data-trig             0        0
       IPOE Mngd Hosts  - AAA                   0        0
       IPOE Mngd Hosts  - GTP                   0        0
       IPOE Mngd Hosts  - Bonding               0        0
       IPOE Hosts BSM   - DHCP                  0        0
       IPOE Hosts BSM   - Static                0        0
       IPOE BSM         - DHCP                  0        0
       IPOE BSM         - Static                0        0
-------------------------------------------------------------------------------
IPv6   PPP Hosts        - SLAAC                 0        0
       PPP Hosts        - DHCP6 (NA)            0        0
       PPP Hosts        - DHCP6 (PD)            0        0
       PPP Mngd Routes  - DHCP6 (PD)            0        0
       PPP Hosts        - PFCP (SLAAC)          0        0
       PPP Hosts        - PFCP (NA)             0        0
       PPP Hosts        - PFCP (PD)             0        0
       IPOE Hosts       - SLAAC                 0        0
       IPOE Hosts       - DHCP6 (NA)            0        0
       IPOE Hosts       - DHCP6 (PD)            0        0
       IPOE Mngd Routes - DHCP6 (PD)            0        0
       IPOE Hosts       - Static (WAN)          0        0
       IPOE Hosts       - Static (Pfx)          0        0
       IPOE Hosts       - PFCP (SLAAC)          0        0
       IPOE Hosts       - PFCP (NA)             0        0
       IPOE Hosts       - PFCP (PD)             0        0
       IPOE Mngd Hosts  - Data-trig (WAN)       0        0
       IPOE Mngd Hosts  - Data-trig (Pfx)       0        0
       IPOE Mngd Routes - Data-trig (Pfx)       0        0
       IPOE Mngd Hosts  - AAA                   0        0
       IPOE Mngd Hosts  - GTP (SLAAC)           0        0
       IPOE Mngd Hosts  - Bonding               0        0
       IPOE BSM         - DHCP6 (NA)            0        0
       IPOE BSM         - DHCP6 (PD)            0        0
-------------------------------------------------------------------------------
Total  PPP Hosts                                0        0
       IPOE Hosts                               0        0
       IPv4 Hosts                               0        0
       IPv6 Hosts                               0        0
       IPv6 PD Mngd Routes                      0        0
       L2TP LAC Hosts                           0        0
       L2TP LNS Hosts                           0        0
       Internal Hosts                           0        0
       Non-Sub-Traffic L2-Hosts                 0        0
       DHCP Leases                              0        0
       DHCPv6 Leases                            0        0
       PFCP Hosts                               0        0
       System Hosts Scale                       0        0
-------------------------------------------------------------------------------
```

statistics

Syntax

statistics sub-profile {*sub-profile-name* | **all**}

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics sla-profile {*sla-profile-name* | **all**}

Context

[Tree] (clear>subscriber-mgmt statistics)

Full Context

clear subscriber-mgmt statistics

Description

This command clears the current and historical statistics.

Parameters

sub-profile-name

Clears the statistics for a specific subscriber profile, limited to 32 characters.

sub-profile all

Clears all subscriber profile statistics.

sla-profile-name

Clears the statistics for a specific SLA profile, limited to 32 characters.

sla-profile all

Clears all SLA profile statistics.

Platforms

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

statistics

Syntax

statistics interface *subscriber-interface* [**id** *srrp-id*]

Context

[Tree] (clear>router>srrp statistics)

Full Context

clear router srrp statistics

Description

This command clears statistics for SRRP instances.

Parameters

subscriber-interface

Specifies an existing subscriber interface name up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

srrp-id

Specifies an existing SRRP ID.

Values 1 to 4294967295

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (clear>service statistics)

Full Context

clear service statistics

Description

This command clears the statistics for a service.

Platforms

All

statistics

Syntax

statistics [**policy** *name*] [**sap** *sap-id*]

Context

[Tree] (show>service>id>auth statistics)

Full Context

show service id authentication statistics

Description

This command displays session authentication statistics for this service.

Parameters

policy *name*

Specifies an existing authentication policy name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sap-id

Specifies the physical port identifier portion of the SAP definition.

Platforms

All

Output

The following output is an example of service authentication statistics information

Output Example

```
*A:ALA-48# show service id 700 authentication statistics
===============================================================
Authentication Statistics for service 700
===============================================================
Client Packets Authenticate Fail  : 0
Client Packets Authenticate Ok    : 0
===============================================================
*A:ALA-48#
```

statistics

Syntax

statistics [**sap** *sap-id* | **sdp** *sdp-id:vc-id*]

Context

[Tree] (show>service>id>mld-snooping statistics)

Full Context

show service id mld-snooping statistics

Description

This command displays MLD snooping statistics.

Platforms

All

Output

The following output is an example of MLD snooping statistics information.

Output Example

```
*A:rbae_C# show service id 1 mld-snooping statistics
===============================================================================
MLD Snooping Statistics for service 1
===============================================================================
Message Type            Received      Transmitted   Forwarded
-------------------------------------------------------------------------------
General Queries         109           0             327
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Group Queries           0             0             0
Group-Source Queries    0             0             0
V1 Reports              0             0             0
V2 Reports              438           87            0
V1 Done                 0             0             0
Unknown Type            0             N/A           0
-------------------------------------------------------------------------------
Drop Statistics
-------------------------------------------------------------------------------
Bad Length              : 0
Bad MLD Checksum        : 0
Bad Encoding            : 0
No Router Alert         : 0
Zero Source IP          : 0
Wrong Version           : 0
Lcl-Scope Packets       : 0
Rsvd-Scope Packets      : 0

Send Query Cfg Drops    : 0
Import Policy Drops     : 0
Exceeded Max Num Groups : 0
MCAC Policy Drops       : 0
MCS Failures            : 0

MVR From VPLS Cfg Drops : 0
MVR To SAP Cfg Drops    : 0
===============================================================================
*A:rbae_C#
```

statistics

Syntax

statistics [**evpn-mpls** | **sap** *sap-id* | **sdp** *sdp-id:vc-id* | **vxlan vtep** *ip-address* **vni** *vni*]

Context

[Tree] (show>service>id>igmp-snooping statistics)

Full Context

show service id igmp-snooping statistics

Description

This command displays IGMP snooping statistics for the VPLS service.

Parameters

evpn-mpls

Displays IGMP snooping statistics for EVPN-MPLS destinations

sap-id

Displays IGMP snooping statistics for a specific SAP

sdp-id

Displays the IGMP snooping statistics for a specific spoke or mesh SDP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 17407

vc-id

The virtual circuit ID on the SDP ID for which to display information

Default For mesh SDPs only, all VC IDs.

Values 1 to 4294967295

vxlan vtep *ip-address* vni *<1..16777215>*

Displays the IGMP snooping entries associated with a specific VXLAN binding, given by the VXLAN Termination Endpoint (VTEP) and VXLAN Network Identifier (VNI). This parameter only applies to the 7450 ESS or 7750 SR.

vni

The VXLAN Network Identifier (VNI) for which to display information. This parameter only applies to the 7450 ESS or 7750 SR.

Values 1 to 16777215

Platforms

All

Output

Output Example

```
*A:ALA-1>show>service>id>snooping# statistics
===============================================================================
IGMP Snooping Statistics for service 1
===============================================================================
Message Type            Received      Transmitted   Forwarded
-------------------------------------------------------------------------------
General Queries         4             0             4
Group Queries           0             0             0
Group-Source Queries    0             0             0
V1 Reports              0             0             0
V2 Reports              0             0             0
V3 Reports              0             0             0
V2 Leaves               0             0             0
Unknown Type            0             N/A           0
-------------------------------------------------------------------------------
Drop Statistics
-------------------------------------------------------------------------------
Bad Length              : 0
Bad IP Checksum         : 0
Bad IGMP Checksum       : 0
Bad Encoding            : 0
No Router Alert         : 0
Zero Source IP          : 0

Send Query Cfg Drops    : 0
Import Policy Drops     : 0
Exceeded Max Num Groups : 0

MVR From VPLS Cfg Drops : 0
MVR To SAP Cfg Drops    : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:ALA-1>show>service>id>snooping#
```

statistics

Syntax

statistics [*ip-int-name* | *ip-addr*ess]

statistics group-interface [**fwd-service** *service-id*] [*ip-int-name*]

statistics host [*ip-addr*ess]

Context

[Tree] (show>router>igmp statistics)

Full Context

show router igmp statistics

Description

This command displays IGMP statistics information.

Parameters

ip-int-name

Displays information associated with the specified IP interface name, up to 32 characters.

ip-address

Displays information associated with the specified IP address.

Platforms

All

Output

The following output is an example of IGMP statistics information. Table 594: Output fields: IGMP statistics provides statistical IGMP field descriptions.

Output Example

```
*A:ALA-BA# show router igmp interface "IGMP_to_CE"
===============================================
IGMP Interface IGMP_to_CE Statistics
===============================================
Message Type        Received       Transmitted
-----------------------------------------------
Queries             0              0
Report V1           0              0
Report V2           0              0
Report V3           0              0
Leaves              0              0
-----------------------------------------------
Interface General Statistics
-----------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Bad Length        : 0
Bad Checksum      : 0
Unknown Type      : 0
Drops             : 0
Rx Non Local      : 0
Rx Wrong Version  : 0
Policy Drops      : 0
No Router Alert   : 0
Rx Bad Encodings  : 0
Local Scope Pkts  : 0
Resvd Scope Pkts  : 0
MCAC Policy Drops : 0
-------------------------------------------------
Interface Source Group Statistics
-------------------------------------------------
(S,G)             : 0
(*,G)             : 0
=================================================
*A:ALA-BA#

*B:Dut-C# show router igmp statistics host
=================================================
IGMP Host Statistics
=================================================
Message Type        Received       Transmitted
-------------------------------------------------
Queries             0              1739
Report V1           0              0
Report V2           0              0
Report V3           10             0
Leaves              0              0
-------------------------------------------------------------------------------
General Host Statistics
-------------------------------------------------------------------------------
Bad Length        : 0
Bad Checksum      : 0
Unknown Type      : 0
Bad Receive If    : 0
Rx Non Local      : 0
Rx Wrong Version  : 0
Policy Drops      : 0
No Router Alert   : 0
Rx Bad Encodings  : 0
Local Scope Pkts  : 0
Resvd Scope Pkts  : 0
MCAC Policy Drops : 0
=================================================
*B:Dut-C#
```

Table 594: Output fields: IGMP statistics

Label	Description
IGMP Interface Statistics	Lists the IGMP statistics for a particular interface.
Message Type	Queries — The number of IGMP general queries transmitted or received on this interface.
	Report — The total number of IGMP V1, V2, or V3 reports transmitted or received on this interface.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Leaves — The total number of IGMP leaves transmitted on this interface.
Received	The total number of IGMP packets received on this interface.
Transmitted	The total number of IGMP packets transmitted from this interface.
General Interface Statistics	The general IGMP statistics.
Bad Length	The total number of IGMP packets with bad length received on this interface.
Bad Checksum	The total number of IGMP packets with bad checksum received on this interface.
Unknown Type	The total number of IGMP packets with unknown type received on this interface.
Drops	The total number of IGMP packets dropped on this interface.
Rx Non Local	The total number of IGMP packets received from a non-local sender.
Rx Wrong Version	The total number of IGMP packets with wrong versions received on this interface.
Policy Drops	The total number of IGMP packets dropped by import policies on this interface.
No Router Alert	The total number of IGMPv3 packets received on this interface which did not have the router alert flag set.
Rx Bad Encodings	The total number of IGMP packets with bad encodings received on this interface.
Rx Pkt Drops	The total number of IGMP receive packet drops on this interface.
Local Scope Pkts	The total number of IGMP packets with local scope received on this interface.
Resvd Scope Pkts	The total number of IGMP packets with reserved scope received on this interface.
MCAC Policy Drops	The total number of IGMP packets dropped by MCAC policies on this interface.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics all

statistics sap *sap-id*

statistics sdp *sdp-id*:*vc-id*

statistics vxlan vtep *ip-address* **vni** *vni-id*

Context

[Tree] (clear>service>id>mld-snooping statistics)

Full Context

clear service id mld-snooping statistics

Description

This command clears MLD snooping statistics.

Parameters

sap-id

Clears MLD snooping statistics for the specified SAP.

sdp-id

Clears MLD snooping statistics associated with the specified SDP. For a spoke-SDP, the VC ID must be specified; for a mesh SDP, the VC ID is optional.

Values 1 to 17407

vni-id

Clears the MLD snooping statistics for the specified VXLAN VNI id.

Values 1 to 16777215

ip-address

Specifies a specific configured static egress VTEP to clear the MLD snooping statistics associated only with the VTEP.

Platforms

All

statistics

Syntax

statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>service>id>authentication statistics)

Full Context

clear service id authentication statistics

Description

This command clears session authentication statistics for this service.

Platforms

All

statistics

Syntax

statistics {**evpn-mpls** | **all** | **sap** *sap-id* | **sdp** *sdp-id:vc-id* | **vxlan vtep** *ip-address* **vni** *vni-id*}]

Context

[Tree] (clear>service>id>igmp-snooping statistics)

Full Context

clear service id igmp-snooping statistics

Description

This command clears IGMP snooping statistics for the VPLS service.

Parameters

all

Clears the IGMP snooping information for all port objects in the service

evpn-mpls

Clears IGMP snooping statistics for EVPN-MPLS destinations

sap-id

Clears the IGMP snooping information on the specified SAP

sdp-id

Clears only IGMP snooping entries associated with the specified mesh SDP or spoke-SDP. For a spoke-SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional.

Values 1 to 17407

vc-id

Clears statistics for the specified virtual circuit ID on the SDP ID

Default For mesh SDPs only, all VC IDs

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 4294967295

vxlan vtep *ip-address* vni *<1..16777215>*

Clears the IGMP snooping statistics associated with a specific VXLAN destination given by the VXLAN Termination Endpoint (VTEP) and VXLAN Network Identifier (VNI). This parameter only applies to the 7450 ESS or 7750 SR.

vni-id

Displays information for the specified VXLAN Network Identifier (VNI). This parameter only applies to the 7450 ESS or 7750 SR.

Values 1 to 16777215

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (show>subscr-mgmt>wlan-gw statistics)

Full Context

show subscriber-mgmt wlan-gw statistics

Description

This command displays statistics information.

Platforms

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

statistics

Syntax

statistics

Context

[Tree] (show>service>id>spb statistics)

Full Context

show service id spb statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays SPB statistics.

Platforms

All

Output

The following output is an example of service SPB statistics information.

Output Example

```
A:cses-B01#  show service id spb statistics
===============================================================================
ISIS Statistics
===============================================================================
ISIS Instance     : 1024                    SPF Runs       : 4
Purge Initiated   : 0                       LSP Regens.    : 11

CSPF Statistics
Requests          : 0                       Request Drops  : 0
Paths Found       : 0                       Paths Not Found: 0

-------------------------------------------------------------------------------
PDU Type   Received   Processed  Dropped    Sent       Retransmitted
-------------------------------------------------------------------------------
LSP        31         31         0          9          0
IIH        532        532        0          533        0
CSNP       479        479        0          479        0
PSNP       9          9          0          27         0
Unknown    0          0          0          0          0
===============================================================================
```

statistics

Syntax

statistics [**sap** *sap-id*] [**sdp** *sdp-id:vc-id*] [*family*]

Context

[Tree] (show>service>id>pim-snooping statistics)

Full Context

show service id pim-snooping statistics

Description

This command displays PIM statistics information.

Parameters

sap-id

Displays the statistics associated with the specified SAP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sdp-id:vc-id

Displays the statistics associated with the specified SDP

family

Displays either IPv4 or IPv6 statistics

Values ipv4 or ipv6

Platforms

All

Output

The following output is an example of service PIM snooping statistics information.

Output Example

```
*A:PE# show service id 1 pim-snooping statistics
===============================================================
PIM Snooping Statistics ipv4
===============================================================
Message Type        Received       Transmitted    Rx Errors
---------------------------------------------------------------
Hello               36             -              0
Join Prune          8              8              0
Total Packets       44             8
-------------------------------------------------------------------------------
General Statistics
-------------------------------------------------------------------------------
Rx Neighbor Unknown               : 0
Rx Bad Checksum Discard           : 0
Rx Bad Encoding                   : 0
Rx Bad Version Discard            : 0
Join Policy Drops                 : 0
-------------------------------------------------------------------------------
Source Group Statistics
-------------------------------------------------------------------------------
(S,G)                             : 1
(*,G)                             : 0
===============================================================
*A:PE#
```

statistics

Syntax

statistics {**all** | **ipv4** | **ipv6** | **mac**}

statistics group *grp-address*

Context

[Tree] (clear>service>id>mfib statistics)

Full Context

clear service id mfib statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears multicast FIB statistics for the VPLS service.

Parameters

all

Clears all statistics for the service ID

ipv4

Clears IPv4 address statistics for the service ID

ipv6

Clears IPv6 address statistics for the service ID

mac

Clears MAC address statistics for the service ID

grp-address

Specifies an IGMP multicast group address that receives data on an interface

Platforms

All

statistics

Syntax

statistics [**evpn-mpls** | **sap** *sap-id* | **sdp** *sdp-id:vc-id* | **vxlan vtep** *ip-address* **vni** *vni-id*] [**family**]

Context

[Tree] (clear>service>id>pim-snooping statistics)

Full Context

clear service id pim-snooping statistics

Description

This command clears PIM snooping statistics for the specified SAP or SDP.

Parameters

sap-id

Clears PIM snooping statistics for the specified SAP

sdp-id:vc-id

Clears PIM statistics for the specified SDP. For a spoke-SDP, the VC ID must be specified; for a mesh SDP, the VC ID is optional.

Values 1 to 17407

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

family

Displays either IPv4 or IPv6 information

Values ipv4 or ipv6

evpn-mpls

Clears PIM snooping statistics for EVPN-MPLS destinations

Platforms

All

statistics

Syntax

statistics [**summary**] [**sap** *sap-id*]

Context

[Tree] (show>service>id>host-connectivity-verify statistics)

Full Context

show service id host-connectivity-verify statistics

Description

This command displays host connectivity verification statistics.

Parameters

sap-id

Specifies the SAP ID to show statistics for.

summary

Displays host connectivity verify summary information.

Platforms

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

Output

The following output is an example of host connectivity verification statistics information, and Table 595: Output fields: host connectivity verify statistics describes the output fields.

Output Example

```
A:ALA-48>show>service>id# host-connectivity-verify statistics sap 1/1/9:0
===============================================================================
Host connectivity check statistics
===============================================================================
Svc   SapId/          DestIp          Last                  Time Oper
Id    SdpId           Address         Response              Expired State
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
1000  551/2/3:0       10.144.145.1    Up
===============================================================================
A:ALA-48>show>service>id#
```

Table 595: Output fields: host connectivity verify statistics

Label	Description
Svc Id	The service identifier.
SapId/SdpId	The SAP and SDP identifiers.
DestIp Address	The destination IP address.
Last Response	The time when the last response was received.
Time Expired	Displays whether the interval value has expired.
Oper State	Displays the current operational state of the service.

statistics

Syntax

statistics

Context

[Tree] (show>router>vrrp statistics)

Full Context

show router vrrp statistics

Description

This command displays statistics for VRRP instance.

Platforms

All

Output

The following output is an example of VRRP statistics information, and table describes the fields.

Output Example

```
A:ALA-48# show router vrrp statistics
===============================================================================
VRRP Global Statistics
===============================================================================
VR Id Errors       : 0                 Version Errors     : 0
Checksum Errors    : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 596: Output fields: VRRP statistics

Label	Description
VR Id Errors	Displays the number of virtual router ID errors
Version Errors	Displays the number of version errors
Checksum Errors	Displays the number of checksum errors

statistics

Syntax

statistics

statistics interface *interface-name* [**vrid** *virtual-router-id*]

statistics interface *interface-name* **vrid** *virtual-router-id* **ipv6**

Context

[Tree] (clear>router>vrrp statistics)

Full Context

clear router vrrp statistics

Description

This command clears statistics for VRRP instances on an IP interface or VRRP priority control policies.

Parameters

interface-name

Clears the VRRP statistics for all VRRP instances on the specified IP interface.

virtual-router-id

Clears the VRRP statistics for the specified VRRP instance on the IP interface.

Default All VRRP instances on the IP interface.

Values 1 to 255

ipv6

Clears IPv6 statistics for the specified interface.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics [*ip-addr* | *ip-int-name*]

Context

[Tree] (show>router>rip statistics)

Full Context

show router rip statistics

Description

Display Interface level statistics for the RIP protocol.

If no IP address or interface name is specified, then all configured RIP interfaces are displayed.

If an IP address or interface name is specified, then only data regarding the specified RIP interface is displayed.

Parameters

ip-addr* | *ip-int-name

Displays statistics for the specified IP interface.

Values ip-int-name: 32 chars max

ip-address: a.b.c.d

Platforms

All

Output

The following output is an example of RIP statistics information, and Table 597: Output fields: RIP statistics describes the output fields.

Output Example

```
RIP Statistics
===============================================================================
Learned Routes     : 0                 Timed Out Routes   : 0
Current Memory     : 120624            Maximum Memory     : 262144

-------------------------------------------------------------------------------
Interface "to-web"
-------------------------------------------------------------------------------
Primary IP         : 10.1.1.3          Update Timer       : 30
Timeout Timer      : 180               Flush Timer        : 120
Counter                       Total          Last 5 Min      Last 1 Min
-------------------------------------------------------------------------------
Updates Sent                  0              0               0
Triggered Updates             0              0               0
Bad Packets Received          0              0               0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
RIPv1 Updates Received        0               0               0
RIPv1 Updates Ignored         0               0               0
RIPv1 Bad Routes              0               0               0
RIPv1 Requests Received       0               0               0
RIPv1 Requests Ignored        0               0               0
RIPv2 Updates Received        0               0               0
RIPv2 Updates Ignored         0               0               0
RIPv2 Bad Routes              0               0               0
RIPv2 Requests Received       0               0               0
RIPv2 Requests Ignored        0               0               0
Authentication Errors         0               0               0
===============================================================================
*A:ALA-12#
```

Table 597: Output fields: RIP statistics

Label	Description
Learned Routes	The number of RIP-learned routes exported to RIP neighbors.
Timed Out Routes	The number of routes that have been timed out.
Current Memory	The amount of memory used by this RIP router instance.
Maximum Memory	The amount of memory allocated for this RIP router instance.
Interface	Displays the name of each interface configured in RIP and associated RIP statistics.
Primary IP	The interface IP address.
Update Timer	The current setting of the RIP update timer value expressed in seconds.
Timeout Timer	The current RIP timeout timer value expressed in seconds.
Flush Timer	The number of seconds after a route has been declared invalid that it is flushed from the route database.
Updates Sent	Total — The total number of RIP updates that were sent. Last 5 Min — The number of RIP updates that were sent in the last 5 minutes. Last 1 Min — The number of RIP updates that were sent in the last 1 minute.
Triggered Updates	Total — The total number of triggered updates sent. These updates are sent before the entire RIP routing table is sent. Last 5 Min — The number of triggered updates that were sent in the last 5 minutes. Last 1 Min — The number of triggered updates that were sent in the last 1 minute.
Bad Packets Received	Total — The total number of RIP updates received on this interface that were discarded as invalid. Last 5 Min — The number of RIP updates received on this interface that were discarded as invalid in the last 5 minutes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Last 1 Min —The number of RIP updates received on this interface that were discarded as invalid in the last 1 minute.
RIPv1 Updates Received	Total — The total number of RIPv1 updates received. Last 5 Min — The number of RIPv1 updates received in the last 5 minutes. Last 1 Min — The number of RIPv1 updates received in the last 1 minute.
RIPv1 Updates Ignored	Total — The total number of RIPv1 updates ignored. Last 5 Min — The number of RIPv1 updates ignored in the last 5 minutes. Last 1 Min — The number of RIPv1 updates ignored in the last 1 minute.
RIPv1 Bad Routes	Total — The total number of bad routes received from the peer. Last 5 Min — The number of bad routes received from the peer in the last 5 minutes. Last 1 Min — The number of bad routes received from the peer in the last minute.
RIPv1 Requests Received	Total — The total number of times the router received RIPv1 route requests from other routers. Last 5 Min — The number of times the router received RIPv1 route requests from other routers in the last 5 minutes. Last 1 Min — The number of times the router received RIPv1 route requests from other routers in the last 1 minute.
RIPv1 Requests Ignored	Total — The total number of times the router ignored RIPv1 route requests from other routers. Last 5 Min — The number of times the router ignored RIPv1 route requests from other routers in the last 5 minutes. Last 1 Min — The number of times the router ignored RIPv1 route requests from other routers in the last 1 minute.
RIPv2 Updates Received	Total — The total number of RIPv2 updates received. Last 5 Min — The number of RIPv2 updates received in the last 5 minutes. Last 1 Min — The number of RIPv2 updates received in the last minute.
RIPv2 Updates Ignored	Total — The total number of RIPv2 updates ignored. Last 5 Min — The number of RIPv2 updates ignored in the last 5 minutes. Last 1 Min — The number of RIPv2 updates ignored in the last minute.
RIPv2 Bad Routes	Total — The total number of bad routes received from the peer. Last 5 Min — The number of bad routes received from the peer in the last 5 minutes. Last 1 Min — The number of bad routes received from the peer in the last minute.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
RIPv2 Requests Received	Total — The total number of times the router received RIPv2 route requests from other routers. Last 5 Min — The number of times the router received RIPv2 route requests from other routers in the last 5 minutes. Last 1 Min — The number of times the router received RIPv2 route requests from other routers in the last minute.
RIPv2 Requests Ignored	Total — The total number of times the router ignored RIPv2 route requests from other routers. Last 5 Min — The number of times the router ignored RIPv2 route requests from other routers in the last 5 minutes. Last 1 Min —The number of times the router ignored RIPv2 route requests from other routers in the last minute.
Authentication Errors	Total — The total number of authentication errors to secure table updates. Last 5 Min — The number of authentication errors to secure table updates in the last 5 minutes. Last 1 Min —The number of authentication errors to secure table updates in the last minute.

statistics

Syntax

statistics [**neighbor** {*ip-address* | *ip-int-name*}]

Context

[Tree] (clear>router>rip statistics)

Full Context

clear router rip statistics

Description

This command clears statistics for RIP neighbors.

Parameters

{ip-address | ip-int-name}

Clears the statistics for the specified RIP interface.

Values ip-int-name: 32 characters maximum
ip-address: a.b.c.d

Default Clears statistics for all RIP interfaces.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

statistics

Syntax

statistics [**neighbor {***ip-int-name* | *ip-address*}]

Context

[Tree] (clear>router>ripng statistics)

Full Context

clear router ripng statistics

Description

This command clears statistics for RIPng neighbors.

Parameters

{ip-int-name | ip-address}

Clears the statistics for the specified RIPng interface.

Default clears statistics for all RIPng interfaces

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (show>router>ldp statistics)

Full Context

show router ldp statistics

Description

This command displays LDP instance statistics related information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

Output Example

```
*A:Dut-A# show router ldp statistics
===============================================================================
LDP Statistics for IPv4 LSR ID 10.20.1.1:0
               IPv6 LSR ID 3ffe::a14:101[0]
===============================================================================
Session/Discovery
-------------------------------------------------------------------------------
Active IPv4 Sess   : 3                   Active IPv6 Sess     : 3
Active IPv4 LinkAdj: 2                   Active IPv6 LinkAdj  : 2
Active IPv4 TargAdj: 1                   Active IPv6 TargAdj  : 1
Active IPv4 If     : 2                   Inactive IPv4 If     : 0
Active IPv6 If     : 2                   Inactive IPv6 If     : 0
Active IPv4 Peers  : 1                   Inactive IPv4 Peers  : 0
Active IPv6 Peers  : 1                   Inactive IPv6 Peers  : 0
IPv4 Attempted Sess: 0                   IPv6 Attempted Sess  : 0
IPv4 OLoad If      : 0                   IPv4 OLoad Targ Peers: 0
IPv6 OLoad If      : 0                   IPv6 OLoad Targ Peers: 0
-------------------------------------------------------------------------------
Protocol Stats
-------------------------------------------------------------------------------
No Hello Err       : 0                   Param Adv Err        : 0
Max PDU Err        : 0                   Label Range Err      : 0
Bad LDP Id Err     : 0                   Bad PDU Len Err      : 0
Bad Mesg Len Err   : 0                   Bad TLV Len Err      : 0
Unknown TLV Err    : 0                   Bad Proto Ver Err    : 0
Malformed TLV Err  : 0                   Keepalive Expired Err: 0
Shutdown Notif Sent: 0                   Shutdown Notif Recv  : 0
-------------------------------------------------------------------------------
Prefixes
-------------------------------------------------------------------------------
IPv4 Pfx FECs Sent : 10                  IPv4 Pfx FECs Recv   : 10
IPv6 Pfx FECs Sent : 10                  IPv6 Pfx FECs Recv   : 10
IPv4PfxFecOLSessSnt: 0                   IPv4PfxFecOLSessRecv : 0
IPv6PfxFecOLSessSnt: 0                   IPv6PfxFecOLSessRecv : 0
IPv4PfxFecInOLoad  : 0                   IPv6PfxFecInOLoad    : 0
-------------------------------------------------------------------------------
P2MP
-------------------------------------------------------------------------------
IPv4 P2MP FECs Sent: 0                   IPv4 P2MP FECs Recv  : 0
IPv6 P2MP FECs Sent: 0                   IPv6 P2MP FECs Recv  : 0
IPv4P2MPFecOLSessSn: 0                   IPv4P2MPFecOLSessRecv: 0
IPv6P2MPFecOLSessSn: 0                   IPv6P2MPFecOLSessRecv: 0
IPv4P2MPFecInOLoad : 0                   IPv6P2MPFecInOLoad   : 0
-------------------------------------------------------------------------------
Services
-------------------------------------------------------------------------------
Svc FEC128s Sent   : 0                   Svc FEC128s Recv     : 0
Svc FEC129s Sent   : 0                   Svc FEC129s Recv     : 0
Svc Fec128 OLSessSn: 0                   Svc Fec128 OLSessRecv: 0
Svc Fec129 OLSessSn: 0                   Svc Fec129 OLSessRecv: 0
Svc Fec128 InOLoad : 0                   Svc Fec129 InOLoad   : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics

Context

[Tree] (clear>router>ldp statistics)

Full Context

clear router ldp statistics

Description

This command clears LDP instance statistics.

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (show>router>rsvp statistics)

Full Context

show router rsvp statistics

Description

This command displays global statistics in the RSVP instance.

Platforms

All

Output

The following output is an example of RSVP statistics information.

Table 598: Output fields: RSVP statistics describes RSVP statistics output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 598: Output fields: RSVP statistics

Label	Description
PATH Timeouts	The total number of path timeouts.
RESV Timeouts	The total number of RESV timeouts.

Output Example

```
*A:SR1# /show router rsvp statistics
===============================================================================
RSVP Global Statistics
===============================================================================
PATH Timeouts      : 0                 RESV Timeouts      : 0
GR Helper PATH Tim*: 0                 GR Helper RESV Tim*: 0
===============================================================================
* indicates that the corresponding row element may have been truncated.


*A:SRU4>show>router>rsvp# statistics
===============================================================================
RSVP Global Statistics
===============================================================================
PATH Timeouts      : 1026              RESV Timeouts      : 182
===============================================================================
*A:SRU4>show>router>rsvp#
```

statistics

Syntax

statistics lsp-ldp head *ip-prefix/prefix-length* **src-ip** *ip-address*

statistics lsp-ldp tail *ip-prefix/prefix-length* **dst-ip** *ip-address*

statistics src-ip *ip-address* **dst-ip ip-address**

statistics all

statistics src-ip *ip-address* **dst-ip** *ip-address* **lsp-rsvp** {**head** | **tail**} **tunnel-id** [0..4294967295] **lsp-id** [0..4294967295]

statistics mpls-tp *lsp-name* **path** {**working** | **protect**}

statistics p2mp-interface *interface-name*

statistics src-ip *ip-address* **lsp-rsvp** {**head** | **tail**} **rsvp-session-name** [256 chars max]

Context

[Tree] (clear>router>bfd statistics)

Full Context

clear router bfd statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears BFD statistics.

Parameters

all

Clears all statistics for the BFD instance.

dst-ip *ip-address*

Clears statistics about the specified destination IPv4 or IPv6 address.

ip-prefix/prefix-length

Clears statistics for the specified IP prefix.

Values *ipv4-prefix* — a.b.c.d

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

ipv6-prefix-length — 0 to 128

lsp-id [0..4294967295]

Clears statistics about the specified LSP ID.

lsp-ldp head

Clears statistics for the head of the LSP LDP link.

lsp-ldp tail

Clears statistics for the tail of the LSP LDP link.

lsp-rsvp {head | tail}

Clears statistics about the specified link type.

mpls-tp *lsp-name*

Clears statistics about the specified MPLS TP LSP.

p2mp-interface *interface-name*

Clears statistics about the specified P2MP interface.

path {working | protect}

Clears statistics about the working or protect path.

rsvp-session-name [256 chars max]

Clears statistics about the specified RSVP session.

src-ip *ip-address*

Clears statistics about the specified source IPv4 or IPv6 address.

tunnel-id [0..4294967295]

Clears statistics about the specified tunnel ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (clear>router>rsvp statistics)

Full Context

clear router rsvp statistics

Description

This command clears global statistics for the RSVP instance, for example, clears **path** and **resv timeout** counters.

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (show>isa statistics)

Full Context

show isa statistics

Description

Commands in this context display ISA statistical information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics

Context

[Tree] (clear>video statistics)

Full Context

clear video statistics

Description

This command clears video related statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

statistics

Syntax

statistics

Context

[Tree] (show>router>bier statistics)

Full Context

show router bier statistics

Description

This command displays BIER statistics.

Platforms

All

statistics

Syntax

statistics group-interface [**fwd-service** *service-id*] *ip-in-name*

statistics group-interface all

statistics host *ip-address*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics host all

statistics [**interface** *ip-int-name* | *ip-address*]

Context

[Tree] (clear>router>igmp statistics)

Full Context

clear router igmp statistics

Description

This command clears IGMP statistics on a specified interface or IP address.

Note:
An interface, group, and source cannot be specified at the same time.

Parameters

group-interface *interface-name*

Clears the IGMP statistics on the specified group interface.

group-interface all

Clears the IGMP statistics on all group interfaces.

service-id

Specifies the service ID.

Values service-id: 1 to 2148278386
svc-name: up to 64 characters.

host *ip-address*

Clears the IGMP statistics on the specified host.

host all

Clears the IGMP statistics on all hosts.

interface *ip-int-name*

Clears the IGMP statistics on the specified interface.

interface *ip-address*

Clears the IGMP statistics on the specified IP address.

Platforms

All

statistics

Syntax

statistics policy *policy-name* [**bundle** *bundle-name*] [**protocol** {**igmp** | **pim** | **igmpSnpg** | **mld**}]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Context

[Tree] (show>router>mcac statistics)

Full Context

show router mcac statistics

Description

This command displays MCAC statistics.

Parameters

policy-name

Specifies an existing multicast CAC (MCAC) policy name.

bundle-name

Displays statistics for the specified existing multicast bundle name.

protocol {igmp | pim | igmpSnpg | mld}

Displays statistics for the specified applicable protocol.

Values igmp, pim, igmpSnpg, mld

Platforms

All

statistics

Syntax

statistics [*ip-int-name* | *ipv6-addr*ess]

statistics ipsec-interface *ip-int-name*

Context

[Tree] (show>router>mld statistics)

Full Context

show router mld statistics

Description

This command displays MLD statistics information.

Parameters

ip-int-name

Displays information associated with the specified IP interface name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-address

Displays information associated with the specified IPv6 address.

ipsec-interface *ip-int-name*

Displays information associated with the specified dynamic name for the MLD-enabled child_SA.

Platforms

All

Output

The following output is an example of MLD statistics information. Table 599: Output fields: MLD statistics provides statistical MLD field descriptions.

Output Example

```
*A:ALA-BA# show router mld statistics
===============================================
MLD Interface Statistics
===============================================
Message Type        Received       Transmitted
-----------------------------------------------
Queries             0              9
Report V1           0              0
Report V2           0              0
Dones               0              0
-------------------------------------------------------------------------------
General Interface Statistics
-------------------------------------------------------------------------------
Bad Length        : 0
Bad Checksum      : 0
Unknown Type      : 0
Bad Receive If    : 0
Rx Non Local      : 0
Rx Wrong Version  : 0
Policy Drops      : 0
No Router Alert   : 0
Rx Bad Encodings  : 0
Rx Pkt Drops      : 0
Local Scope Pkts  : 0
Resvd Scope Pkts  : 0
MCAC Policy Drops : 0
-------------------------------------------------------------------------------
Source Group Statistics
-------------------------------------------------------------------------------
(S,G)             : 0
(*,G)             : 5
===============================================
*A:Dut-A#
```

Table 599: Output fields: MLD statistics

Label	Description
MLD Interface Statistics	The MLD statistics for a particular interface.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Message Type	Queries — The number of MLD general queries transmitted or received on this interface. Report — The total number of MLD V1 or V2 reports transmitted or received on this interface. Dones — The total number of MLD dones transmitted on this interface.
Received	The total number of MLD packets received on this interface.
Transmitted	The total number of MLD packets transmitted from this interface.
General Interface Statistics	The general MLD statistics.
Bad Length	The total number of MLD packets with bad length received on this interface.
Bad Checksum	The total number of MLD packets with bad checksum received on this interface.
Unknown Type	The total number of MLD packets with unknown type received on this interface.
Bad Receive If	The total number of MLD packets incorrectly received on this interface.
Rx Non Local	The total number of MLD packets received from a non-local sender.
Rx Wrong Version	The total number of MLD packets with wrong versions received on this interface.
Policy Drops	The total number of MLD packets dropped by import policies on this interface.
No Router Alert	The total number of MLD packets received on this interface which did not have the router alert flag set.
Rx Bad Encodings	The total number of MLD packets with bad encodings received on this interface.
Rx Pkt Drops	The total number of MLD receive packet drops on this interface.
Local Scope Pkts	The total number of MLD packets with local scope received on this interface.
Resvd Scope Pkts	The total number of MLD packets with reserved scope received on this interface.
MCAC Policy Drops	The total number of MLD packets dropped by MCAC policies on this interface.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics group-interface [**fwd-service** *service-id*] *ip-int-name*

statistics group-interface all

statistics host *ipv6-address*

statistics host all

statistics [*ip-int-name* | *ipv6-address*]

statistics ipsec-interface *ip-int-name*

Context

[Tree] (clear>router>mld statistics)

Full Context

clear router mld statistics

Description

This command clears MLD statistics parameters.

Parameters

service-id

Clears the MLD statistics for the service ID.

Values service-id: 1 to 2148278386
svc-name: up to 64 characters.

group-interface *interface-name*

Clears the MLD statistics on the specified group interface.

group-interface all

Clears the MLD statistics on all group interfaces.

host all

Clears the MLD statistics on all hosts.

host *ipv6-address*

Clears the MLD statistics on the specified host.

ip-int-name

Clears statistics for the specified MLD interface name.

ipv6-address

Clears statistics for the specified MLD IPv6 address.

ipsec-interface *ip-int-name*

Clears statistics information for the specified dynamic name for the MLD-enabled child_SA.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

statistics

Syntax

statistics [**peer** *ip-address*]

Context

[Tree] (show>router>msdp statistics)

Full Context

show router msdp statistics

Description

This command displays statistics information related to a MSDP peer.

Parameters

ip-address

Displays information about the specified peer IP address.

Platforms

All

Output

The following output is an example of MSDP statistics information, and Table 600: Output fields: MSDP statistics describes the output fields.

Output example

```
A:ALA-48# show router msdp statistics
===============================================================================
MSDP Statistics
===============================================================================
Glo ActSrc Lim Excd: 0
-------------------------------------------------------------------------------
Peer Address       : 10.20.1.1
-------------------------------------------------------------------------------
Last State Change  : 0d 11:33:16        Last message Peer  : 0d 00:00:17
RPF Failures       : 0                  Remote Closes      : 0
SA Msgs Sent       : 0                  SA Msgs Recvd      : 709
SA req. Msgs Sent  : 0                  SA req. Msgs Recvd : 0
SA res. Msgs Sent  : 0                  SA res. Msgs Recvd : 0
KeepAlive Msgs Sent: 694                KeepAlive Msgs Recd: 694
Unknown Msgs Sent  : 0                  Error Msgs Recvd   : 0
-------------------------------------------------------------------------------
Peers : 1
===============================================================================
A:ALA-48#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 600: Output fields: MSDP statistics

Label	Description
Glo ActSrc Lim Excd	The number of times the active source limit was exceeded across all MSDP sessions
Peer address	The IP address of the peer
Last State Change	The date and time the peer state changed
RPF Failures	The number of reverse path forwarding (RPF) failures
SA Msgs Sent	The number of SA messages sent
SA req. Msgs Sent	The number of SA request messages sent
SA res. Msgs Sent	The number of SA response messages sent
KeepAlive Msgs Sent	The number of keepalive messages sent
Unknown Msgs Sent	The number of unknown messages received
Last message Peer	The time the last message was received from the peer
Remote Closes	The number of times the remote peer close
SA Msgs Recvd	The number of SA messages received
SA req. Msgs Recvd	The number of SA request messages received
SA res. Msgs Recvd	The number of SA response messages received
KeepAlive Msgs Recd	The number of keepalive messages received
Error Msgs Recvd	The number of unknown messages received

statistics

Syntax

statistics [**peer** *ip-address*]

Context

[Tree] (clear>router>msdp statistics)

Full Context

clear router msdp statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears IP address statistics of the peer to which Multicast Source Discovery Protocol (MSDP) source-active (SA) requests for groups matching this entry's group range were sent.

Parameters

ip-address

Clears the statistics of the specified IP address.

Platforms

All

statistics

Syntax

statistics [*ip-int-name* | *mt-int-name* | *ip-address* | *mpls-if-name*] [*family*]

Context

[Tree] (show>router>pim statistics)

Full Context

show router pim statistics

Description

This command displays statistics for a particular PIM instance.

Parameters

ip-int-name

Displays interface information associated with the specified IP interface name.

mt-int-name

Displays information about the default core group address of the Multicast Distribution Tree (MDT) for the VPRN instance. The Multicast Tunnel (MT) interface for a VPRN is created when this object is set to a valid group address.

Syntax: *vprn-id*-mt-*grp-ip-addres*s

ip-address

Displays interface information associated with the specified IP address.

mpls-if-name

Displays information about the specified MPLS interface name.

Syntax: mpls-if-*index*

family

Displays statistics information for the specified family.

Values ipv4, ipv6

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of PIM statistics information. Table 601: Output fields: PIM statistics provides PIM statistics output field descriptions

Output Example

```
A:ALA-1# show router pim statistics
===============================================================
PIM Statistics ipv4
===============================================================
Message Type        Received       Transmitted    Rx Errors
---------------------------------------------------------------
Hello               18009          12834          0
Join Prune          9135           1129           10
Core RPFV JP        0              0              0
MVPN RPFV JP        0              0              0
Asserts             0              0              0
Register            0              0              0
Null Register       0              0              0
Register Stop       0              0              0
BSM                 0              0              0
Candidate RP Adv    0              0              0
Auto-RP Announce    2049           0              0
Auto-RP Mapping     2066           0              0
PIM DM Grafts       0              0              0
PIM DM Graft Acks   0              0              0
Total Packets       31231          13963
---------------------------------------------------------------
Intra-AS AD         0              0              0
Inter-AS AD         0              0              0
Mdt-Safi            1323           10             0
S-PMSI AD           0              0              0
Leaf AD             0              0              0
Source-Active AD    0              0              0
Shared Tree Join    0              0              0
Source Tree Join    0              0              0
Total BGP Packets   1323           10
-------------------------------------------------------------------------------
General Statistics
-------------------------------------------------------------------------------
Rx Invalid Register               : 0
Rx Neighbor Unknown               : 10
Rx Bad Checksum Discard           : 0
Rx Bad Encoding                   : 0
Rx Bad Version Discard            : 0
Rx CRP No Router Alert            : 0
Rx BSM Router Alert Drops         : 0
Rx BSM Wrong If Drops             : 0
Rx Invalid Join Prune             : 0
Rx Invalid Auto-RP PDU            : 0
RPF Mismatch Auto-RP Mapping PDU  : 65
RPF Mismatch Auto-RP Announce PDU : 80
Rx Unknown PDU Type               : 0
Join Policy Drops                 : 0
Register Policy Drops             : 0
Bootstrap Import Policy Drops     : 0
Bootstrap Export Policy Drops     : 0
Mcac Policy Drops                 : 0
Fwd Candidate RP Adv              : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Fwd Candidate RP Adv Drops        : 0
S-pmsi Join TLV PDUs txd.         : 0
S-pmsi Join TLV PDUs rcd.         : 0
S-pmsi Join TLV PDUs txd. Drops   : 0
S-pmsi Join TLV PDUs rcd. Drops   : 0
S-pmsi Maximum-P2mp-Spmsi Hits    : 0
P2mp Pmsi Create Failures         : 0
P2mp Pmsi Request Failures        : 0
PDU Drops on Non-PIM/Down Intf    : 0
Active Tx S-pmsis                 : 0
Active Tx MS-pmsis                : 0
Active Rx S-pmsis                 : 0
Active Rx Pseudo S-pmsis          : 0
Total Tx S-pmsis                  : 0
Total Rx S-pmsis                  : 0
-------------------------------------------------------------------------------
Source Group Statistics
-------------------------------------------------------------------------------
(S,G)                             : 2
(*,G)                             : 2
(*,*,RP)                          : 0
===============================================================
```

Table 601: Output fields: PIM statistics

Label	Description
PIM Statistics	The section listing the PIM statistics for a particular interface
Message Type	The type of message. Hello — The number of PIM hello messages received or transmitted Join Prune — The number of PIM join prune messages received or transmitted Asserts — The number of PIM assert messages received or transmitted Register — The number of register messages received or transmitted Null Register — The number of PIM null register messages received or transmitted Register Stop — The number of PIM register stop messages received or transmitted BSM — The number of PIM Bootstrap messages (BSM) received or transmitted Candidate RP Adv — The number of candidate RP advertisements Auto-RP Announce — The number of auto-RP announce (224.0.1.39) messages received or transmitted Auto-RP Mapping — The number of auto-RP mapping (224.0.1.40) messages received or transmitted

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Message Type	PIM DM Grafts — The number of PIM graft messages received or transmitted PIM DM Graft Acks — The number of PIM graft acknowledgment messages received or transmitted Total Packets — The total number of packets transmitted and received.
Received	The number of messages received
Transmitted	The number of multicast data packets transmitted
Rx Errors	The total number of receive errors
General Interface Statistics	The section listing the general PIM interface statistics
Register TTL Drop	The number of multicast data packets which could not be encapsulated in Register messages because the time to live (TTL) was zero
Tx Register MTU Drop	The number of Bootstrap messages received on this interface but were dropped
Rx Invalid Register	The number of invalid PIM register messages received
Rx Neighbor Unknown	The number of PIM messages (other than hello messages) which were received and were rejected because the adjacency with the neighbor router was not already established
Rx Bad Checksum Discard	The number of PIM messages received, and which were discarded because of bad checksum
Rx Bad Encoding	The number of PIM messages with bad encodings received
Rx Bad Version Discard	The number of PIM messages with bad versions received
Rx CRP No Router Alert	The number of candidate-rp advertisements (C-RP-Adv) received, and which had no router alert option set
Rx Invalid Join Prune	The number of invalid PIM join prune messages received
Rx Unknown PDU Type	The number of packets received with an unsupported PIM type
Join Policy Drops	The number of times the join policy match resulted in dropping PIM join-prune message or one of the source group contained in the message
Register Policy Drops	The number of times the register policy match resulted in dropping PIM register message

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Bootstrap Import Policy Drops	The number of Bootstrap messages received that were dropped because of Bootstrap import policy
Bootstrap Export Policy Drops	The number of Bootstrap messages that were not transmitted because of Bootstrap export policy.
Source Group Statistics	The section listing the source group statistics
(S,G)	The number of entries in which the type is (S,G)
(*,G)	The number of entries in which the type is (*,G)
(*,*,RP)	The number of entries in which the type is (*, *, rp)

statistics

Syntax

statistics [*family*]

statistics [**interface** *ip-int-name* | **mt-int-name** | **int-ip-address**] [*family*]

statistics [**group** *grp-ip-address*] [**source** *ip-address*] [*family*]

Context

[Tree] (clear>router>pim statistics)

Full Context

clear router pim statistics

Description

This command clears PIM statistics on a specified interface or IP address.

Note:
An interface and group or source cannot be specified at the same time.

Parameters

ip-int-name

Clears PIM statistics on the specified interface.

ip-address

Clears PIM statistics on the specified IP address.

mt-int-name

Clears the default core group address of the Multicast Distribution Tree (MDT) for the VPRN instance. The Multicast Tunnel (MT) interface for a VPRN is created when this object is set to a valid group address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

syntax: *vprn-id*-mt-*grp-ip-addres*s

grp-ip-address

When only the group address is specified and no source is specified, (*,G) statistics are cleared. When the group address is specified along with the source address, then the (S,G) statistics are reset to zero.

ip-address

When the source address is specified along with the group address, then the (S,G) statistics are reset to zero.

family

Clears statistics family information.

Values ipv4, ipv6

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (show>router>p2mp-sr-tree statistics)

Full Context

show router p2mp-sr-tree statistics

Description

This command displays P2MP SR tree statistics.

Platforms

All

Output

The following output is an example of P2MP SR tree statistics information.

Note:
The "Programming failures” count in tree SID statistics are not High Availability (HA) compatible and are reset upon an activity switch of the CPMs.

Output Example

```
A:node-2>show>router>p2mp-sr-tree# statistics
===============================================================
P2MP-SR Statistics
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================
General
  Total Number of p2mp-policies        : 2
    static                             : 2
    pce                                : 0
    sr-policy                          : 0
  Total Number candidate-paths         : 2
    static                             : 2
    pce                                : 0
    sr-policy                          : 0
  Total Number replication-segments    : 4
    static                             : 4
    pce                                : 0
    sr-policy                          : 0
  Total Number downstream-nodes        : 2
     static                            : 2
     pce                               : 0
     sr-policy                         : 0
  Total Number push                    : 2
  Total Number swap                    : 1
  Total Number pop                     : 1
  Total Number tunnel-allocated        : 2
Total Number downstream-node interfaces
  inService                            : 1
  outOfService                         : 0
  unsupported                          : 0
  mismatched                           : 0
  without BFD                          : 0
BackPressure
  DataPlane backpressure active        : disabled
  DataPlane backpressure count         : 0
Errors
  Unknown Originator Owner             : 0
  Duplicate TreeIds                    : 0
  Programming failures
    NhIdx                              : 0
    Labels                             : 0
    Tunnels                            : 0
    Protection Grp                     : 0

================================================================================
P2MP Policies
================================================================================
Policy-Name
RootAddr                           TreeId              State         NumPaths
Tunnel                             Active-Path
  Candidate-Path                   Origin              ASN           PLSP-ID
  State                            Create-Time         Preference    Desc
--------------------------------------------------------------------------------
p2mp_policy_8193_10.20.1.3
10.20.1.3                          8193                inService     1
73740                              cp_1
  cp_1                             static              0             --
  inService                        1d 02:25:09         0             1
p2mp_policy_8194_10.20.1.3
10.20.1.3                          8194                inService     1
73745                              cp_1
  cp_1                             static              0             --
  inService                        1d 02:25:10         0             1
--------------------------------------------------------------------------------
Total P2MP Policies : 2
================================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics

Context

[Tree] (show>eth-cfm statistics)

Full Context

show eth-cfm statistics

Description

This command displays the ETH-CFM statistics counters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of ETH-CFM statistics information. Table 602: Output fields: ETH-CFM statistics describes the output fields.

Output Example

```
A:node-2# show eth-cfm statistics
===============================================================================
ETH-CFM System Statistics
===============================================================================
Rx Count           : 10513196          Tx Count           : 2294783
Dropped Congestion : 0                 Discarded Error    : 764766
AIS Currently Act  : 0                 AIS Currently Fail : 0
===============================================================================

================================
ETH-CFM System Op-code Statistics
================================
Op-code      Rx Count   Tx Count
--------------------------------
ccm           4588504    2294779
lbr                 0          0
lbm                 2          0
ltr                 0          1
ltm                 1          0
ais                 0          0
lck                 0          0
tst                 0          0
laps                0          0
raps                0          0
mcc                 0          0
lmr                 0          0
lmm                 0          0
1dm                 0          0
dmr                 0          0
dmm           4012644          0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
exr                 0          0
exm                 0          0
csf                 0          0
vsr                 0          0
vsm                 0          0
1sl                 0          0
slr                 0          0
slm           1912045          0
other               0          0
---------------------------------
Total        10513196    2294780
=================================
```

Table 602: Output fields: ETH-CFM statistics

Label	Description
Rx Count	The ETH-CFM CPU receive rate, in PPS
Tx Count	The ETH-CFM CPU transmit rate, in PPS
Dropped Congestion	The number of valid or supported ETH-CFM packets not processed by the CPU as a result of resource contention
Discard Error	The number of ETH-CFM packets that did not pass validation
AIS Currently Act	The AIS currently act value
AIS Currently Fail	The AIS currently fail value

statistics

Syntax

statistics

Context

[Tree] (show>oam-pm statistics)

Full Context

show oam-pm statistics

Description

Commands in this context display OAM-PM delay or synthetic loss statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics

Context

[Tree] (clear>eth-cfm statistics)

Full Context

clear eth-cfm statistics

Description

This command clears the eth-cfm statistics counters maintained in clearEthCfmStatistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

statistics

Syntax

statistics

statistics interface {*ip-int-name* | *ip-address*}

statistics policy *name*

Context

[Tree] (show>router>authentication statistics)

Full Context

show router authentication statistics

Description

This command displays interface or policy authentication statistics.

Parameters

ip-int-name* | *ip-address

Specifies an existing interface name or IP address.

Values ip-int-name: 32 characters maximum
ip-address: a.b.c.d

name

Specifies an existing policy name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

Authentication Statistics Output — The following output is an example of authentication statistics, and Table 603: Output fields: authentication statistics describes the fields.

Output Example

```
A:ALU-3>show>router>auth# statistics
===============================================================
Authentication Global Statistics
===============================================================
Client Packets Authenticate Fail     : 0
Client Packets Authenticate Ok       : 12
===============================================================
```

Table 603: Output fields: authentication statistics

Label	Description
Client Packets Authenticate Fail	The number of packets that failed authentication
Client Packets Authenticate Ok	The number of packets that were authenticated

statistics

Syntax

statistics [**interface** *ip-int-name* | *ip-address*]

Context

[Tree] (clear>router>authentication statistics)

Full Context

clear router authentication statistics

Description

This command clears authentication statistics.

Parameters

ip-int-name

Clears the authentication statistics for the specified interface name. If the string contains special characters (#, $, spaces, and so on), the entire string must be enclosed within double quotes.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Clears the authentication statistics for the specified IP address.

Platforms

All

statistics

Syntax

statistics [**policy** *policy-id*]

Context

[Tree] (clear>vrrp statistics)

Full Context

clear vrrp statistics

Description

Commands in this context clear and reset VRRP entities.

Parameters

policy-id

Clears statistics for the specified policy.

Values 1 to 9999

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (show>system>ptp statistics)

Full Context

show system ptp statistics

Description

This command displays the message and error statistics for the node.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of PTP statistics information, and Table 604: Output fields: system PTP statistics describes the output fields.

Output Example

```
# show system ptp statistics
===============================================================================
IEEE 1588/PTP Packet Statistics
===============================================================================
                                                                  Input     Output
-------------------------------------------------------------------------------
PTP Packets                                                           0          0
  Announce                                                            0          0
  Sync                                                                0          0
  Follow Up                                                           0          0
  Delay Request                                                       0          0
  Delay Response                                                      0          0
  Signaling                                                           0          0
    Request Unicast Transmission TLVs                                 0          0
      Announce                                                        0          0
      Sync                                                            0          0
      Delay Response                                                  0          0
    Grant Unicast Transmission (Accepted) TLVs                        0          0
      Announce                                                        0          0
      Sync                                                            0          0
      Delay Response                                                  0          0
    Grant Unicast Transmission (Denied) TLVs                          0          0
      Announce                                                        0          0
      Sync                                                            0          0
      Delay Response                                                  0          0
    Cancel Unicast Transmission TLVs                                  0          0
      Announce                                                        0          0
      Sync                                                            0          0
      Delay Response                                                  0          0
    Ack Cancel Unicast Transmission TLVs                              0          0
      Announce                                                        0          0
      Sync                                                            0          0
      Delay Response                                                  0          0
    Other TLVs                                                        0          0
  Other                                                               0          0
  Event Packets timestamped at port                                   0          0
  Event Packets timestamped at cpm                                    0          0
Discards                                                              0          0
  Bad PTP domain                                                      0          0
  Alternate Master                                                    0          0
  Out Of Sequence                                                     0          0
  Peer Disabled                                                       0          0
  Packet Timing Signal Fail - Unusable                                0          0
  maxStepsRemoved exceeded                                            0          0
  Other                                                               0          0
===============================================================================
===============================================================================
IEEE 1588/PTP Frequency Recovery State Statistics
===============================================================================
State                                                             Seconds
-------------------------------------------------------------------------------
Initial                                                                 0
Acquiring                                                               0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Phase-Tracking                                                                  0
Locked                                                                          0
Hold-over                                                                       0
===============================================================================
===============================================================================
IEEE 1588/PTP Event Statistics
===============================================================================
Event                                                        Sync Flow Delay Flow
-------------------------------------------------------------------------------
Packet Loss                                                         0          0
Excessive Packet Loss                                               0          0
Excessive Phase Shift Detected                                      0          0
Too Much Packet Delay Variation - Freq                              0          0
Too Much Packet Delay Variation - Time
===============================================================================
===============================================================================
IEEE 1588/PTP Clock Time Recovery State Statistics
===============================================================================
State                                                                     Seconds
-------------------------------------------------------------------------------
Initial                                                                    1280
Acquiring                                                                    63
Locked                                                                        0
Hold-over                                                                     0
===============================================================================
===============================================================================
IEEE 1588/PTP Message Rates Per Second
===============================================================================
                                                UDP/IP             Ethernet
Packet Type                                   Input    Output     Input    Output
-------------------------------------------------------------------------------
Announce                                          0         0         0         0
Sync                                              0         0         0         0
Follow Up                                         0         0         0         0
Delay Request                                     0         0         0         0
Delay Response                                    0         0         0         0
Other                                             0         0         0         0
-------------------------------------------------------------------------------
Total                                             0         0         0         0
===============================================================================
```

Table 604: Output fields: system PTP statistics

Counter		Counts
PTP Packets (packet type)	Input	The number of input packets for the specified packet type
	Output	The number of output packets for the specified packet type
Discards (reason type)	Input	The number of discarded input packets for the specified reason
	Output	The number of discarded output packets for the specified reason
State (state type)	Seconds	The number of seconds for the specified state type
Event	Sync Flow	The number of sync flows for the specified event type

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Counter		Counts
(event type)	Delay Flow	The number of delay flows for the specified event type
Packet Type (packet type)	UDP/IP Input/Output	The number of UDP/IP input or output packets for the specified packet type
	Ethernet Input/Output	The number of Ethernet input or output packets for the specified packet type

statistics

Syntax

statistics

Context

[Tree] (clear>application-assurance>group statistics)

Full Context

clear application-assurance group statistics

Description

This command clears application assurance statistics.

Platforms

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

statistics

Syntax

statistics

Context

[Tree] (clear>redundancy>multi-chassis>mcr statistics)

Full Context

clear redundancy multi-chassis mc-ring statistics

Description

This command clears multi-chassis ring.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (clear>system>ptp statistics)

Full Context

clear system ptp statistics

Description

This command clears all PTP statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

statistics

Syntax

statistics

Context

[Tree] (clear>system statistics)

Full Context

clear system statistics

Description

This command clears system specific statistics.

Platforms

All

statistics

Syntax

statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>certificate statistics)

Full Context

show certificate statistics

Description

This command shows certificate related statistics.

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (show>router>isis statistics)

Full Context

show router isis statistics

Description

This command displays information regarding IS-IS traffic statistics.

Platforms

All

Output

The following output is an example of IS-IS statistics output.

Output Example

```
*A:Dut-C# show router isis statistics

===============================================================================
Rtr Base ISIS Instance 0 Statistics
===============================================================================
ISIS Instance     : 0
Purge Initiated   : 0                       LSP Regens.    : 17
Sid SRGB err      : 0                       Sid dupl err   : 0

CSPF Statistics
Requests          : 0                       Request Drops  : 0
Paths Found       : 0                       Paths Not Found: 0

SPF Statistics
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
SPF Runs          : 7
 Last runTimeStamp: 01/26/2015 11:22:50
Partial SPF Runs  : 3
 Last runTimeStamp: 01/26/2015 11:22:51

LFA Statistics
LFA Runs          : 7
 Last runTimeStamp: 01/26/2015 11:22:51
Partial LFA Runs  : 3
 Last runTimeStamp: 01/26/2015 11:22:41

RLFA Statistics
RLFA Runs         : 10
 Last runTimeStamp: 01/26/2015 11:22:51

-------------------------------------------------------------------------------
PDU Type   Received   Processed  Dropped    Sent       Retransmitted
-------------------------------------------------------------------------------
LSP        164        164        0          151        0
IIH        146        146        0          147        0
CSNP       288        288        0          291        0
PSNP       71         71         0          74         0
Unknown    0          0          0          0          0
===============================================================================
*A:Dut-C#
```

Table 605: Output fields: IS-IS statistics describes IS-IS statistics output fields.

Table 605: Output fields: IS-IS statistics

Label	Description
Purge Initiated	The number of times purges have been initiated.
SPF Runs	The number of times shortest path first calculations have been made.
LSP Regens	The count of LSP regenerations.
Requests	The number of CSPF requests made to the protocol.
Paths Found	The number of responses to CSPF requests for which paths satisfying the constraints were found.
PDU Type	The PDU type.
Received	The count of link state PDUs received by this instance of the protocol.
Processed	The count of link state PDUs processed by this instance of the protocol.
Dropped	The count of link state PDUs dropped by this instance of the protocol.
Sent	The count of link state PDUs sent out by this instance of the protocol.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Retransmitted	The count of link state PDUs that had to be retransmitted by this instance of the protocol.

statistics

Syntax

statistics

Context

[Tree] (clear>router>isis statistics)

[Tree] (clear>service>id>spb statistics)

Full Context

clear router isis statistics

clear service id spb statistics

Description

This command clears and resets IS-IS statistics.

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (show>router>ospf statistics)

[Tree] (show>router>ospf3 statistics)

Full Context

show router ospf statistics

show router ospf3 statistics

Description

This command displays the global OSPF statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of global OSPF statistic information and Table 606: Output fields: OSPF statistics describes the output fields.

Output Example

```
show router ospf statistics
===============================================================================
Rtr Base OSPFv2 Instance 0 Statistics
===============================================================================
Rx Packets           : 441              Tx Packets           : 463
Rx Hellos            : 361              Tx Hellos            : 371
Rx DBDs              : 9                Tx DBDs              : 7
Rx LSRs              : 3                Tx LSRs              : 3
Rx LSUs              : 54               Tx LSUs              : 72
Rx LS Acks           : 14               Tx LS Acks           : 10
New LSAs Recvd       : 57               New LSAs Orig        : 8
Ext LSAs Count       : 0                No of Areas          : 1
No of Interfaces     : 4                No of Neighbors      : 3
Discards             : 3                Tx Failures          : 3
                                        Retransmits          : 2
Bad Networks         : 0                Bad Virt Links       : 0
Bad Areas            : 0                Bad Dest Addrs       : 0
Bad Auth Types       : 0                Auth Failures        : 0
Bad Neighbors        : 0                Bad Pkt Types        : 0
Bad Lengths          : 0                Bad Hello Int.       : 2
Bad Dead Int.        : 1                Bad Options          : 0
Bad Versions         : 0                Bad Checksums        : 0
SID SRGB errors      : 0                SID dupl errors      : 0
Failed SPF Attempts  : 0                Bad MTUs             : 0
CSPF Requests        : 0                CSPF Request Drops   : 0
CSPF Path Found      : 0                CSPF Path Not Found  : 0
Total SPF Runs       : 6                Total LFA SPF Runs   : 0
Total RLFA SPF Runs  : 0                Total TI-LFA SPF Runs: 0
===============================================================================
show router ospf3 statistics
===============================================================================
Rtr Base OSPFv3 Instance 0 Statistics
===============================================================================
Rx Packets           : 525              Tx Packets           : 564
Rx Hellos            : 387              Tx Hellos            : 387
Rx DBDs              : 8                Tx DBDs              : 7
Rx LSRs              : 3                Tx LSRs              : 3
Rx LSUs              : 113              Tx LSUs              : 156
Rx LS Acks           : 14               Tx LS Acks           : 11
New LSAs Recvd       : 77               New LSAs Orig        : 12
Ext LSAs Count       : 0                No of Areas          : 1
No of Interfaces     : 4                No of Neighbors      : 3
Discards             : 0                Tx Failures          : 0
                                        Retransmits          : 0
Bad Networks         : 0                Bad Virt Links       : 0
Bad Areas            : 0                Bad Dest Addrs       : 0
Bad Auth Types       : 0                Auth Failures        : 0
Bad Neighbors        : 0                Bad Pkt Types        : 0
Bad Lengths          : 0                Bad Hello Int.       : 0
Bad Dead Int.        : 0                Bad Options          : 0
Bad Versions         : 0                Bad Checksums        : 0
SID SRGB errors      : 0                SID dupl errors      : 0
Failed SPF Attempts  : 0                Bad MTUs             : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
CSPF Requests        : 0                CSPF Request Drops   : 0
CSPF Path Found      : 0                CSPF Path Not Found  : 0
Total SPF Runs       : 7                Total LFA SPF Runs   : 0
Total RLFA SPF Runs  : 0                Total TI-LFA SPF Runs: 0
===============================================================================
```

Table 606: Output fields: OSPF statistics

Label	Description
Rx Packets	The total number of OSPF packets received on all OSPF enabled interfaces.
Tx Packets	The total number of OSPF packets transmitted on all OSPF enabled interfaces.
Rx Hellos	The total number of OSPF Hello packets received on all OSPF enabled interfaces.
Tx Hellos	The total number of OSPF Hello packets transmitted on all OSPF enabled interfaces.
Rx DBDs	The total number of OSPF database description packets received on all OSPF enabled interfaces.
Tx DBDs	The total number of OSPF database description packets transmitted on all OSPF enabled interfaces
Rx LSRs	The total number of OSPF Link State Requests (LSRs) received on all OSPF enabled interfaces.
Tx LSRs	The total number of OSPF Link State Requests (LSRs) transmitted on all OSPF enabled interfaces.
Rx LSUs	The total number of OSPF Link State Update (LSUs) received on all OSPF enabled interfaces.
Tx LSUs	The total number of OSPF Link State Update (LSUs) transmitted on all OSPF enabled interfaces.
Rx LS Acks	The total number of OSPF Link State Acknowledgments (LSAs) received on all OSPF enabled interfaces.
New LSAs Recvd	The total number of new OSPF Link State Advertisements received on all OSPF enabled interfaces.
New LSAs Orig	The total number of new OSPF Link State Advertisements originated on all OSPF enabled interfaces.
Ext LSAs Count	The total number of OSPF External Link State Advertisements.
No of Areas	The number of areas configured for this OSPF instance.
Total SPF Runs	The total number of incremental SPF runs triggered by new or updated LSAs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ext SPF Runs	The total number of incremental SPF runs triggered by new or updated type-5 external LSAs.
Retransmits	The total number of OSPF Retransmits transmitted on all OSPF enabled interfaces.
Discards	The total number of OSPF packets discarded on all OSPF enabled interfaces.
Bad Networks	The total number of OSPF packets received on all OSPF enabled interfaces with invalid network or mask.
Bad Virt Links	The total number of OSPF packets received on all OSPF enabled interfaces that are destined to a virtual link that does not exist.
Bad Areas	The total number of OSPF packets received on all OSPF enabled interfaces with an area mismatch.
Bad Dest Addrs	The total number of OSPF packets received on all OSPF enabled interfaces with the incorrect IP destination address.
Bad Auth Types	The total number of OSPF packets received on all OSPF enabled interfaces with an invalid authorization type.
Auth Failures	The total number of OSPF packets received on all OSPF enabled interfaces with an invalid authorization key.
Bad Neighbors	The total number of OSPF packets received on all OSPF enabled interfaces where the neighbor information does not match the information this router has for the neighbor.
Bad Pkt Types	The total number of OSPF packets received on all OSPF enabled interfaces with an invalid OSPF packet type.
Bad Lengths	The total number of OSPF packets received on all OSPF enabled interfaces with a total length not equal to the length given in the packet itself.
Bad Hello Int.	The total number of OSPF packets received on all OSPF enabled interfaces where the hello interval given in packet was not equal to that configured for the respective interface.
Bad Dead Int.	The total number of OSPF packets received on all OSPF enabled interfaces where the dead interval given in the packet was not equal to that configured for the respective interface.
Bad Options	The total number of OSPF packets received on all OSPF enabled interfaces with an option that does not match those configured for the respective interface or area.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Bad Versions	The total number of OSPF packets received on all OSPF enabled interfaces with bad OSPF version numbers.
Tx Failures	Transmitted OSPF packets that are dropped due to resource shortage.

statistics

Syntax

statistics

Context

[Tree] (clear>router>ospf3 statistics)

[Tree] (clear>router>ospf statistics)

Full Context

clear router ospf3 statistics

clear router ospf statistics

Description

This command clears all neighbor, router, interface, SPF and global statistics of this OSPF instance.

Platforms

All

statistics

Syntax

statistics [*ipv6-address* | *ip-int-name*]

Context

[Tree] (show>router>ripng statistics)

Full Context

show router ripng statistics

Description

This command displays the interface level statistics for the RIPng protocol.

If no IPv6 address or interface name is specified, then all configured RIPng interfaces are displayed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

If an IPv6 address or interface name is specified, then only data regarding the specified RIPng interface is displayed.

Parameters

ipv6-address* | *ip-int-name

Displays statistics for the specified IPv6 interface.

Platforms

All

Output

The following output are examples of RIPng statistics information.

Output Example

```
*A:Dut-C>config>router>if# show router ripng statistics
===============================================================================
RIP-NG Statistics
===============================================================================
Learned Routes     : 40                 Timed Out Routes   : 0
Current Memory     : 1,199,016          Maximum Memory     : 2,097,152
-------------------------------------------------------------------------------
Interface "one"
-------------------------------------------------------------------------------
Primary IP         : 3ffe::10:10:3:3/1* Update Timer       : 1
Timeout Timer      : 5                  Flush Timer        : 5

Counter                       Total           Last 5 Min      Last 1 Min
-------------------------------------------------------------------------------
Updates Sent                  221             180             5
Triggered Updates             0               0               0
Bad Packets Received          0               0               0
Updates Received              225             185             3
Updates Ignored               0               0               0
Bad Routes                    0               0               0
Requests Received             0               0               0
Requests Ignored              0               0               0
-------------------------------------------------------------------------------
Interface "two"
-------------------------------------------------------------------------------
Primary IP         : 3ffe::10:10:103:3* Update Timer       : 1
Timeout Timer      : 5                  Flush Timer        : 5

Counter                       Total           Last 5 Min      Last 1 Min
-------------------------------------------------------------------------------
Updates Sent                  220             183             5
Triggered Updates             0               0               0
Bad Packets Received          0               0               0
Updates Received              229             183             5
Updates Ignored               0               0               0
Bad Routes                    0               0               0
Requests Received             0               0               0
Requests Ignored              0               0               0
-------------------------------------------------------------------------------
Interface "three"
-------------------------------------------------------------------------------
Primary IP         : 3ffe::10:10:12:3/* Update Timer       : 1
Timeout Timer      : 5                  Flush Timer        : 5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Counter                       Total           Last 5 Min      Last 1 Min
-------------------------------------------------------------------------------
Updates Sent                  224             184             6
Triggered Updates             0               0               0
Bad Packets Received          0               0               0
Updates Received              221             182             4
Updates Ignored               0               0               0
Bad Routes                    0               0               0
Requests Received             0               0               0
Requests Ignored              0               0               0
-------------------------------------------------------------------------------
Interface "four"
-------------------------------------------------------------------------------
Primary IP         : 3ffe::10:10:112:3* Update Timer       : 1
Timeout Timer      : 5                  Flush Timer        : 5

Counter                       Total           Last 5 Min      Last 1 Min
-------------------------------------------------------------------------------
Updates Sent                  220             182             8
Triggered Updates             0               0               0
Bad Packets Received          0               0               0
Updates Received              227             185             4
Updates Ignored               0               0               0
Bad Routes                    0               0               0
Requests Received             0               0               0
Requests Ignored              0               0               0
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-C>config>router>if# show router ripng statistics "one"
===============================================================================
RIP-NG Statistics
===============================================================================
Learned Routes     : 40                 Timed Out Routes   : 0
Current Memory     : 1,199,016          Maximum Memory     : 2,097,152
-------------------------------------------------------------------------------
Interface "one"
-------------------------------------------------------------------------------
Primary IP         : 3ffe::10:10:3:3/1* Update Timer       : 1
Timeout Timer      : 5                  Flush Timer        : 5

Counter                       Total           Last 5 Min      Last 1 Min
-------------------------------------------------------------------------------
Updates Sent                  224             183             8
Triggered Updates             0               0               0
Bad Packets Received          0               0               0
Updates Received              230             190             8
Updates Ignored               0               0               0
Bad Routes                    0               0               0
Requests Received             0               0               0
Requests Ignored              0               0               0
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

statistics

Syntax

statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>subscr-mgmt>pfcp statistics)

Full Context

show subscriber-mgmt pfcp statistics

Description

This command displays the packet counters for each PFCP message and upstream IBCP message.

Platforms

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

Output

The following output is an example of PFCP statistics information.

Output Example

```
A:BNG-UPF# show subscriber-mgmt pfcp statistics
===============================================================================
PFCP System Statistics
===============================================================================

PFCP Session Related Messages

Session Establish Req      : 3          Session Establish Resp     : 3
Session Establish Resp fail: 0
Session Modify Req         : 2          Session Modify Resp        : 2
Session Modify Resp fail   : 0
Session Deletion Req       : 1          Session Deletion Resp      : 1
Session Deletion Resp fail : 0
Session Report Req         : 1          Session Report Resp        : 1
Session Report Resp fail   : 0
Session Report DDR Req     : 0          Session Report DDR Rsp     : 0
Session Report DDR Rsp fail: 0
Session Report UR Req      : 0          Session Report UR Rsp      : 0
Session Report UR Rsp fail : 0
Session Report EIR Req     : 0          Session Report EIR Rsp     : 0
Session Report EIR Rsp fail: 0
Session Report UPIR Req    : 1          Session Report UPIR Rsp    : 1
Session Report UPIR Rs fail: 0

PFCP Session Audit Related Messages

Session Modify Req         : 0          Session Modify Resp        : 0
Session Modify Resp fail   : 0
Session Report Req         : 0          Session Report Rsp         : 0
Session Report Rsp fail    : 0

PFCP Node Related Messages

Node Report Req            : 0          Node Report Resp           : 0
Node Report Resp fail      : 0
Assoc Setup Req Rx         : 0          Assoc Setup Resp Rx        : 1
Assoc Setup Resp fail Rx   : 0
Assoc Setup Req Tx         : 1          Assoc Setup Resp Tx        : 0
Assoc Setup Resp fail Tx   : 0
Assoc Upd Req Rx           : 0          Assoc Upd Resp Rx          : 0
Assoc Upd Resp fail Rx     : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Assoc Upd Req Tx           : 0          Assoc Upd Resp Tx          : 0
Assoc Upd Resp fail Tx     : 0
Assoc Upd Req with ARR     : 0          Assoc Upd Req with GRP     : 0
Assoc Upd Req ARR & GRP    : 0
Assoc Release Req          : 0          Assoc Release Resp         : 0
Assoc Release Resp fail    : 0
Heartbeat Req Rx           : 417        Heartbeat Resp Rx          : 1
Heartbeat Req Tx           : 1          Heartbeat Resp Tx          : 417
Heartbeat Aud Trig Req Tx  : 0          Heartbeat Aud Trig Rsp Rx  : 0
Heartbeat Aud Start Req Rx : 0          Heartbeat Aud Start Rsp Tx : 0
Heartbeat Aud End Req Rx   : 0          Heartbeat Aud End Rsp Tx   : 0

IBCP upstream packet statistics

Ipoe Rx Pkts               : 0
Pppoe Ctrl Rx Pkts         : 10
Pppoe Data Rx Pkts         : 16
Tx Pkts to Smf             : 26

IBCP upstream packet discard statistics

Missing pkt detection rule : 0
Default tnl trigger missing: 0
Default tunnel missing     : 0
Parsing error              : 0
Tx error                   : 0

IBCP default tunnel
overwrite                  : 0

Number of PFCP Sessions    : 2
-------------------------------------------------------------------------------
===============================================================================
```

statistics

Syntax

statistics lsp-path [**lsp-index** *lsp-index*] [**path-lspid** *path-lspid*][**prefix** *ip-prefixIprefix-length*] [**src** *ip-address* | *ipv6 address*]

statistics lsp-path all

statistics sr-policy [**lsp-index** *lsp-index*] [**path-lspid** *path-lspid*] [**prefix** *ip-prefixIprefix-length*] [**src** *ip-address* | *ipv6 address*]

statistics sr-policy all

Context

[Tree] (clear>router>bfd>seamless-bfd statistics)

Full Context

clear router bfd seamless-bfd statistics

Description

This command clears BFD statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

lsp-path

Keyword to clear the S-BFD statistics for LSP path.

sr-policy

Keyword to clear the S-BFD statistics for SR policy.

all

Keyword to clear all S-BFD statistics.

lsp-index *lsp-index*

Specifies the LSP index.

Values 0 to 4294967295

path-lspid *path-lspid*

Specifies the path LSP ID.

Values 0 to 4294967295

prefix

Keyword to clear information by far-end prefix.

ip-prefix/prefix-length

Specifies an IP prefix for which to clear S-BFD statistics, and the length of the prefix.

Values *ipv4-prefix* — a.b.c.d (host bits must be zero)
ipv4-prefix-length — 0 to 32
ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x — 0 to FFFF (hexadecimal)
d — 0 to 255 (decimal)
ipv6-prefix-length — 0 to 128

ip-address* | *ipv6-address

Specifies the IP address for which to clear S-BFD statistics.

Values *ipv4-address* — a.b.c.d
ipv6-address — x:x:x:x:x:x:x:x[-interface]
x:x:x:x:x:x:d.d.d.d[-interface]
x — 0 to FFFF (hexadecimal)
d — 0 to 255 (decimal)
interface — mandatory for link local address, up to 32 characters

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>isis statistics)

Full Context

monitor router isis statistics

Description

This command displays statistical IS-IS traffic information at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified router statistics. The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of ISIS statistics.

Output Example

```
A:ALA-12>monitor>router>isis# statistics interval 3 repeat 2 absolute
===============================================================================
ISIS Statistics
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
ISIS Instance     : 1                       SPF Runs       : 2
Purge Initiated   : 0                       LSP Regens.    : 11

CSPF Statistics

Requests          : 0                       Request Drops  : 0
Paths Found       : 0                       Paths Not Found: 0
-------------------------------------------------------------------------------
PDU Type   Received   Processed  Dropped    Sent       Retransmitted
-------------------------------------------------------------------------------
LSP        0          0          0          0          0
IIH        0          0          0          74         0
CSNP       0          0          0          0          0
PSNP       0          0          0          0          0
Unknown    0          0          0          0          0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
ISIS Instance     : 1                       SPF Runs       : 2
Purge Initiated   : 0                       LSP Regens.    : 11

CSPF Statistics

Requests          : 0                       Request Drops  : 0
Paths Found       : 0                       Paths Not Found: 0
-------------------------------------------------------------------------------
PDU Type   Received   Processed  Dropped    Sent       Retransmitted
-------------------------------------------------------------------------------
LSP        0          0          0          0          0
IIH        0          0          0          74         0
CSNP       0          0          0          0          0
PSNP       0          0          0          0          0
Unknown    0          0          0          0          0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
ISIS Instance     : 1                       SPF Runs       : 2
Purge Initiated   : 0                       LSP Regens.    : 11

CSPF Statistics

Requests          : 0                       Request Drops  : 0
Paths Found       : 0                       Paths Not Found: 0
-------------------------------------------------------------------------------
PDU Type   Received   Processed  Dropped    Sent       Retransmitted
-------------------------------------------------------------------------------
LSP        0          0          0          0          0
IIH        0          0          0          74         0
CSNP       0          0          0          0          0
PSNP       0          0          0          0          0
Unknown    0          0          0          0          0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
A:ALA-12>monitor>router>isis# statistics interval 3 repeat 2 rate
===============================================================================
ISIS Statistics
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
ISIS Instance     : 1                     SPF Runs       : 2
Purge Initiated   : 0                     LSP Regens.    : 11

CSPF Statistics

Requests          : 0                     Request Drops  : 0
Paths Found       : 0                     Paths Not Found: 0
-------------------------------------------------------------------------------
PDU Type   Received   Processed  Dropped    Sent       Retransmitted
-------------------------------------------------------------------------------
LSP        0          0          0          0          0
IIH        0          0          0          76         0
CSNP       0          0          0          0          0
PSNP       0          0          0          0          0
Unknown    0          0          0          0          0
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
ISIS Instance     : 1                     SPF Runs       : 0
Purge Initiated   : 0                     LSP Regens.    : 0

CSPF Statistics

Requests          : 0                     Request Drops  : 0
Paths Found       : 0                     Paths Not Found: 0
-------------------------------------------------------------------------------
PDU Type   Received   Processed  Dropped    Sent       Retransmitted
-------------------------------------------------------------------------------
LSP        0          0          0          0          0
IIH        0          0          0          0          0
CSNP       0          0          0          0          0
PSNP       0          0          0          0          0
Unknown    0          0          0          0          0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
ISIS Instance     : 1                     SPF Runs       : 0
Purge Initiated   : 0                     LSP Regens.    : 0

CSPF Statistics

Requests          : 0                     Request Drops  : 0
Paths Found       : 0                     Paths Not Found: 0
-------------------------------------------------------------------------------
PDU Type   Received   Processed  Dropped    Sent       Retransmitted
-------------------------------------------------------------------------------
LSP        0          0          0          0          0
IIH        0          0          0          1          0
CSNP       0          0          0          0          0
PSNP       0          0          0          0          0
Unknown    0          0          0          0          0
===============================================================================
A:ALA-12>monitor>router>isis#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>ldp statistics)

Full Context

monitor router ldp statistics

Description

Monitor statistics for LDP instance at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the LDP statistics. The subsequent statistical information listed for each interval is displayed as a delta to the previous display. When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of LDP statistics information.

Output Example

```
A:ALA-12>monitor>router>ldp# statistics interval 3 repeat 3 absolute
===============================================================================
Monitor statistics for LDP instance
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Addr FECs Sent    : 0                   Addr FECs Recv     : 0
Serv FECs Sent    : 1                   Serv FECs Recv     : 2
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Addr FECs Sent    : 0                   Addr FECs Recv     : 0
Serv FECs Sent    : 1                   Serv FECs Recv     : 2
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Addr FECs Sent    : 0                   Addr FECs Recv     : 0
Serv FECs Sent    : 1                   Serv FECs Recv     : 2
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Absolute)
-------------------------------------------------------------------------------
Addr FECs Sent    : 0                   Addr FECs Recv     : 0
Serv FECs Sent    : 1                   Serv FECs Recv     : 2
===============================================================================
A:ALA-12>monitor>router>ldp#


A:ALA-12>monitor>router>ldp# statistics interval 3 repeat 3 rate
===============================================================================
Monitor statistics for LDP instance
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
Addr FECs Sent    : 0                   Addr FECs Recv     : 0
Serv FECs Sent    : 1                   Serv FECs Recv     : 2
-------------------------------------------------------------------------------
At time t = 3 sec (Mode: Rate)
-------------------------------------------------------------------------------
Addr FECs Sent    : 0                   Addr FECs Recv     : 0
Serv FECs Sent    : 0                   Serv FECs Recv     : 0
-------------------------------------------------------------------------------
At time t = 6 sec (Mode: Rate)
-------------------------------------------------------------------------------
Addr FECs Sent    : 0                   Addr FECs Recv     : 0
Serv FECs Sent    : 0                   Serv FECs Recv     : 0
-------------------------------------------------------------------------------
At time t = 9 sec (Mode: Rate)
-------------------------------------------------------------------------------
Addr FECs Sent    : 0                   Addr FECs Recv     : 0
Serv FECs Sent    : 0                   Serv FECs Recv     : 0
===============================================================================
A:ALA-12>monitor>router>ldp#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics [**interval** *interval*] [**repeat** *repeat*] [**absolute**| **rate**]

Context

[Tree] (monitor>eth-cfm statistics)

Full Context

monitor eth-cfm statistics

Description

This command monitors the control plane traffic statistics.

Parameters

interval

Configures the interval for each display in seconds.

Values 3 to 60

Default 10

repeat

Configures the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Keyword used to display raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Keyword to display rate-per-second for each statistic instead of the delta.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

statistics

Syntax

statistics all

statistics neighbor *ip-address* [**port** *port-number*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>service>id>gsmp statistics)

Full Context

clear service id gsmp statistics

Description

This command clears General Switch Management Protocol (GSMP) statistics.

Parameters

all

Clears all GSMP related statistics.

ip-address

Specifies the IP address.

Values a.b.c.d. (unicast address only)

port-number

Specifies port number.

Values 0 to 65535

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (clear>system>ptp>port statistics)

Full Context

clear system ptp port statistics

Description

This command clears PTP port statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics

Syntax

statistics

Context

[Tree] (clear>service>id>subhosts statistics)

Full Context

clear service id subscriber-hosts statistics

Description

This command clears subscriber host HTTP redirect statistics.

Platforms

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

statistics

Syntax

statistics

Context

[Tree] (show>li>x-interfaces statistics)

Full Context

show li x-interfaces statistics

Description

Commands in this context display statistics of the X1, X2, and X3 interfaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

statistics

Syntax

statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>router>bier statistics)

Full Context

clear router bier statistics

Description

This command clears BIER statistics.

Platforms

All

statistics

Syntax

statistics [**policy** *policy-name*]

Context

[Tree] (clear>router>mcac statistics)

Full Context

clear router mcac statistics

Description

This command clears and resets MCAC statistics.

Parameters

policy-name

Specifies the policy name, up to 32 characters.

Platforms

All

statistics

Syntax

statistics [**portal** *name*] [**all-portals**]

Context

[Tree] (clear>router>wpp statistics)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear router wpp statistics

Description

This command clears WPP statistics.

Parameters

portal-name

Specifies the portal name, up to 32 characters.

Platforms

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

statistics

Syntax

statistics

Context

[Tree] (clear>router>autoconfigure>rtr-adv statistics)

Full Context

clear router autoconfigure router-advertisement statistics

Description

This command clears router-advertisement statistics.

Platforms

7450 ESS-7, 7750 SR-1, 7750 SR-7, 7750 SR-1e, 7750 SR-2e, 7750 SR-s

statistics

Syntax

statistics

Context

[Tree] (clear>system>management-interface>netconf>call-home>all-client statistics)

Full Context

clear system management-interface netconf call-home all-client statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command resets statistics for all NETCONF call-home clients.

Platforms

All

statistics

Syntax

statistics

Context

[Tree] (clear>system>management-interface>netconf>listen statistics)

Full Context

clear system management-interface netconf listen statistics

Description

This command resets NETCONF listen server statistics.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25 s Commands – Part III

25.1 statistics-summary

statistics-summary

Syntax

statistics-summary [**active**] [**family**]

Context

[Tree] (show>router>ldp statistics-summary)

Full Context

show router ldp statistics-summary

Description

This command displays LDP statistics summary information.

Parameters

active

Displays LDP statistics for only active paths.

family

Displays either IPv4 or IPv6 LDP information.

Platforms

All

Output

Output Example

```
*A:Dut-A# show router ldp statistics-summary
===============================================================================
Statistics Summary
===============================================================================
LDP FEC IPv4 Prefix Egress statistics  : 0
LDP FEC IPv6 Prefix Egress statistics  : 0
===============================================================================
*A:Dut-A#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

statistics-summary

Syntax

statistics-summary

Context

[Tree] (show>router>mpls statistics-summary)

Full Context

show router mpls statistics-summary

Description

This command displays the number of LSP statistics configured.

Platforms

All

Output

The following output is an example of MPLS statistics summary information.

Output Example

```
*A:SRU4>config>router>mpls# show router mpls statistics-summary
===============================================================================
Statistics Summary
===============================================================================
LSP egress statistics                 : 0
LSP ingress statistics                : 0
===============================================================================
*A:SRU4>config>router>mpls#
```

25.2 stats

stats

Syntax

stats

Context

[Tree] (tools>dump>ipsec stats)

Full Context

tools dump ipsec stats

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context dump the IPsec statistics.

Platforms

All

stats

Syntax

stats

Context

[Tree] (clear>ipsec stats)

Full Context

clear ipsec stats

Description

Commands in this context clear IKE statistics.

Platforms

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

25.3 status

status

Syntax

status

Context

[Tree] (show>call-trace status)

Full Context

show call-trace status

Description

This command gives a router-wide overview of call-trace operational data, such as number of configured profile, number of jobs and status of the compact flash.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of call trace status information.

Output Example

```
===============================================================================
Call trace status
===============================================================================
No. of trace profiles: 1
No. of trace jobs    : 0
-------------------------------------------------------------------------------
Primary CF           : CF1             Max files number     : 200
CF1 state            : enabled         CF1 volume limit     : 1000 MB
CF2 state            : enabled         CF2 volume limit     : 1000 MB
```

Table 607: Output fields: call trace status describes call trace status output field information.

Table 607: Output fields: call trace status

Field	Descriptions
No. of trace profiles	The number of profiles configured in the system
No. of trace jobs	The number of trace jobs
Primary CF	The compact flash card to be used as the primary local storage location to save the generated call trace log files
Max files number	The cumulative number of call trace log files present on all cflash cards on the active CPM that are being used for local storage has reached the limit
CF1 state	The status of a call trace job on CF2. "running” indicates the job is active and is tracing events triggered by the host being monitored. "finished” indicates the job has already finished and is not tracing events generated by the host anymore.
CF1 volume limit	The data volume limit for the CF1 call trace job
CF2 state	The status of a call trace job on CF2. "running” indicates the job is active and is tracing events triggered by the host being monitored. "finished” indicates the job has already finished and is not tracing events generated by the host anymore.
CF2 volume limit	The data volume limit for the CF2 call trace job

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

status

Syntax

status

Context

[Tree] (show>router>igmp status)

Full Context

show router igmp status

Description

This command displays IGMP status information.

If IGMP is not enabled, the following message appears:

```
A:NYC# show router igmp status
MINOR: CLI IGMP is not configured.
A:NYC#
```

Platforms

All

Output

The following output is an example of IGMP status information. Table 608: Output fields: IGMP status provides IGMP status field descriptions.

Output Example

```
*A:ALA-BA# show router 100 igmp status
===============================================================================
IGMP Status
===============================================================================
Admin State                       : Up
Oper State                        : Up
Query Interval                    : 1024
Last Member Query Interval        : 1024
Query Response Interval           : 1023
Robust Count                      : 10
===============================================================================
*A:ALA-BA#
```

Table 608: Output fields: IGMP status

Label	Description
Admin State	The administrative status of IGMP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Oper State	The current operating state of this IGMP protocol instance on this router.
Query Interval	The frequency at which IGMP query packets are transmitted.
Last Member Query Interval	The maximum response time inserted into group-specific queries sent in response to leave group messages, and is also the amount of time between group-specific query messages.
Query Response Interval	The maximum query response time advertised in IGMPv2 queries.
Robust Count	The number of times the router will retry a query.

status

Syntax

status

Context

[Tree] (show>service>id>spb status)

Full Context

show service id spb status

Description

This command displays SPB status.

Platforms

All

Output

The following output is an example of service SPB status information.

Output Example

```
A:cses-B01#  show service id spb status
===============================================================================
ISIS Status
===============================================================================
System Id            : 0000.00AA.AAAA
Admin State          : Up
Oper State           : Up
SPB Routing          : Enabled
Last Enabled         : 07/23/2012 16:01:06
Level Capability     : L1
Authentication Check : True
Authentication Type  : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
CSNP-Authentication  : Enabled
HELLO-Authentication : Enabled
PSNP-Authentication  : Enabled
Overload-On-Boot Tim*: 0
LSP Lifetime         : 1200
LSP Wait             : 5 sec (Max)   0 sec (Initial)   1 sec (Second)
LSP MTU Size         : 1492  (Config)  1492  (Oper)
Adjacency Check      : loose
L1 Auth Type         : none
L1 CSNP-Authenticati*: Enabled
L1 HELLO-Authenticat*: Enabled
L1 PSNP-Authenticati*: Enabled
L1 Preference        : 15
L1 Ext. Preference   : 160
L1 Wide Metrics      : Enabled
L1 LSDB Overload     : Disabled
L1 LSPs              : 4
L1 Default Metric    : 10
L1 IPv6 Def Metric   : 10
Last SPF             : 07/23/2012 16:01:29
SPF Wait             : 10 sec (Max)   1000 ms (Initial)   1000 ms (Second)
Multi-topology       : Disabled
Area Addresses       : 00
Total Exp Routes(L1) : 0
IID TLV              : Disabled
All-L1-MacAddr       : 01:80:c2:00:00:14
===============================================================================
```

status

Syntax

status [*family*]

Context

[Tree] (show>service>id>pim-snooping status)

Full Context

show service id pim-snooping status

Description

This command displays PIM status information.

Parameters

family

Displays either IPv4 or IPv6 status information

Values ipv4 or ipv6

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of service PIM snooping status information.

Output Example

```
*A:PE# show service id 1 pim-snooping status
===============================================================================
PIM Snooping Status ipv4
===============================================================================
Admin State                       : Up
Oper State                        : Up
Mode Admin                        : Proxy
Mode Oper                         : Proxy
Hold Time                         : 90
Designated Router                 : 10.0.1.2
J/P Tracking                      : Inactive
Up Time                           : 0d 00:08:43
Group Policy                      : None
===============================================================================
*A:PE#
```

status

Syntax

status

Context

[Tree] (show>router>ldp status)

Full Context

show router ldp status

Description

This command displays LDP status information.

Platforms

All

Output

LDP Status Output

Table 609: Output fields: LDP status describes the LDP status output fields.

Output Example

```
*A:Sim>config>router>ldp# show router ldp status

===============================================================================
LDP Status for IPv4 LSR ID 0.0.0.0
               IPv6 LSR ID ::
===============================================================================
Created at         : 02/01/22 16:19:46
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Last Change        : 02/01/22 16:19:46
Admin State        : Up
IPv4 Oper State    : Down                IPv6 Oper State      : Down
IPv4 Down Time     : 2d 03:47:02         IPv6 Down Time       : 2d 03:47:02
IPv4 Oper Down Rea*: systemIpDown        IPv6 Oper Down Reason: systemIpDown
IPv4 Oper Down Eve*: 0                   IPv6 Oper Down Events: 0
Tunn Down Damp Time: 3 sec               Weighted ECMP        : Disabled
Tunnel Table Pref  : 9
Label Withdraw Del*: 0 sec               Implicit Null Label  : Disabled
Short. TTL Local   : Enabled             Short. TTL Transit   : Enabled
ConsiderSysIPInGep : Disabled
Imp Ucast Policies : None                Exp Ucast Policies   : None
Imp Mcast Policies : None
Tunl Exp Policies  : None                Tunl Imp Policies    : None
FRR                : Disabled            Mcast Upstream FRR   : Disabled
Mcast Upst ASBR FRR: Disabled            ASBR MoFRR Loop Detct: Disabled
MP MBB Time        : 3
Aggregate Prefix   : False               Agg Prefix Policies  : None
Class Forwarding   : Disabled
Legacy LSR Interop : False
Entropy Label Capa*: False
Generate Basic FEC : Disabled
Resolve Root Using : ucastRtm
Import PMSI Routes : None
Cfg Max ECMP Routes: 32                  Oper ECMP            : 1
-------------------------------------------------------------------------------
Capabilities
-------------------------------------------------------------------------------
Dynamic            : Enabled             P2MP                 : Enabled
IPv4 Prefix Fec    : Enabled             IPv6 Prefix Fec      : Enabled
Service Fec128     : Enabled             Service Fec129       : Enabled
MP MBB             : Enabled             Overload             : Enabled
Unrecognized Notif*: Enabled
===============================================================================
```

Table 609: Output fields: LDP status

Label	Description
Created at	The date and time when the LDP instance was created.
Last Change	The date and time when the LDP instance was last modified.
Admin State	Up — The LDP is administratively enabled. Down — The LDP is administratively disabled.
Oper State	Up — The LDP is operationally enabled. Down — The LDP is operationally disabled.
Up Time	The time, in hundredths of seconds, that the LDP instance has been operationally up.
Oper Down Reason	The reason for the operational down status.
Oper Down Events	The number of times the LDP instance has gone operationally down since the instance was created.
Tunn Down Damp Time	Indicates the value configured by **tunnel-down-damp-time**.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Weighted ECMP	Indicates whether weighted ecmp is enabled or not.
Label Withdraw Del*	Indicates the value configured by **label-withdrawal-delay**.
Implicit Null Label	Indicates whether implicit null is supported.
Short. TTL Local	Indicates whether **shortcut-local-ttl-propagate** is enabled or not.
Short. TTL Transit	Indicates whether **shortcut-transit-ttl-propagate** is enabled or not.
ConsiderSysIPByPol*	Whether **consider-system-ip-in-gep** is enabled.
Imp Ucast Policies	Lists the applied import unicast policies, if any. Up to five import policies can be specified.
Exp Ucast Policies	Lists the applied export unicast policies, if any. Up to five import policies can be specified.
Imp Mcast Policies	Lists the applied import multicast policies, if any. Up to five import policies can be specified.
Tunl Exp Policies	Lists the applied tunnel export policies, if any. Up to five import policies can be specified.
FRR	Indicates whether Fast ReRoute is enabled or not.
Mcast Upstream FRR	Indicates whether multicast upstream fast reroute has been enabled or not.
Mcast Upst ASBR FRR	Indicates whether multicast upstream fast reroute has been enabled or not at ASBR.
MP MBB Time	Indicates the value configured by **mp-mbb-time**.
Aggregate Prefix	Indicates whether aggregate-prefix-match has been enabled or not.
Agg Prefix Policies	Lists the policies for the aggregate prefix match, if any. Up to five aggregate prefix policies can be specified.
Class Forwarding	Indicates whether class forwarding is in the enabled or disabled mode. Enabled modes are (lsr, ler, or lsr-and-ler).
Legacy LSR Interop	Indicates whether legacy LSR interoperability has been enabled or not.
Entropy Label Capa*	Indicates whether the support for entropy label is enabled or not.
Generate Basic FEC	Indicates whether generate-basic-fec-only has been enabled or not.
Resolve Via Mcast *	Indicates whether the route for the root address of P2MP FECs will be resolved using the unicast routing table or the multicast routing table.
Capabilities	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Dynamic	Indicates whether LDP supports changing capabilities dynamically using the LDP Capability message, or only in the Initialization message.
P2MP	Indicates whether LDP supports exchanging P2MP FECs.
IPv4 Prefix Fec	Indicates whether LDP supports exchanging IPv4 Prefix FECs.
IPv6 Prefix Fec	Indicates whether LDP supports exchanging IPv6 Prefix FECs.
Service Fec128	Indicates whether LDP supports exchanging basic pseudowire service FECs.
Service Fec129	Indicates whether LDP supports exchanging generalized pseudowire (PWE3) service FECs.
MP MBB	Indicates whether MP MBB is enabled or not.
Overload	Indicates whether LDP supports sending and receiving overload notification messages (Nokia vendor extension).
Unrecognized Notif*	Indicates whether LDP supports receiving notification messages with an unrecognized status; required for the end-of-lib feature (RFC 5919).

status

Syntax

status

Context

[Tree] (show>router>mpls status)

Full Context

show router mpls status

Description

This command displays MPLS operation information.

Platforms

All

Output

The following output is an example of MPLS status information.

Table 610: Output fields: MPLS status describes MPLS status output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
# show router mpls status

===============================================================================
MPLS Status
===============================================================================
Admin Status              : Up
Oper(V4) State            : Up          Oper(V6) State            : Up
IPv4 Oper Down Reason     : n/a
IPv6 Oper Down Reason     : n/a
FRR Object                : Enabled     Resignal Timer            : Disabled
Hold Timer                : 1 seconds   Next Resignal             : N/A
Srlg Frr                  : Disabled    Srlg Frr Strict           : Disabled
Admin Group Frr           : Disabled
Dynamic Bypass            : Enabled     User Srlg Database        : Disabled
BypassResignalTimer       : Disabled    BypassNextResignal        : N/A
LeastFill Min Thd         : 5 percent   LeastFill Reopti Thd      : 10 percent
Local TTL Prop            : Enabled     Transit TTL Prop          : Enabled
P2mp TTL Prop             : Disabled
AB Sample Multiplier      : 1           AB Adjust Multiplier      : 288
Exp Backoff Retry         : Disabled    CSPF On Loose Hop         : Disabled
Lsp Init RetryTimeout     : 30 seconds  MBB Pref Current Hops     : Disabled
Logger Event Bundling     : Disabled
Retry on IGP Overload     : Disabled    Resignal on IGP Overload  : Enabled

P2mp Resignal Timer       : Disabled    P2mp Next Resignal        : N/A
Sec FastRetryTimer        : Disabled    Static LSP FR Timer       : 30 seconds
P2P Max Bypass Association: 1000
Max Bypass PLR Association: 16
P2PActPathFastRetry       : Disabled    P2MP S2L Fast Retry       : Disabled
In Maintenance Mode       : No
MplsTp                    : Disabled
Next Available Lsp Index  : 2
Entropy Label RSVP-TE     : Enabled     Entropy Label SR-TE       : Enabled
PCE Report RSVP-TE        : Disabled    PCE Report SR-TE          : Disabled
PCE Init LSP              : Disabled
SR-TE Resignal Timer      : Disabled    SR-TE Resig on IGP Event  : Disabled
LSP History               : Enabled     LSP History Recording     : Enabled
LSP Self Ping Timeout     : 300 seconds LSP Self Ping Interval    : 2 seconds
LSP Self Ping RSVP TE     : Enabled

===============================================================================
MPLS LSP Count
===============================================================================
                          Originate         Transit           Terminate
-------------------------------------------------------------------------------
Static LSPs               0                 0                 0
Dynamic LSPs              1                 0                 0
Detour LSPs               0                 0                 0
P2MP S2Ls                 0                 0                 0
MPLS-TP LSPs              0                 0                 0
Mesh-P2P LSPs             0                 N/A               N/A
One Hop-P2P LSPs          0                 N/A               N/A
SR-TE LSPs                0                 N/A               N/A
Mesh-P2P SR-TE LSPs       0                 N/A               N/A
One Hop-P2P SR-TE LSPs    0                 N/A               N/A
PCE Init SR-TE LSPs       0                 N/A               N/A
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 610: Output fields: MPLS status

Label	Description
Admin Status	Down — MPLS is administratively disabled. Up — MPLS is administratively enabled.
Oper Status	Down — MPLS is operationally down. Up — MPLS is operationally up.
Oper Down Reason	Specifies the operational down cause.
FRR Object	Enabled — Specifies that Fast reroute object is signaled for the LSP. Disabled — Specifies that Fast reroute object is not signaled for the LSP.
Resignal Timer	Enabled — Specifies that the resignal timer is enabled for the LSP. Disabled — Specifies that the resignal timer is disabled for the LSP.
Hold Timer	Displays the amount of time that the ingress node holds before programming its data plane and declaring the LSP up to the service module.
Next Resignal	Specifies the next resignal value.
Srlg Frr	Enabled — Specifies that SRLG Fast reroute is signaled for the LSP. Disabled — Specifies that SRLG Fast reroute is not signaled for the LSP.
Srlg Frr Strict	Enabled — Specifies that SRLG Fast reroute strict is signaled for the LSP. Disabled — Specifies that SRLG Fast reroute strict is not signaled for the LSP.
Admin Group Frr	Enabled — Specifies that the administrative group Fast reroute is signaled for the LSP. Disabled — Specifies that the administrative group Fast reroute is not signaled for the LSP.
Dynamic Bypass	Enabled — Specifies that dynamic bypass is enabled. Disabled — Specifies that dynamic bypass is disabled.
User Srlg Database	Enabled — Specifies that user SRLG databases are enabled. Disabled — Specifies that user SRLG databases are disabled.
BypassResignalTimer	Enabled — Specifies that the bypass resignal timer is enabled. Disabled — Specifies that the bypass resignal timer is disabled.
BypassNextResignal	Specifies the bypass next resignal value.
LeastFill Min Thd	Specifies the least fill minimum threshold percentage value.
LeastFill Reopti Thd	Specifies the least fill re-optimization threshold percentage value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Local TTL Prop	Enabled — Specifies that local TTL property is enabled. Disabled — Specifies that local TTL property is disabled.
Transit TTL Prop	Enabled — Specifies that transit TTL property is enabled. Disabled — Specifies that transit TTL property is disabled.
P2mp TTL Prop	Enabled — Specifies that the uniform mode of operation is configured for RSVP P2MP LSPs. Disabled — Specifies that the pipe mode of operation is configured for RSVP P2MP LSPs.
AB Sample Multiplier	Specifies the AB sample multiplier value.
AB Adjust Multiplier	Specifies the AB adjust multiplier value.
Exp Backoff Retry	Enabled — Specifies that Exp Backoff retry is enabled. Disabled — Specifies that Exp Backoff is disabled.
CSPF On Loose Hop	Enabled — Specifies that CSPF On Loose Hop is enabled. Disabled — Specifies that CSPF On Loose Hop is disabled.
Lsp Init RetryTimeout	Specifies the LSP Init RetryTimeout seconds value.
MBB Pref Current Hops	Enabled — Specifies that MBB Pref Current Hops is enabled. Disabled — Specifies that MBB Pref Current Hops is disabled.
Logger Event Bundling	Enabled — Specifies that Logger Event Bundling is enabled. Disabled — Specifies that Logger Event Bundling is disabled.
Retry on IGP Overload	Enabled — Specifies that Retry on IGP Overload is enabled. Disabled — Specifies that Retry on IGP Overload is disabled.
Resignal on IGP Overload	Enabled — Specifies that Resignal on IGP Overload is enabled. Disabled — Specifies that Resignal on IGP Overload is disabled.
P2mp Resignal Timer	Enabled — Specifies that the P2MP Resignal Timer is enabled. Disabled — Specifies that the P2MP Resignal Timer is disabled.
P2mp Next Resignal	Specifies the P2MP Next Resignal Timer value.
Sec FastRetryTimer	Enabled — Specifies that the Sec Fast RetryTimer is enabled. Disabled — Specifies that the Sec Fast RetryTimer is disabled.
Static LSP FR Timer	Specifies the Static LSP FR Timer seconds value.
P2P Max Bypass Association	Specifies the P2P Max Bypass Association value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
P2PActPathFastRetry	Enabled — Specifies that the P2P ActPath Fast Retry is enabled. Disabled — Specifies that the P2P ActPath Fast Retry is disabled.
P2MP S2L Fast Retry	Enabled — Specifies that the P2MP S2L Fast Retry is enabled. Disabled — Specifies that the P2MP S2L Fast Retry is disabled.
In Maintenance Mode	No — Specifies that the system is not in maintenance mode. Yes — Specifies that the system is in maintenance mode.
MplsTp	Enabled — Specifies that MPLS TP is enabled. Disabled — Specifies that MPLS TP is disabled.
Next Available Lsp Index	Specifies the next available LSP index value.
Entropy Label RSVP-TE	Enabled — Specifies that Entropy Label RSVP-TE is enabled. Disabled — Specifies that Entropy Label RSVP-TE is disabled.
Entropy Label SR-TE	Enabled — Specifies that Entropy Label SR-TE is enabled. Disabled — Specifies that Entropy Label SR-TE is disabled.
PCE Report RSVP-TE	Enabled — Specifies that PCE Report RSVP-TE is enabled. Disabled — Specifies that PCE Report RSVP-TE is disabled.
PCE Report SR-TE	Enabled — Specifies that PCE Report SR-TE is enabled. Disabled — Specifies that PCE Report SR-TE is disabled.
PCE Init LSP	Enabled — Specifies that PCE Init LSP is enabled. Disabled — Specifies that PCE Init LSP is disabled.
PCE Init SR-TE	Enabled — Specifies that PCE Init LSP SR-TE is enabled. Disabled — Specifies that PCE Init LSP SR-TE is disabled.
PCE Init SR-TE Admin State	Up — Specifies that the PCE Init SR-TE Admin State is up. Down — Specifies that the PCE Init SR-TE Admin State is down.
PCE Init SR-TE Oper State	Up — Specifies that the PCE Init SR-TE Operational State is up. Down — Specifies that the PCE Init SR-TE Operational State is down.
PCE Init SR-TE Oper Dn Rsn	Specifies the reason for the PCE Init SR-TE Operationally down.
LSP History	Enabled — Specifies that the LSP history is enabled. Disabled — Specifies that the LSP history is disabled.
LSP History Recording	Enabled — Specifies that the LSP history recording is enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Disabled — Specifies that the LSP history recording is disabled.
LSP Self Ping Timeout	Specifies the LSP Self Ping timeout value.
LSP Self Ping Interval	Specifies the LSP Self Ping interval value.
LSP Self Ping RSVP TE	Specifies the status of LSP Self Ping RSVP TE.
Originate	Specifies the number of originations for the various LSP types.
Transit	Specifies the number of transits for the various LSP types.
Terminate	Specifies the number of terminations for the various LSP types.

status

Syntax

status

Context

[Tree] (show>router>mpls>mpls-tp status)

Full Context

show router mpls mpls-tp status

Description

This command displays MPLS-TP system configuration information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of MPLS TP status information .

Output Example

```
*A:mlstp-dutA# show router mpls mpls-tp status
===============================================================================
MPLS-TP Status
===============================================================================
Admin Status  : Up
Global ID     : 42                                Node ID       : 0.0.3.233
Tunnel Id Min : 1                                 Tunnel Id Max : 4096
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

status

Syntax

status

Context

[Tree] (show>router>rsvp status)

Full Context

show router rsvp status

Description

This command displays RSVP status.

Platforms

All

Output

The following output is an example of RSVP status information.

Table 611: Output fields: RSVP status describes RSVP status output fields.

Table 611: Output fields: RSVP status

Label	Description
Admin Status	Down — RSVP is administratively disabled. Up — RSVP is administratively enabled.
Oper Status	Down — RSVP is operationally down. Up — RSVP is operationally up.
Keep Multiplier	Displays the **keep-multiplier** *number* used by RSVP to declare that a reservation is down or the neighbor is down.
Refresh Time	Displays the **refresh-time** interval (in s), between the successive Path and Resv refresh messages.
Message Pacing	Enabled — RSVP messages, specified in the **max-burst** command, are sent in a configured interval, specified in the **period** command. Disabled — Message pacing is disabled. RSVP message transmission is not regulated.
Pacing Period	Displays the time interval (in ms), when the router can send the specified number of RSVP messages specified in the **rsvp max-burst** command.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Max Packet Burst	Displays the maximum number of RSVP messages that are sent in the specified period under normal operating conditions.
Soft Preemption Timer	Displays the time (in s), a node holds on to a reservation for which it has triggered the soft preemption procedure.
Rapid Retransmit	Displays the value of the rapid retransmission interval.
Rapid Retry Limit	Displays the rapid retry limit.
Graceful Shutdown	Specifies whether graceful shutdown of the RSVP node is enabled.
Dark Bandwidth	Indicates the status of the dark bandwidth accounting application.
DBw Sample Intv	Displays the configured dark bandwidth sampling interval.
DBw Up Threshold	Displays the configured dark bandwidth up threshold.
DBw Down Threshold	Displays the configured dark bandwidth down threshold.
DBw Multiplier	Displays the configured dark bandwidth multiplier.
DBw Sample Multp	Displays the configured dark bandwidth sample multiplier.

Output Example

```
B:# show router rsvp status
===============================================================================
RSVP Status
===============================================================================
Admin Status       : Down               Oper Status        : Down
Keep Multiplier    : 3                  Refresh Time       : 30 sec
Message Pacing     : Disabled           Pacing Period      : 100 msec
Max Packet Burst   : 650 msgs           Refresh Bypass     : Disabled
Rapid Retransmit   : 5 hmsec            Rapid Retry Limit  : 3
Graceful Shutdown  : Disabled           SoftPreemptionTimer: 300 sec
Implicit Null Label: Disabled           Node-id in RRO     : Exclude
P2P Merge Point Ab*: 10                 P2MP Merge Point A*: 10
DiffServTE AdmModel: Basic
Percent Link Bw CT0: 100                Percent Link Bw CT4: 0
Percent Link Bw CT1: 0                  Percent Link Bw CT5: 0
Percent Link Bw CT2: 0                  Percent Link Bw CT6: 0
Percent Link Bw CT3: 0                  Percent Link Bw CT7: 0
TE0 -> Class Type  : 0                  Priority           : 0
TE1 -> Class Type  : 0                  Priority           : 1
TE2 -> Class Type  : 0                  Priority           : 2
TE3 -> Class Type  : 0                  Priority           : 3
TE4 -> Class Type  : 0                  Priority           : 4
TE5 -> Class Type  : 0                  Priority           : 5
TE6 -> Class Type  : 0                  Priority           : 6
TE7 -> Class Type  : 0                  Priority           : 7
IgpThresholdUpdate : Disabled
Up Thresholds(%)   : 0 15 30 45 60 75 80 85 90 95 96 97 98 99 100
Down Thresholds(%) : 100 99 98 97 96 95 90 85 80 75 60 45 30 15 0
Update Timer       : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Update on CAC Fail : Disabled
Dark Bandwidth     : Enabled           DBw Multiplier     : 100
DBw Sample Intv    : 30                DBw Sample Multp   : 3
DBw Up Threshold   : 0 %
DBw Down Threshold : 0 %
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

status

Syntax

status

Context

[Tree] (show>router>pcep>pcc status)

Full Context

show router pcep pcc status

Description

This command displays PCEP status information.

Platforms

All

Output

The following outputs are examples of PCE status information, and Table 612: Output fields: PCC status describes the output fields:

- Output example: PCC status
- Output example: PCC status
- Output example: PCC status

Output example: PCC status

```
A:node-2>config>router>mpls# show router pcep pcc status
===============================================================================
Path Computation Element Protocol (PCEP) Path Computation Client (PCC) Info
===============================================================================
Admin Status           : Up              Oper Status          : Up
Unknown Msg Limit      : 10 msg/min
Keepalive Interval     : 30 seconds      DeadTimer Interval   : 120 seconds
Capabilities List      : stateful-delegate stateful-pce segment-rt-path rsvp-
                         path pce-initiated-lsp
Address                : 10.20.1.3
Multi-path capability  : False           SR Policy capability : False
SRv6 capability        : False
Report Path Constraints: True
Redelegation Interval  : 90 seconds
State Interval         : 180 seconds     State Timer Action   : remove
Max SR-TE PCE Init Lsps: 8191
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
PCEP Path Computation Client (PCC) Peer Info
-------------------------------------------------------------------------------
Peer                      Admin State/Oper State Oper Keepalive/Oper DeadTimer
-------------------------------------------------------------------------------
10.20.1.24                Up/Up                  30/120
-------------------------------------------------------------------------------
===============================================================================
```

Output example: PCC status

```
A:node-2# show router pcep pcc status

===============================================================================
Path Computation Element Protocol (PCEP) Path Computation Client (PCC) Info
===============================================================================
Admin Status           : Up              Oper Status          : Up
Unknown Msg Limit      : 10 msg/min
Keepalive Interval     : 30 seconds      DeadTimer Interval   : 120 seconds
Capabilities List      : stateful-delegate stateful-pce segment-rt-path rsvp-
                         path pce-initiated-lsp association
Address                : (Unspecified)   Address Ipv6         : 5f00:0:103::1
Multi-path capability  : False           SR Policy capability : False
SRv6 capability        : False
Report Path Constraints: True
Redelegation Interval  : 90 seconds
State Interval         : 180 seconds     State Timer Action   : remove
Max SR-TE PCE Init Lsps: 8191
```

Output example: PCC status

```
A:node-2# show router pcep pcc status

===============================================================================
Path Computation Element Protocol (PCEP) Path Computation Client (PCC) Info
===============================================================================
Admin Status           : Up              Oper Status          : Up
Unknown Msg Limit      : 10 msg/min
Keepalive Interval     : 30 seconds      DeadTimer Interval   : 120 seconds
Capabilities List      : stateful-delegate stateful-pce segment-rt-path rsvp-
                         path pce-initiated-lsp association
Address                : (Unspecified)   Address Ipv6         : 5f00:0:103::1
Multi-path capability  : False           SR Policy capability : False
SRv6 capability        : False
Report Path Constraints: True
Redelegation Interval  : 90 seconds
State Interval         : 180 seconds     State Timer Action   : remove
Max SR-TE PCE Init Lsps: 8191
```

Table 612: Output fields: PCC status

Label	Description
Admin Status	The administrative status of the PCC: • Up – the PCC is administratively up • Down – the PCC is administratively down
Oper Status	The operational status of the PCC:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• Up – the PCC is operationally up • Down – the PCC is operationally down
Unknown Msg Limit	The unknown message limit, which is the maximum rate of unknown messages that can be received on a PCEP session
Keepalive Interval	The PCC keepalive value
DeadTimer Interval	The dead timer interval value, which is the amount of time a PCEP speaker waits after the receipt of the last PCEP message before declaring its peer down
Capabilities List	The capabilities list, which displays the configured capabilities
Address	The local IPv4 address of the PCEP speaker
Address Ipv6	The local IPv6 address of the PCEP speaker
Multi-path capability	Indicates if the multipath capability is configured: • True – the advertisement of the multipath capability in the Open message is enabled • False – the advertisement of the multipath capability in the Open message is disabled
SR Policy capability	Indicates if the SR policy capability is configured: • True – the advertisement of the SR policy capability in the Open message is enabled • False – the advertisement of the SR policy capability in the Open message is disabled
SRv6 capability	Indicates if the SRv6 capability is configured: • True – the advertisement of the SRv6 capability in the Open message is enabled • False – the advertisement of the SRv6 capability in the Open message is disabled
Report Path Constraints	Indicates if report path constraints is configured: • True – report path constraints is enabled • False – report path constraints is disabled
Redelegation Interval	The redelegation interval for PCE-initiated LSPs
State Interval	The state interval for PCE-initiated LSPs
State Timer Action	The action that is taken on undelegated LSPs after the state timer expiration

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Max SR-TE PCE Init Lsps	The maximum number of PCE-initiated SR-TE LSPs that the router can create

status

Syntax

status

Context

[Tree] (show>router>pcep>pce status)

Full Context

show router pcep pce status

Description

This command displays PCEP status information.

Platforms

VSR-NRC

Output

The following outputs are examples of PCE status information, and Table 613: Output fields: PCE status describes the output fields:

- Output example: PCE status information
- Output example: PCE status information

Output example: PCE status information

```
A:node-2# show router pcep pce status

===============================================================================
Path Computation Element Protocol (PCEP) Path Computation Element (PCE) Info
===============================================================================
Admin Status           : Up              Oper Status          : Up
Unknown Msg Limit      : 10 msg/min
Keepalive Interval     : 30 seconds      DeadTimer Interval   : 120 seconds
Capabilities List      : stateful-delegate stateful-pce segment-rt-path rsvp-
                         path pce-initiated-lsp association
Local Address          : 1.1.0.199       Local Address Ipv6   : 2001:1:1::199
Tls Profile            : (Not Specified)
TLS WaitTimer          : N/A
Auth key chain         : (Not Specified)
Multi-path capability  : False           SR Policy capability : False
PCE Overloaded         : False
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: PCE status information

```
A:node-2# show router pcep pce status

===============================================================================
Path Computation Element Protocol (PCEP) Path Computation Element (PCE) Info
===============================================================================
Admin Status           : Up              Oper Status          : Up
Unknown Msg Limit      : 10 msg/min
Keepalive Interval     : 30 seconds      DeadTimer Interval   : 120 seconds
Capabilities List      : stateful-delegate stateful-pce segment-rt-path rsvp-
                         path pce-initiated-lsp
                         association multipath seg-rt-srv6 sr-policy
Local Address          : 1.1.0.199       Local Address Ipv6   : 2001:1:1::199
Tls Profile            : (Not Specified)
TLS WaitTimer          : N/A
Auth key chain         : (Not Specified)
Multi-path capability  : True            SR Policy capability : True
PCE Overloaded         : false

===============================================================================
```

Table 613: Output fields: PCE status

Label	Description
Admin Status	The administrative status of the PCE: • Up – the PCE is administratively up • Down – the PCE is administratively down
Oper Status	The operational status of the PCE: • Up – the PCE is operationally up • Down – the PCE is operationally down
Unknown Msg Limit	The unknown message limit, which is the maximum rate of unknown messages that can be received on a PCEP session
Keepalive Interval	The PCE keepalive value
DeadTimer Interval	The dead timer interval value, which is the amount of time a PCEP speaker waits after the receipt of the last PCEP message before declaring its peer down
Capabilities List	The capabilities list, which displays the configured capabilities
Local Address	The local IPv4 address of the PCEP speaker
Local Address Ipv6	The local IPv6 address of the PCEP speaker
Tls Profile	The TLS server profile on the PCE
TLS WaitTimer	The TLS wait timer, which is the time that the PCE waits before declaring a TLS handshake failure if the handshake is not established

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Auth key chain	The keychain used for authentication between the PCC and the PCE
Multi-path capability	Indicates if the multipath capability is configured: • True – the advertisement of the multipath capability in the Open message is enabled • False – the advertisement of the multipath capability in the Open message is disabled
SR Policy capability	Indicates if the SR policy capability is configured: • True – the advertisement of the SR policy capability in the Open message is enabled • False – the advertisement of the SR policy capability in the Open message is disabled
PCE Overloaded	Indicates if the PCE is overloaded: • True – the PCE is overloaded • False – the PCE is not overloaded

status

Syntax

status

Context

[Tree] (show>router>mpls>forwarding-policies status)

Full Context

show router mpls forwarding-policies status

Description

This command displays MPLS Forwarding status information

Platforms

All

Output

Table 614: Output fields: MPLS forward policy status describes MPLS forward-policy status output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 614: Output fields: MPLS forward policy status

Label	Description
Reserved label bl	Specifies the MPLS reserved label block name.

Output Example

```
*A:Dut-B>show>router>mpls# forwarding-policies status
===============================================================================
Forwarding Policy Status
===============================================================================
Admin Status     : Up                    Oper Status             : Down
Reserved label bl: reservedlabel!!!blockname32chars
===============================================================================
```

status

Syntax

status

Context

[Tree] (show>app-assure>group>cflowd status)

Full Context

show application-assurance group cflowd status

Description

This command displays status information.

Platforms

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

Output

The following output is an example of status information.

Output Example

```
A:ALU-A# show application-assurance group 1 status [isa 1/2] cflowd
===============================================================================
Application-Assurance Group Cflowd Status
===============================================================================
Cflowd Admin Status  : Enabled
Cflowd Oper Status   : Enabled
-------------------------------------------------------------------------------
Volume :
-------------------------------------------------------------------------------
 Sample Rate          : <Disabled> or <1 in 500 packets>
 Active Flows         : 23102
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Records Reported     : 12345
 Records Dropped      : 10
 Records Per Second   : 45
 Packets Sent         : 1763
 Packets Sent Per Sec : 7
-------------------------------------------------------------------------------
TCP Performance :
-------------------------------------------------------------------------------
 Sample Rate          : <Disabled> or <1 in 1000 flows>
 Active Flows         : 32103
 Flows Not Allocated  : 33
 Records Reported     : 12345678
 Records Dropped      : 100
 Records Per Second   : 456
 Packets Sent         : 2057613
 Packets Sent Per Sec : 76
===============================================================================
A:ALU-A#


A:ALU-A#show application-assurance group <aa-group-id:[partition]> cflowd status
===============================================================================
Application-Assurance Group:Partition Cflowd Status
===============================================================================
-------------------------------------------------------------------------------
Volume :
-------------------------------------------------------------------------------
 Admin State          : Up
 Records Reported     : 12345
 Records Dropped      : 10
-------------------------------------------------------------------------------
TCP Performance :
-------------------------------------------------------------------------------
 Admin State          : Up
 Flows Not Allocated  : 33
 Records Reported     : 12345678
 Records Dropped      : 100

===============================================================================
A:ALU-A#
```

status

Syntax

status [**isa** *mda-id*] **cflowd**

status [**isa** *mda-id*]

status [**isa** *mda-id*] **detail**

status [**isa** *mda-id*] **cpu** [**sample-period** *seconds*]

status [**isa** *mda-id*] **overload**

status {**isa** *mda-id*} **qos count**

status {**isa** *mda-id*} **qos pools**

Context

[Tree] (show>app-assure>group status)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance group status

Description

This command displays system statistics.

Parameters

isa *mda-id*

Displays information about the specified AA ISA.

Values mda-id: slot/mda: slot: 1 to 10, mda: 1 or 2

cflowd

Displays cflowd status information.

detail

Displays detailed status information.

cpu [sample-period *seconds*]

Displays DPU utilization info about the specified AA ISA. The **isa** *mda-id* must be specified. The sample period can be specified within a range of 1 5 seconds (default 1s).

Values 1 to 5

overload

Displays the overload status.

qos count

Displays information about queue statistics. The **isa** *mda-id* must be specified.

qos pools

Displays information about AA related pool utilization. The **isa** *mda-id* must be specified.

Platforms

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

Output

The following output is an example of status information.

Output Example

```
*A:Dut-C# show application-assurance group 1 status
===============================================================================
Application-Assurance Status
===============================================================================
Last time change affecting status : 01/25/2018 18:55:08
Number of Active ISAs             : 2
Flows                             : 0
Flow Resources In Use             : 0
AA Subs Created                   : 0
AA Subs Deleted                   : 0
AA Subs Modified                  : 0
AA Subs Quarantined               : 0
Seen IP Requests Sent             : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Seen IP Requests Dropped          : 0
-------------------------------------------------------------------------------
                                    Current    Average    Peak
-------------------------------------------------------------------------------
Active Flows                      : 0          0          0
Flow Setup Rate (per second)      : 0          0          0
Traffic Rate (Mbps)               : 0          0          0
Packet Rate (per second)          : 0          0          0
AA-Subs Downloaded                : 0          0          0
Active Subs                       : 0          0          0
-------------------------------------------------------------------------------
                                    Packets               Octets
-------------------------------------------------------------------------------
Diverted traffic                  : 0                     0
Diverted discards                 : 0                     0
    Congestion                    : 0                     0
    Errors                        : 0                     N/A
Entered ISA-AAs                   : 0                     0
Buffered in ISA-AAs               : 0                     0
Discarded in ISA-AAs              : 0                     0
    Policy                        : 0                     0
    Congestion                    : 0                     0
    Errors                        : 0                     0
Modified in ISA-AAs               : 0                     0
    Packet size increased         : 0                     0
    Packet size decreased         : 0                     0
Errors (policy bypass)            : 0                     0
Errors (cut-through)              : 0                     0
Generated in ISA-AAs              : 0                     0
    HTTP Redirect                 : 0                     0
Exited ISA-AAs                    : 0                     0
Returned discards                 : 0                     0
    Congestion                    : 0                     0
    Errors                        : 0                     N/A
Returned traffic                  : 0                     0

===============================================================================

*A:Dut-C# show application-assurance group 1 status detail
===============================================================================
Application-Assurance Status
===============================================================================
Last time change affecting status : 01/25/2018 18:55:08
Number of Active ISAs             : 2
Flows                             : 0
Flow Resources In Use             : 0
AA Subs Created                   : 0
AA Subs Deleted                   : 0
AA Subs Modified                  : 0
Seen IP Requests Sent             : 0
Seen IP Requests Dropped          : 0
-------------------------------------------------------------------------------
                                    Current    Average    Peak
-------------------------------------------------------------------------------
Active Flows                      : 0          0          0
Flow Setup Rate (per second)      : 0          0          0
Traffic Rate (Mbps)               : 0          0          0
Packet Rate (per second)          : 0          0          0
AA-Subs Downloaded                : 0          0          0
Active Subs                       : 0          0          0
-------------------------------------------------------------------------------
                            from-sub packets      from-sub octets
                                to-sub packets        to-sub octets
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Diverted traffic           : 0                    0
                             0                      0
Diverted discards          : 0                    0
                             0                      0
  Congestion               : 0                    0
                             0                      0
  Errors                   : 0                    N/A
                             0                      N/A
Entered ISA-AAs            : 0                    0
                             0                      0
Buffered in ISA-AAs        : 0                    0
                             0                      0
Discarded in ISA-AAs       : 0                    0
                             0                      0
  Policy                   : 0                    0
                             0                      0
  Congestion               : 0                    0
                             0                      0
  Errors                   : 0                    0
                             0                      0
Modified in ISA-AAs        : 0                    0
                             0                      0
  Packet size increased    : 0                    0
                             0                      0
  Packet size decreased    : 0                    0
                             0                      0
Errors (policy bypass)     : 0                    0
                             0                      0
Errors (cut-through)       : 0                    0
                             0                      0
Generated in ISA-AAs       : 0                    0
                             0                      0
  HTTP Redirect            : 0                    0
                             0                      0
Exited ISA-AAs             : 0                    0
                             0                      0
Returned discards          : 0                    0
                             0                      0
  Congestion               : 0                    0
                             0                      0
  Errors                   : 0                    N/A
                             0                      N/A
Returned traffic           : 0                    0
                             0                      0
===============================================================================
```

```
A:ALU>show>app-assure>group#
===============================================================================
Application-Assurance Status
===============================================================================
Last time change affecting status : 09/28/2012 14:19:05
Number of Active ISAs             : 1
Flows                             : 62
Flow Resources In Use             : 0
AA-Subs Created                   : 200
AA-Subs Deleted                   : 149
AA-Subs Modified                  : 3
Seen-IP Requests Sent             : 0
Seen-IP Requests Dropped          : 0
-------------------------------------------------------------------------------
                                    Current    Average    Peak
-------------------------------------------------------------------------------
Active Flows                      : 0          0          16
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Flow Setup Rate (per second)      : 0          0          1
Traffic Rate (Mbps)               : 0          0          0
Packet Rate (per second)          : 0          0          6
AA-Subs Downloaded                : 51         51         51
Active Subs                       : 0          0          1


show application-assurance group <aa-group-id> status [isa <slot/mda>] overload
===============================================================================
Application Assurance Group 1 overload
===============================================================================
-------------------------------------------------------------------------------
Trap Configuration                   High Watermark               Low Watermark
-------------------------------------------------------------------------------
Flow usage                                    95%                          90%
Flow setup rate (fps)                       60000                        55000
Bit rate (Mbps)                              9000                         8500
Packet rate (pps)              12345678901234567890         12345678901234567890
Datapath CPU usage                            95%                          90%
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
ISA 4/1                              Total up-time (s) : 12345678901234567890
TCA Type
       Current Level               Average Level                 Peak Level
                  State                         Count               Duration (s)
-------------------------------------------------------------------------------
Flow resources
               75.1%                         50.0%                        82.8%
                 cleared         12345678901234567890         12345678901234567890
Flow setup rate
12345678901234567890         12345678901234567890         12345678901234567890
                 cleared                            0                           0
Bit rate
               11000                          5000                        12000
                  raised                          1                    123456789
Packet rate
             1500000                        750000                      1600000
                 cleared                          2                        12345
Datapath CPU usage
               15.1%                         10.5%                        32.1%
                 cleared                          0                           0
Management CPU usage
               65.2%                         50.0%                        77.5%
                    N/A                           N/A                          N/A
-------------------------------------------------------------------------------
Overload Trap Configuration          High Watermark               Low Watermark
-------------------------------------------------------------------------------
From-sub WA buffer depth                      80%                          75%
To-sub WA buffer depth                        80%                          75%
-------------------------------------------------------------------------------
Isa-overload-cut-through : enabled
Overload cut-through TCA
  Current from-sub WA : 30%
  Current to-sub WA   : 40%
  State               : cleared
  Count               : 3
  Duration (s)        : 123
===============================================================================


A:ALU>show>app-assure>group# status isa 3/2 qos count
===============================================================================
Application-assurance Queue Statistics for ISA-AA Group: 1, isa 3/2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------

Egress From-Subscriber
     Queue  1                Packets                 Octets
     In Profile  forwarded :    0                       0
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    28940                   3767233
     Out/Exc Prof dropped  :    0                       0
     Queue  2                Packets                 Octets
     In Profile  forwarded :    0                       0
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    0                       0
     Out/Exc Prof dropped  :    0                       0

Egress To-Subscriber
     Queue  1                Packets                 Octets
     In Profile  forwarded :    0                       0
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    44499                   53066848
     Out/Exc Prof dropped  :    0                       0
     Queue  2                Packets                 Octets
     In Profile  forwarded :    0                       0
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    0                       0
     Out/Exc Prof dropped  :    0                       0


Ingress From-Subscriber
     Queue  1                Packets                 Octets
     In Profile  forwarded :    25548                   3361023
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    1                       60
     Out/Exc Prof dropped  :    0                       0
     Queue  2                Packets                 Octets
     In Profile  forwarded :    2921                    365606
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    0                       0
     Out/Exc Prof dropped  :    0                       0
     Queue  9                Packets                 Octets
     In Profile  forwarded :    0                       0
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    0                       0
     Out/Exc Prof dropped  :    0                       0
     Queue 10                Packets                 Octets
     In Profile  forwarded :    0                       0
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    0                       0
     Out/Exc Prof dropped  :    0                       0

Ingress To-Subscriber
     Queue  1                Packets                 Octets
     In Profile  forwarded :    39541                   46899769
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    1                       92
     Out/Exc Prof dropped  :    0                       0
     Queue  2                Packets                 Octets
     In Profile  forwarded :    5050                    6291204
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    0                       0
     Out/Exc Prof dropped  :    0                       0
     Queue  9                Packets                 Octets
     In Profile  forwarded :    0                       0
     In Profile  dropped   :    0                       0
     Out/Exc Prof forwarded:    0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
     Out/Exc Prof dropped  :    0                      0
     Queue 10               Packets                Octets
     In Profile  forwarded :    0                      0
     In Profile  dropped   :    0                      0
     Out/Exc Prof forwarded:    0                      0
     Out/Exc Prof dropped  :    0                      0
===============================================================================
A:ALU>show>app-assure>group#
```

```
*A:ALU>show>app-assure>group# status isa 1/2 qos pools
===============================================================================
Pool Information
===============================================================================
FP                  : 1
Application         : Net-Ing          Pool Name             : default
CLI Config. Resv CBS : Sum
Resv CBS Step       : 0%               Resv CBS Max          : 0%
Amber Alarm Threshold: 0%              Red Alarm Threshold   : 0%
-------------------------------------------------------------------------------
Utilization                  State       Start-Avg    Max-Avg    Max-Prob
-------------------------------------------------------------------------------
HiPlus-Slope                 Down              85%       100%         80%
High-Slope                   Down              70%        90%         80%
Low-Slope                    Down              50%        75%         80%
Exceed-Slope                 Down              30%        55%         80%
Time Avg Factor     : 7
Pool Total          : 264192 KB
Pool Shared         : 129024 KB        Pool Resv             : 135168 KB
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Current Resv CBS    Provisioned    Rising         Falling        Alarm
%age                all Queues     Alarm Thd      Alarm Thd      Color
-------------------------------------------------------------------------------
Sum                 134640 KB      NA             NA             Green
Pool Total In Use    : 0 KB
Pool Shared In Use   : 0 KB             Pool Resv In Use      : 0 KB
WA Shared In Use     : 0 KB
HiPlus-Slope Drop Pr*: 0                Hi-Slope Drop Prob    : 0
Lo-Slope Drop Prob   : 0                Excd-Slope Drop Prob  : 0
===============================================================================
Queue Information
===============================================================================
===============================================================================
Queue : 1 Net=be T=1/*
===============================================================================
FC Map           : be
Dest Tap         : 1/*                  Dest FP          : 1
Admin PIR        : 30000000             Oper PIR         : Max
Admin CIR        : 0                    Oper CIR         : 0
Admin FIR        : 0                    Oper FIR         : 0
Admin MBS        : 132096 KB            Oper MBS         : 132096 KB
High-Plus Drop T*: 132096 KB            High Drop Tail   : 132096 KB
Low Drop Tail    : 116736 KB            Exceed Drop Tail : 119808 KB
CBS              : 132 KB               Depth            : 0
Slope            : not-applicable
===============================================================================
...
===============================================================================
Queue : 16 Net=nc T=31/*
===============================================================================
FC Map           : nc
Dest Tap         : MCast                Dest FP          : not-applicable
Admin PIR        : 30000000             Oper PIR         : Max
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin CIR        : 3000000             Oper CIR         : 3000000
Admin FIR        : 0                   Oper FIR         : 0
Admin MBS        : 66048 KB            Oper MBS         : 66048 KB
High-Plus Drop T*: 66048 KB            High Drop Tail   : 66048 KB
Low Drop Tail    : 58368 KB            Exceed Drop Tail : 59904 KB
CBS              : 2640 KB             Depth            : 0
Slope            : not-applicable
No Matching Entries
===============================================================================
===============================================================================
* indicates that the corresponding row element may have been truncated.
===============================================================================
Pool Information
===============================================================================
Port                : 1/2/fm-sub
Application         : Net-Egr          Pool Name            : default
CLI Config. Resv CBS : Sum
Resv CBS Step       : 0%               Resv CBS Max         : 0%
Amber Alarm Threshold: 0%              Red Alarm Threshold  : 0%
-------------------------------------------------------------------------------
Utilization                  State       Start-Avg    Max-Avg    Max-Prob
-------------------------------------------------------------------------------
HiPlus-Slope                 Down              85%       100%         80%
High-Slope                   Down              70%        90%         80%
Low-Slope                    Down              50%        75%         80%
Exceed-Slope                 Down              30%        55%         80%
Time Avg Factor     : 7
Pool Total          : 116736 KB
Pool Shared         : 66048 KB         Pool Resv            : 50688 KB
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Current Resv CBS    Provisioned    Rising         Falling        Alarm
%age                all Queues     Alarm Thd      Alarm Thd      Color
-------------------------------------------------------------------------------
Sum                 50520 KB       NA             NA             Green
Pool Total In Use    : 0 KB
Pool Shared In Use   : 0 KB             Pool Resv In Use     : 0 KB
WA Shared In Use     : 0 KB
HiPlus-Slope Drop Pr*: 0                Hi-Slope Drop Prob   : 0
Lo-Slope Drop Prob   : 0                Excd-Slope Drop Prob : 0
===============================================================================
Queue Information
===============================================================================
===============================================================================
Queue : 1 Net=be Port=1/2/fm-sub
===============================================================================
FC Map           : be
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 0                    Oper CIR         : 0
Admin MBS        : 58368 KB             Oper MBS         : 58368 KB
High-Plus Drop T*: 58368 KB             High Drop Tail   : 58368 KB
Low Drop Tail    : 52224 KB             Exceed Drop Tail : 52224 KB
CBS              : 1176 KB              Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 2 Net=l2 Port=1/2/fm-sub
===============================================================================
FC Map           : l2
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 2500000              Oper CIR         : 2500000
Admin MBS        : 58368 KB             Oper MBS         : 58368 KB
High-Plus Drop T*: 58368 KB             High Drop Tail   : 58368 KB
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Low Drop Tail    : 52224 KB             Exceed Drop Tail : 52224 KB
CBS              : 3552 KB              Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 3 Net=af Port=1/2/fm-sub
===============================================================================
FC Map           : af
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 2500000              Oper CIR         : 2500000
Admin MBS        : 58368 KB             Oper MBS         : 58368 KB
High-Plus Drop T*: 58368 KB             High Drop Tail   : 58368 KB
Low Drop Tail    : 52224 KB             Exceed Drop Tail : 52224 KB
CBS              : 11712 KB             Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 4 Net=l1 Port=1/2/fm-sub
===============================================================================
FC Map           : l1
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 2500000              Oper CIR         : 2500000
Admin MBS        : 29184 KB             Oper MBS         : 29184 KB
High-Plus Drop T*: 29184 KB             High Drop Tail   : 29184 KB
Low Drop Tail    : 26112 KB             Exceed Drop Tail : 26112 KB
CBS              : 3552 KB              Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 5 Net=h2 Port=1/2/fm-sub
===============================================================================
FC Map           : h2
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 10000000             Oper CIR         : Max
Admin MBS        : 58368 KB             Oper MBS         : 58368 KB
High-Plus Drop T*: 58368 KB             High Drop Tail   : 58368 KB
Low Drop Tail    : 52224 KB             Exceed Drop Tail : 52224 KB
CBS              : 11712 KB             Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 6 Net=ef Port=1/2/fm-sub
===============================================================================
FC Map           : ef
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 10000000             Oper CIR         : Max
Admin MBS        : 58368 KB             Oper MBS         : 58368 KB
High-Plus Drop T*: 58368 KB             High Drop Tail   : 58368 KB
Low Drop Tail    : 52224 KB             Exceed Drop Tail : 52224 KB
CBS              : 11712 KB             Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 7 Net=h1 Port=1/2/fm-sub
===============================================================================
FC Map           : h1
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 1000000              Oper CIR         : 1000000
Admin MBS        : 29184 KB             Oper MBS         : 29184 KB
High-Plus Drop T*: 29184 KB             High Drop Tail   : 29184 KB
Low Drop Tail    : 26112 KB             Exceed Drop Tail : 26112 KB
CBS              : 3552 KB              Depth            : 0
Slope            : not-applicable
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Queue : 8 Net=nc Port=1/2/fm-sub
===============================================================================
FC Map           : nc
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 1000000              Oper CIR         : 1000000
Admin MBS        : 29184 KB             Oper MBS         : 29184 KB
High-Plus Drop T*: 29184 KB             High Drop Tail   : 29184 KB
Low Drop Tail    : 26112 KB             Exceed Drop Tail : 26112 KB
CBS              : 3552 KB              Depth            : 0
Slope            : not-applicable
No Matching Entries
===============================================================================
===============================================================================
* indicates that the corresponding row element may have been truncated.
===============================================================================
Pool Information
===============================================================================
Port                 : 1/2/to-sub
Application          : Net-Egr          Pool Name             : default
CLI Config. Resv CBS : Sum
Resv CBS Step        : 0%               Resv CBS Max          : 0%
Amber Alarm Threshold: 0%               Red Alarm Threshold   : 0%
-------------------------------------------------------------------------------
Utilization                   State       Start-Avg    Max-Avg    Max-Prob
-------------------------------------------------------------------------------
HiPlus-Slope                  Down              85%       100%         80%
High-Slope                    Down              70%        90%         80%
Low-Slope                     Down              50%        75%         80%
Exceed-Slope                  Down              30%        55%         80%
Time Avg Factor      : 7
Pool Total           : 233472 KB
Pool Shared          : 132096 KB        Pool Resv             : 101376 KB
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Current Resv CBS    Provisioned    Rising         Falling        Alarm
%age                all Queues     Alarm Thd      Alarm Thd      Color
-------------------------------------------------------------------------------
Sum                 101040 KB      NA             NA             Green
Pool Total In Use    : 0 KB
Pool Shared In Use   : 0 KB             Pool Resv In Use      : 0 KB
WA Shared In Use     : 0 KB
HiPlus-Slope Drop Pr*: 0                Hi-Slope Drop Prob    : 0
Lo-Slope Drop Prob   : 0                Excd-Slope Drop Prob  : 0
===============================================================================
Queue Information
===============================================================================
===============================================================================
Queue : 1 Net=be Port=1/2/to-sub
===============================================================================
FC Map           : be
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 0                    Oper CIR         : 0
Admin MBS        : 116736 KB            Oper MBS         : 116736 KB
High-Plus Drop T*: 116736 KB            High Drop Tail   : 116736 KB
Low Drop Tail    : 104448 KB            Exceed Drop Tail : 104448 KB
CBS              : 2352 KB              Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 2 Net=l2 Port=1/2/to-sub
===============================================================================
FC Map           : l2
Dest Tap         : not-applicable       Dest FP          : not-applicable
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin PIR        : 10000000            Oper PIR         : Max
Admin CIR        : 2500000             Oper CIR         : 2500000
Admin MBS        : 116736 KB           Oper MBS         : 116736 KB
High-Plus Drop T*: 116736 KB           High Drop Tail   : 116736 KB
Low Drop Tail    : 104448 KB           Exceed Drop Tail : 104448 KB
CBS              : 7104 KB             Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 3 Net=af Port=1/2/to-sub
===============================================================================
FC Map           : af
Dest Tap         : not-applicable      Dest FP          : not-applicable
Admin PIR        : 10000000            Oper PIR         : Max
Admin CIR        : 2500000             Oper CIR         : 2500000
Admin MBS        : 116736 KB           Oper MBS         : 116736 KB
High-Plus Drop T*: 116736 KB           High Drop Tail   : 116736 KB
Low Drop Tail    : 104448 KB           Exceed Drop Tail : 104448 KB
CBS              : 23424 KB            Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 4 Net=l1 Port=1/2/to-sub
===============================================================================
FC Map           : l1
Dest Tap         : not-applicable      Dest FP          : not-applicable
Admin PIR        : 10000000            Oper PIR         : Max
Admin CIR        : 2500000             Oper CIR         : 2500000
Admin MBS        : 58368 KB            Oper MBS         : 58368 KB
High-Plus Drop T*: 58368 KB            High Drop Tail   : 58368 KB
Low Drop Tail    : 52224 KB            Exceed Drop Tail : 52224 KB
CBS              : 7104 KB             Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 5 Net=h2 Port=1/2/to-sub
===============================================================================
FC Map           : h2
Dest Tap         : not-applicable      Dest FP          : not-applicable
Admin PIR        : 10000000            Oper PIR         : Max
Admin CIR        : 10000000            Oper CIR         : Max
Admin MBS        : 116736 KB           Oper MBS         : 116736 KB
High-Plus Drop T*: 116736 KB           High Drop Tail   : 116736 KB
Low Drop Tail    : 104448 KB           Exceed Drop Tail : 104448 KB
CBS              : 23424 KB            Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 6 Net=ef Port=1/2/to-sub
===============================================================================
FC Map           : ef
Dest Tap         : not-applicable      Dest FP          : not-applicable
Admin PIR        : 10000000            Oper PIR         : Max
Admin CIR        : 10000000            Oper CIR         : Max
Admin MBS        : 116736 KB           Oper MBS         : 116736 KB
High-Plus Drop T*: 116736 KB           High Drop Tail   : 116736 KB
Low Drop Tail    : 104448 KB           Exceed Drop Tail : 104448 KB
CBS              : 23424 KB            Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 7 Net=h1 Port=1/2/to-sub
===============================================================================
FC Map           : h1
Dest Tap         : not-applicable      Dest FP          : not-applicable
Admin PIR        : 10000000            Oper PIR         : Max
Admin CIR        : 1000000             Oper CIR         : 1000000
Admin MBS        : 58368 KB            Oper MBS         : 58368 KB
High-Plus Drop T*: 58368 KB            High Drop Tail   : 58368 KB
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Low Drop Tail    : 52224 KB             Exceed Drop Tail : 52224 KB
CBS              : 7104 KB              Depth            : 0
Slope            : not-applicable
===============================================================================
Queue : 8 Net=nc Port=1/2/to-sub
===============================================================================
FC Map           : nc
Dest Tap         : not-applicable       Dest FP          : not-applicable
Admin PIR        : 10000000             Oper PIR         : Max
Admin CIR        : 1000000              Oper CIR         : 1000000
Admin MBS        : 58368 KB             Oper MBS         : 58368 KB
High-Plus Drop T*: 58368 KB             High Drop Tail   : 58368 KB
Low Drop Tail    : 52224 KB             Exceed Drop Tail : 52224 KB
CBS              : 7104 KB              Depth            : 0
Slope            : not-applicable
No Matching Entries
===============================================================================
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:ALU>show>app-assure>group#
```

status

Syntax

status

Context

[Tree] (show>router>mld status)

Full Context

show router mld status

Description

This command displays MLD status information.

If MLD is not enabled, the following message appears:

```
A:NYC# show router mld status
MINOR: CLI MLD is not configured.
A:NYC#
```

Platforms

All

Output

The following output is an example of MLD status information Table 615: Output fields: MLD status provides MLD status field descriptions.

Output Example

```
*A:ALA-BA# show router mld status
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MLD Status
===============================================================================
Admin State                       : Up
Oper State                        : Up
Query Interval                    : 125
Last Listener Query Interval      : 1
Query Response Interval           : 10
Robust Count                      : 2
===============================================================================
*A:ALA-BA#
```

Table 615: Output fields: MLD status

Label	Description
Admin State	The administrative status of MLD.
Oper State	The current operating state of this MLD protocol instance on this router.
Query Interval	The frequency at which MLD query packets are transmitted.
Last Listener Query Interval	The maximum response time inserted into group-specific queries sent in response to leave group messages, and is also the amount of time between group-specific query messages.
Query Response Interval	The maximum query response time advertised in MLDv2 queries.
Robust Count	The number of times the router will retry a query.

status

Syntax

status

Context

[Tree] (show>router>msdp status)

Full Context

show router msdp status

Description

This command displays MSDP status information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of MSDP status information, and Table 616: Output fields: MSDP status describes the output fields.

Output example

```
A:node-2# show router msdp status
===============================================================================
MSDP Status
===============================================================================
Admin State                       : Up
Local Address                     : None
Global Statistics
Active Src Limit                  : None
Act Src Lim Excd                  : 0
Num. Peers                        : 1
Num. Peers Estab                  : 1
Num. Source Active                : 10
Policies                          : None
Data Encapsulation                : Enabled
Receive Msg Rate
Rate                              : 0
Time                              : 0
Threshold                         : 0
Last Msdp Enabled                 : 08/30/2002 03:21:43
===============================================================================
A:node-2#
```

Table 616: Output fields: MSDP status

Label	Description
Admin State	The administrative state
Local Address	The local IP address
Active Src Limit	The active source limit
Act Src Lim Excd	The active source limit which has been exceeded
Number of Peers	The number of peers
Num. Peers Estab	The number of peers established
Num. Source Active	The number of active sources
Policies	The policy to export source active state from the source active list into MSDP
Data Encapsulation	The RP using MSDP to encapsulate multicast data received in MSDP register messages inside forwarded MSDP SA messages - enabled or disabled
Rate	The receive message rate
Time	The receive message time

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Threshold	The number of MSDP messages that can be processed before the MSDP message rate-limiting function is activated
RPF Table	The name of the RPF table
Last msdp Enabled	The time the last MSDP was triggered

status

Syntax

status [**detail**] [*family*]

Context

[Tree] (show>router>pim status)

Full Context

show router pim status

Description

This command displays PIM status. The Oper Status reflects the combined operational status of IPv4 or IPv6 PIM protocol status. If both are down, then Oper Status is reflected as down. If IPv4 or IPv6 reflects up, the Oper Status reflects up.

If PIM is not enabled, the following message appears:

```
A:NYC# show router pim status
MINOR: CLI PIM is not configured.
A:NYC#
```

Parameters

detail

Displays detailed status information.

family

Displays status information for the specified family.

Values ipv4, ipv6

Platforms

All

Output

The following output is an example of a PIM status configuration. Table 617: Output fields: PIM status provides PIM status output field descriptions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:dut-d# show router pim status
===============================================================================
PIM Status ipv4
===============================================================================
Admin State                       : Up
Oper State                        : Up
IPv4 Admin State                  : Up
IPv4 Oper State                   : Up
BSR State                         : Accept Any
Elected BSR
    Address                       : None
    Expiry Time                   : N/A
    Priority                      : N/A
    Hash Mask Length              : 30
    Up Time                       : N/A
    RPF Intf towards E-BSR        : N/A
Candidate BSR
    Admin State                   : Down
    Oper State                    : Down
    Address                       : None
    Priority                      : 0
    Hash Mask Length              : 30
Candidate RP
    Admin State                   : Down
    Oper State                    : Down
    Address                       : 0.0.0.0
    Priority                      : 192
    Holdtime                      : 150
Auto-RP                           : Disabled
Multicast-Fast-Failover           : Disabled
SSM-Default-Range                 : Enabled
SSM-Assert-Comp-Mode              : Disabled
SSM-Group-Range
    None
MC-ECMP-Hashing                   : Disabled
MC-ECMP-Hashing-Rebalance         : Disabled
Enable-MDT-SPT                    : Disabled
Policy                            : None
RPF Table                         : rtable-u
Non-DR-Attract-Traffic            : Disabled
Rpf-Vector                        : None
ESM                               : Disabled
SSM S,G Scaling (upto 256K)       : Enabled (fabric optimization off)
===============================================================================
A:dut-d#
```

Table 617: Output fields: PIM status

Label	Description
Admin State	The administrative status of PIM.
Oper State	The current operating state of this PIM protocol instance.
BSR State	The state of the router with respect to the Bootstrap mechanism.
Address	The address of the elected Bootstrap router.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Expiry Time	The time remaining before the router sends the next Bootstrap message.
Priority	The priority of the elected Bootstrap router. The higher the value, the higher the priority.
Hash Mask Length	The hash mask length of the Bootstrap router.
Up Time	The time since the current E-BSR became the Bootstrap router.
RPF Intf towards	The RPF interface towards the elected BSR. The value is zero if there is no elected BSR in the network.
Address	The address of the candidate BSR OS.
Expiry Time	The time remaining before the router sends the next Bootstrap message.
Auto-RP	Displays if auto-RP functionality is enabled or disabled.
Priority	The priority of the Bootstrap router. The higher the value, the higher the priority.
Hash Mask Length	The hash mask length of the candidate Bootstrap router.
Up Time	The time since becoming the Bootstrap router.
Admin State	The administrative status of CRP.
Oper State	The current operating state of the C-RP mechanism.
Address	The local RP address.
Priority	The CRP's priority for becoming a rendezvous point (RP). A 0 value is the highest priority.
Holdtime	The hold time of the candidate RP. It is used by the Bootstrap router to time out the RP entries if it does not listen to another CRP advertisement within the holdtime period.
Policy	The PIM policies for a particular PIM instance.
Default Group	The default core group address.
RPF Table	The route table used for RPF check.
MC-ECMP-Hashing	Displays whether hash-based multicast balancing of traffic over ECMP links is enabled or disabled.
SSM S,G Scaling (up to 256K)	The status of PIM SSM scaling.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

status

Syntax

status

Context

[Tree] (show>router>p2mp-sr-tree status)

Full Context

show router p2mp-sr-tree status

Description

This command displays P2MP SR tree status information.

Platforms

All

Output

The following output is an example of P2MP SR tree status information.

Output Example

```
A:swsim103>show>router>p2mp-sr-tree# status
===============================================================================
P2MP-SR-TREE Status
===============================================================================
Admin Status       : Up                 Oper Status        : Up
Reserved Lbl Blk   : treeSID
===============================================================================
```

status

Syntax

status

Context

[Tree] (show>li status)

Full Context

show li status

Description

This command displays LI status information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of information about the LI status.

Output Example

```
*A:sim138# show li status
===============================================================================
Lawful Intercept Status Information
===============================================================================
LI Booted Config Status      : fail
LI Local Save Allowed        : yes
Separate LI administration   : no
Last LI Config Save Time     : N/A
Last Config Save Result      : none
Changes Since Last Save      : yes
Last LI Config Modified Time : 2008/01/11 10:24:30
===============================================================================
*A:sim138#
```

status

Syntax

status

Context

[Tree] (show>cflowd status)

Full Context

show cflowd status

Description

This command displays information about the administrative and operational status of cflowd.

Platforms

All

Output

The following output is an example of cflowd status information, and Table 618: Output fields: cflowd status describes the output fields.

Output example

```
A:node-2>config>cflowd# /show cflowd status
===============================================================================
Cflowd Status
===============================================================================
Cflowd Admin Status  : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Cflowd Oper Status   : Enabled
Cflowd Export Mode   : Automatic
Active Flow Timeout  : 30 minutes
Inactive Flow Timeout     : 10 seconds
Template Retransmit  : 600 seconds
Cache Size           : 65536 entries
Overflow             : 1%
Aggregation Summary  : (Not Specified)
VRtr If Index Context: global
Analyze GRE          : Disabled
Analyze L2TPv2       : Disabled
Analyze IPV4overV6   : Disabled
Analyze SRv6         : Disabled

Active Flows         : 0
Dropped Flows        : 0
Total Pkts Rcvd      : 2
Total Pkts Dropped   : 0
Total IE315 Pkts Rcvd: 0
Overflow Events      : 0
                                       Raw Flow Counts  Aggregate Flow Counts
Flows Created                                        2                     0
Flows Matched                                        0                     0
Flows Flushed                                        2                     0
===============================================================================
Sample Profile Info
===============================================================================
Profile Id   Sample Rate                    Slice Selection   Export IE315
-------------------------------------------------------------------------------
1           1000                           standard          Enabled

===============================================================================
Version Info
===============================================================================
Version Status                  Sent                Open               Errors
-------------------------------------------------------------------------------
    5   Disabled                   0                   0                    0
    8   Disabled                   0                   0                    0
    9   Disabled                   0                   0                    0
   10   Enabled                    1                   0                    0
===============================================================================
```

Table 618: Output fields: cflowd status

Label	Description
Cflowd Admin Status	The desired administrative state for this cflowd remote collector host
Cflowd Oper Status	The current operational status of this cflowd remote collector host
Cflowd Export Mode	The cflowd export mode: • Automatic – export generated messages automatically • Manual – export generated messages by CLI or SNMP request

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Active Flow Timeout	The maximum amount of time, in minutes, before an active flow is exported; if an individual flow is active for this amount of time, the flow is exported and a new flow is created
Inactive Flow Timeout	The inactive flow timeout in seconds
Template Retransmit	The time in seconds before template definitions are sent
Cache Size	The maximum number of active flows to be maintained in the flow cache table
Overflow	The percentage number of flows to be flushed when the flow cache size has been exceeded
Aggregation Summary	The aggregation summary
VRtr If Index Context	Global – indicates the default behavior, which populates the ingress and egress interface ID with the global IF index IDs vrtr – indicates the **use-vrtr-if-index** command is configured, enabling the export of flow data using interface indexes, which can be used directly as the index into the IF_MIB tables for retrieving interface statistics
Analyze GRE	Displays whether cflowd analysis of the inner IP packet in a sampled GRE packet that is transiting the local router is enabled or disabled
Analyze L2TPv2	Displays whether cflowd looking for and analyzing the inner IP header of an L2TPv2 frame is enabled or disabled
Analyze IPV4overV6	Displays whether cflowd looking for and analyzing the inner IPv4 header of IPv4overIPv6 frames that include MAP-E as well as DS-Lite and SAM traffic is enabled or disabled
Analyze SRv6	Displays whether cflowd analyzing SRv6 encapsulated packets is enabled or disabled
Sample Rate	The rate at which traffic is sampled and forwarded for cflowd analysis: one (1) — all packets are analyzed 1000 (default) — every 1000th packet is analyzed
Active Flows	The current number of active flows being collected
Dropped Flows	The total number of flows dropped due to cache overflow events
Total Pkts Rcvd	The total number of packets sampled and forwarded for cflowd analysis
Total Pkts Dropped	The total number of packets dropped

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Total IE315 Pkts Rcvd	The total number of IE315 packets received
Overflow Events	The number of times the active cache overflowed
Raw Flow Counts	The raw flow counts
Aggregate Flow Counts	The aggregate flow counts
Flows Created	The flows created
Flows Matched	The flows matched
Flows Flushed	The flows flushed
Sample Profile Info	
Profile Id	The profile ID associated with the sample profile
Sample Rate	The cflowd sampling rate for the sample profile ID
Slice selection	The slice selection for this sample profile: • standard – slice selection is 128 bytes • extended – slice selection is 256 bytes
Export IE315	Displays if export IE315 is enabled. When enabled, samples are sent to the IPFIX collector using the IPFIX IE315 fields.
Version Info:	
Type	The type of data to be aggregated and to the collector
Version	The cflowd version: • 5 – this format generates a fixed export record for each individual flow captured • 8 – this format aggregates multiple individual flows into a fixed aggregate record • 9 – this format generates a variable export record, depending on user configuration and sampled traffic type (IPv4, IPv6, or MPLS), for each individual flow captured • 10 – this format generates a variable export record, depending on user configuration and sampled traffic type (IPv4, IPv6, or MPLS), for each individual flow captured
Status	Enabled — specifies that the aggregation type is enabled Disabled — specifies that the aggregation type is disabled
Sent	The number of packets with flow date sent to the associated collector

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Open	This counter shows the number of partially filled packets which have some flow data but are not yet filled or have been timed out (60 seconds maximum)
Errors	This counter increments when there was an error during exporting of the collector packet; the most common reason will be a UDP unreachable destination for the configured collector

status

Syntax

status

Context

[Tree] (show>router status)

Full Context

show router status

Description

This command displays the router status.

Platforms

All

Output

Router Status Output — The following output is an example of router status information.

There are multiple instances of OSPF. OSPF-0 is persistent. OSPF-1 through OSPF-31 are present when that specific OSPF instance is configured.

Output Example

```
*A:Dut-C# show router status
===============================================================================
Router Status (Router: Base)
===============================================================================
                         Admin State                       Oper State
-------------------------------------------------------------------------------
Router                   Up                                Up
OSPFv2                   Not configured                    Not configured
RIP                      Not configured                    Not configured
RIP-NG                   Not configured                    Not configured
ISIS-0                   Up                                Up
MPLS                     Up                                Up
RSVP                     Up                                Up
LDP                      Not configured                    Not configured
BGP                      Not configured                    Not configured
IGMP                     Not configured                    Not configured
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MLD                      Not configured                    Not configured
PIM                      Not configured                    Not configured
PIMv4                    Not configured                    Not configured
PIMv6                    Not configured                    Not configured
OSPFv3                   Not configured                    Not configured
MSDP                     Not configured                    Not configured
BIER                     Not configured                    Not configured

Max IPv4 Routes          No Limit
Max IPv6 Routes          No Limit
Total IPv4 Routes        27
Total IPv6 Routes        27
Max Multicast Routes     No Limit
Total IPv4 Mcast Routes  PIM not configured
Total IPv6 Mcast Routes  PIM not configured
ECMP Max Routes          64
Weighted ECMP            Strict
Mcast Info Policy        default
Triggered Policies       No
Policy reference checks  Disabled
LDP Shortcut             Disabled
Single SFM Overload      Disabled
IP Fast Reroute          Disabled
Entropy Label            Disabled
ICMP Tunneling           Disabled
MSS adjust ISA group     Not configured
Reassembly ISA-BB group  Not configured
Ipv6 Nbr Reachab. time   Not configured                    30
IPv6 Nbr stale time (s)  14400
Static Route Hold Down   Disabled
TTL Propagate
    VPRN Local           vc-only
    VPRN Transit         vc-only
    Label Route Local    none
    Label Route Transit  none
    LSR Label Route      none
LSP BFD Tail Sessions    Disabled
Class Forwarding         Disabled
Mtrace2 Tests            Disabled
Leak Export              Disabled
Leak Export Limit        5
===============================================================================
*A:Dut-C#
```

Router Status Output —The following output is an example of router status information with Mtrace2 enabled.

Output Example

```
===============================================================================
Router Status (Router: Base)
===============================================================================
                         Admin State                       Oper State
-------------------------------------------------------------------------------
Router                   Up                                Up
OSPFv2                   Not configured                    Not configured
RIP                      Not configured                    Not configured
RIP-NG                   Not configured                    Not configured
ISIS                     Not configured                    Not configured
MPLS                     Not configured                    Not configured
RSVP                     Not configured                    Not configured
LDP                      Not configured                    Not configured
BGP                      Not configured                    Not configured
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
IGMP                     Not configured                     Not configured
MLD                      Not configured                     Not configured
PIM                      Not configured                     Not configured
PIMv4                    Not configured                     Not configured
PIMv6                    Not configured                     Not configured
OSPFv3                   Not configured                     Not configured
MSDP                     Not configured                     Not configured

Max IPv4 Routes          No Limit
Max IPv6 Routes          No Limit
Total IPv4 Routes        0
Total IPv6 Routes        0
Max Multicast Routes     No Limit
Total IPv4 Mcast Routes  PIM not configured
Total IPv6 Mcast Routes  PIM not configured
ECMP Max Routes          ECMP not configured
Weighted ECMP            Disabled
Mcast Info Policy        default
Triggered Policies       No
LDP Shortcut             Disabled
Single SFM Overload      Disabled
IP Fast Reroute          Disabled
Entropy Label            Disabled
ICMP Tunneling           Disabled
MSS adjust ISA group     Not configured
Reassembly ISA-BB group  Not configured
Ipv6 Nbr Reachab. time   Not configured                     30
IPv6 Nbr stale time (s)  14400
Static Route Hold Down   Disabled
TTL Propagate
    VPRN Local           vc-only
    VPRN Transit         vc-only
    Label Route Local    none
    Label Route Transit  none
    LSR Label Route      none
LSP BFD Tail Sessions    Disabled
Class Forwarding         Disabled
Mtrace2 Tests            Enabled on UDP PORT 5001
```

7450 ESS Router Status Output—The following output is an example of router status information for the 7450 ESS:

Output Example

```
*A:Performance# configure router ospf [1..31] shutdown
*A:Performance# show router status
===============================================================
Router Status (Router: Base)
===============================================================
                         Admin State         Oper State
---------------------------------------------------------------
Router                   Up                  Up
OSPFv2-0                 Up                  Up
OSPFv2-1                 Down                Down
OSPFv2-2                 Down                Down
OSPFv2-3                 Down                Down
OSPFv2-4                 Down                Down
OSPFv2-5                 Down                Down
OSPFv2-6                 Down                Down
OSPFv2-7                 Down                Down
OSPFv2-8                 Down                Down
OSPFv2-9                 Down                Down
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
OSPFv2-10                Down                Down
OSPFv2-11                Down                Down
OSPFv2-12                Down                Down
OSPFv2-13                Down                Down
OSPFv2-14                Down                Down
OSPFv2-15                Down                Down
OSPFv2-16                Down                Down
OSPFv2-17                Down                Down
OSPFv2-18                Down                Down
OSPFv2-19                Down                Down
OSPFv2-20                Down                Down
OSPFv2-21                Down                Down
OSPFv2-22                Down                Down
OSPFv2-23                Down                Down
OSPFv2-24                Down                Down
OSPFv2-25                Down                Down
OSPFv2-26                Down                Down
OSPFv2-27                Down                Down
OSPFv2-28                Down                Down
OSPFv2-29                Down                Down
OSPFv2-30                Down                Down
OSPFv2-31                Down                Down
RIP                      Up                  Up
ISIS                     Up                  Up
MPLS                     Not configured      Not configured
RSVP                     Not configured      Not configured
LDP                      Not configured      Not configured
BGP                      Up                  Up
IGMP                     Not configured      Not configured
PIM                      Not configured      Not configured
OSPFv3                   Not configured      Not configured
MSDP                     Not configured      Not configured
Max Routes               No Limit
Total IPv4 Routes        244277
Max Multicast Routes     No Limit
Total Multicast Routes   PIM not configured
ECMP Max Routes          1
Single SFM Overload      Enabled             hold-off 30 sec
Single SFM State         normal
Single SFM Start         004 19:03:39.680
Single SFM Interval      0d 00:16:06
Reassembly ISA-BB group  Not configured
Ipv6 Nbr Reachab. time   Not configured                    30
Triggered Policies       No
===============================================================
*A:Performance#
```

Router Status Output for 7750 SR and 7950 XRS—The following output is an example of router status information for the 7750 SR and 7950 XRS:

Output Example

```
*A:Performance# configure router ospf [1..31] shutdown
*A:Performance# show router status
===============================================================
Router Status (Router: Base)
===============================================================
                         Admin State         Oper State
---------------------------------------------------------------
Router                   Up                  Up
OSPFv2-0                 Up                  Up
OSPFv2-1                 Down                Down
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
OSPFv2-2                  Down                Down
OSPFv2-3                  Down                Down
OSPFv2-4                  Down                Down
OSPFv2-5                  Down                Down
OSPFv2-6                  Down                Down
OSPFv2-7                  Down                Down
OSPFv2-8                  Down                Down
OSPFv2-9                  Down                Down
OSPFv2-10                 Down                Down
OSPFv2-11                 Down                Down
OSPFv2-12                 Down                Down
OSPFv2-13                 Down                Down
OSPFv2-14                 Down                Down
OSPFv2-15                 Down                Down
OSPFv2-16                 Down                Down
OSPFv2-17                 Down                Down
OSPFv2-18                 Down                Down
OSPFv2-19                 Down                Down
OSPFv2-20                 Down                Down
OSPFv2-21                 Down                Down
OSPFv2-22                 Down                Down
OSPFv2-23                 Down                Down
OSPFv2-24                 Down                Down
OSPFv2-25                 Down                Down
OSPFv2-26                 Down                Down
OSPFv2-27                 Down                Down
OSPFv2-28                 Down                Down
OSPFv2-29                 Down                Down
OSPFv2-30                 Down                Down
OSPFv2-31                 Down                Down
RIP                       Up                  Up
ISIS                      Up                  Up
MPLS                      Not configured      Not configured
RSVP                      Not configured      Not configured
LDP                       Not configured      Not configured
BGP                       Up                  Up
IGMP                      Not configured      Not configured
PIM                       Not configured      Not configured
OSPFv3                    Not configured      Not configured
MSDP                      Not configured      Not configured
Max Routes                No Limit
Total IPv4 Routes         244277
Total IPv6 Routes         0
Max Multicast Routes      No Limit
Total Multicast Routes    PIM not configured
ECMP Max Routes           1
Single SFM Overload       Enabled             hold-off 30 sec
Single SFM State          normal
Single SFM Start          004 19:03:39.680
Single SFM Interval       0d 00:16:06
Reassembly ISA-BB group   Not configured
Ipv6 Nbr Reachab. time    Not configured                   30
Triggered Policies        No
===============================================================
*A:Performance#
```

Class Forwarding—The following output is an example for checking if class-based forwarding is enabled in the global router context.

Output Example

```
*A:Dut-B>show>router# show router "Base" status
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Router Status (Router: Base)
===============================================================================
                        Admin State                     Oper State
-------------------------------------------------------------------------------
Router                  Up                              Up
OSPFv2                  Not configured                  Not configured
RIP                     Not configured                  Not configured
RIP-NG                  Not configured                  Not configured
ISIS-0                  Up                              Up
MPLS                    Up                              Up
RSVP                    Up                              Up
LDP                     Not configured                  Not configured
BGP                     Up                              Up
IGMP                    Not configured                  Not configured
MLD                     Not configured                  Not configured
PIM                     Not configured                  Not configured
PIMv4                   Not configured                  Not configured
PIMv6                   Not configured                  Not configured
OSPFv3                  Not configured                  Not configured
MSDP                    Not configured                  Not configured
Max IPv4 Routes         No Limit
Max IPv6 Routes         No Limit
Total IPv4 Routes       262
Total IPv6 Routes       262
Max Multicast Routes    No Limit
Total IPv4 Mcast Routes PIM not configured
Total IPv6 Mcast Routes PIM not configured
ECMP Max Routes         64
Weighted ECMP           Disabled
Mcast Info Policy       default
Triggered Policies      No
LDP Shortcut            Disabled
Single SFM Overload     Disabled
IP Fast Reroute         Disabled
Entropy Label           Disabled
ICMP Tunneling          Enabled
MSS adjust ISA group    Not configured
Reassembly ISA-BB group Not configured
Ipv6 Nbr Reachab. time  Not configured                  30
IPv6 Nbr stale time (s) 14400
Static Route Hold Down  Disabled
TTL Propagate
    VPRN Local          vc-only
    VPRN Transit        vc-only
    Label Route Local   none
    Label Route Transit none
    LSR Label Route     none
LSP BFD Tail Sessions   Disabled
Class Forwarding        Enabled
===============================================================================
```

TTL Propagation and ICMP Tunneling—The following output is an example of TTL propagation and ICMP tunneling configurations, first in Base router and then in a VPRN service.

Output Example

```
*A:Performance# show router status
===============================================================
Router Status (Router: Base)
===============================================================
                        Admin State         Oper State
---------------------------------------------------------------
Router                  Up                  Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
OSPFv2-0                 Up                  Up
OSPFv2-2                 Down                                Down
RIP                      Not configured                      Not configured
RIP-NG                   Not configured                      Not configured
ISIS-0                   Up                                  Up
ISIS-1024                Down                                Down
MPLS                     Down                                Down
RSVP                     Down                                Down
LDP                      Up                                  Down
BGP                      Up                                  Down
IGMP
MLD
PIM
PIMv4
PIMv6
OSPFv3
MSDP

Max IPv4 Routes          No Limit
Max IPv6 Routes          No Limit
Total IPv4 Routes        0
Total IPv6 Routes        0
Max Multicast Routes     No Limit
Total IPv4 Mcast Routes  PIM not configured
Total IPv6 Mcast Routes  PIM not configured
ECMP Max Routes          1
Mcast Info Policy        default
Triggered Policies       No
LDP Shortcut             Disabled
Single SFM Overload      Disabled
IP Fast Reroute          Disabled
ICMP Tunneling           Disabled
Reassembly ISA-BB group  Not configured
ICMP Tunneling           Disabled
Ipv6 Nbr Reachab. time   Not configured                      30
IPv6 Nbr stale time (s)  14400
VPRN Local TTL Propagate vc-only
VPRN Transit TTL Propag* vc-only
Label Route Local TTL P* none
Label Route Transit TTL* none
LSR Label Route TTL Pro* none
===============================================================================
* indicates that the corresponding row element may have been truncated.
*B:bkvm31#
```

VPRN TTL Propagation and ICMP Tunneling—The following output is an example of TTL propagation and ICMP tunneling configurations in a VPRN service. The TTL propagation has been specified as local and all for VPRN service 5001.

Output Example

```
*A:Dut-A# configure service vprn 5001 ttl-propagate local all
*A:Dut-A# show router 5001 status

===============================================================================
Router Status (Service: 5001)
===============================================================================
                         Admin State                         Oper State
-------------------------------------------------------------------------------
Router                   Up                                  Up
OSPFv2                   Not configured                      Not configured
RIP                      Not configured                      Not configured
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
RIP-NG                  Not configured                      Not configured
ISIS                    Not configured                      Not configured
MPLS                    Not configured                      Not configured
RSVP                    Not configured                      Not configured
LDP                     Not configured                      Not configured
BGP                     Not configured                      Not configured
IGMP                    Not configured                      Not configured
MLD                     Not configured                      Not configured
PIM                     Not configured                      Not configured
PIMv4                   Not configured                      Not configured
PIMv6                   Not configured                      Not configured
OSPFv3                  Not configured                      Not configured
MSDP                    Not configured                      Not configured

Max IPv4 Routes         No Limit
Max IPv6 Routes         No Limit
Total IPv4 Routes       2
Total IPv6 Routes       2
Max Multicast Routes    No Limit
Total IPv4 Mcast Routes PIM not configured
Total IPv6 Mcast Routes PIM not configured
ECMP Max Routes         1
Mcast Info Policy       default
Triggered Policies      No
GRT Lookup              Disabled
Local Management        Disabled
Single SFM Overload     Disabled
IP Fast Reroute         Disabled
ICMP Tunneling          Disabled
Reassembly ISA-BB group Not configured
ICMP Tunneling          Disabled
Ipv6 Nbr Reachab. time  Not configured                      30
VPRN Local TTL Propagate all
VPRN Transit TTL Propag* inherit (vc-only)
===============================================================================
* indicates that the corresponding row element may have been truncated.
*A:Dut-A#
```

status

Syntax

status

Context

[Tree] (show>router>rib-api status)

Full Context

show router rib-api status

Description

This command displays RIB-API status information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of RIB-API status information.

Output Example

```
*A:Dut-A# /show router rib-api status
===============================================================================
Rib-Api Status
===============================================================================
MPLS Admin     Reserved Label Block Name
Status
-------------------------------------------------------------------------------
Up             ribapi
===============================================================================
```

status

Syntax

status

Context

[Tree] (clear>application-assurance>group status)

Full Context

clear application-assurance group status

Description

This command clears application assurance system statistics.

Platforms

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

status

Syntax

status

Context

[Tree] (show>router>isis status)

Full Context

show router isis status

Description

This command displays the IS-IS status information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of the IS-IS status, and Table 619: Output fields: IS-IS status describes the output fields.

- Output example (show router IS-IS status)
- Output example (show router IS-IS status with LFA policies configured)
- Output Example (show router IS-IS status with flexible algorithms enabled)

Output example (show router IS-IS status)

```
A:node-2# show router isis status
===============================================================================
Rtr Base ISIS Instance 0 Status
===============================================================================
ISIS Cfg System Id           : 0000.0000.0000
ISIS Oper System Id          : 0100.2000.1001
ISIS Cfg Additional Sys Id   : 0000.0000.0002
                             : 3000.0000.0003
                             : 3000.0000.0004
                             : 3000.0000.0005
ISIS Oper Additional Sys Id  : 0000.0000.0002
                             : 3000.0000.0003
                             : 3000.0000.0004
                             : 3000.0000.0005
ISIS Cfg Router Id           : 0.0.0.0
ISIS Oper Router Id          : 10.20.1.1
ISIS Cfg IPv6 Router Id      : ::
ISIS Oper IPv6 Router Id     : ::
ASN                          : 0
Admin State                  : Up
Oper State                   : Up
Ipv4 Routing                 : Enabled
Ipv6 Routing                 : Disabled
Mcast Ipv4 Routing           : Enabled, Native
Mcast Ipv6 Routing           : Disabled
Last Enabled                 : 12/09/2022 18:43:43
Level Capability             : L1L2
Authentication Check         : True
Auth Keychain                : Disabled
Authentication Type          : None
CSNP-Authentication          : Enabled
HELLO-Authentication         : Enabled
PSNP-Authentication          : Enabled
Traffic Engineering          : Disabled
Oper IPv6 TE Router Id       : ::
Graceful Restart             : Disabled
GR Helper Mode               : Disabled
Overload-On-Boot Timeout     : 0
Overload Max-Metric          : False
Overload-On-Boot Max-Metric  : False
Overload Include Locators    : Disabled
Ovl Export Interlevel        : Disabled
Ovl Export External          : Disabled
Ovl FIB Error Notify Only    : Disabled
Ovl FIB Error Retry          : N.A.
LSP Lifetime                 : 1200
LSP Min Remaining Lifetime   : N.A.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP Refresh Half Interval    : 600 (Config)  600 (Oper)
LSP Wait (ms)                : 5000 (Max)  10 (Initial)  1000 (Second)
LSP MTU Size                 : 1492 (Config)
L1 LSP MTU Size              : 1492 (Config)  1492 (Oper)
L2 LSP MTU Size              : 1492 (Config)  1492 (Oper)
L1 MAX LSP MTU Size          : 9187
L2 MAX LSP MTU Size          : 1497
Adjacency Check              : loose
L1 Auth Keychain             : Disabled
L1 Auth Type                 : none
L1 CSNP-Authentication       : Enabled
L1 HELLO-Authentication      : Enabled
L1 PSNP-Authentication       : Enabled
L1 Preference                : 15
L1 Ext. Preference           : 160
L1 Wide Metrics              : Disabled
L1 LSDB Overload             : Disabled
L1 LSPs                      : 1
L1 Default Metric            : 10
L1 IPv6 Def Metric           : 10
L1 Mcast IPv4 Def Metric     : 10
L1 Mcast IPv6 Def Metric     : 10
L1 Adv Router Cap            : Enabled
L1 Bier Template             : None, Disabled
L1 Total Exp Routes          : 0
All-L1-MacAddr (Cfg)         : 01:80:c2:00:00:14
Last SPF                     : 12/09/2022 18:43:43
SPF Wait (ms)                : 10000 (Max)  1000 (Initial)  1000 (Second)
Multi-topology               : Disabled
IPv6-Unicast MT2             : Disabled
IPv4-Multicast MT3           : Disabled
IPv6-Multicast MT4           : Disabled
Area Addresses               : 30.31
Standard Multi-Instance      : Disabled
IID TLV                      : Disabled
Prefix Attributes TLV        : Disabled
L2 Auth Keychain             : Disabled
L2 Auth Type                 : none
L2 CSNP-Authentication       : Enabled
L2 HELLO-Authentication      : Enabled
L2 PSNP-Authentication       : Enabled
L2 Preference                : 18
L2 Ext. Preference           : 165
L2 Wide Metrics              : Enabled
L2 LSDB Overload             : Disabled
L2 LSPs                      : 6
L2 Default Metric            : 10
L2 IPv6 Def Metric           : 10
L2 Mcast IPv4 Def Metric     : 10
L2 Mcast IPv6 Def Metric     : 10
L2 Adv Router Cap            : Enabled
L2 Bier Template             : None, Disabled
L2 Total Exp Routes          : 0
All-L2-MacAddr (Cfg)         : 01:80:c2:00:00:15
Export Policies              : None
Import Policies              : None
LFA Policies                 : None
Multicast Import             : None
Advertise-Passive-Only       : Disabled
Ignore Attached Bit          : Disabled
Suppress Attached Bit        : Disabled
Default Route Tag            : None
Rib Prio List High           : None
Rib Prio Tag High            : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Ldp Sync Admin State         : Up
LDP-over-RSVP                : Disabled
IGP-Shortcut                 : Disabled
IGP SC Allow SR over SR-TE   : Disabled
IPv4 IGP SC Tunn-Nhop        : Res-Disabled
IPv6 IGP SC Tunn-Nhop        : Res-Disabled
SRv4 IGP SC Tunn-Nhop        : Res-Disabled
SRv6 IGP SC Tunn-Nhop        : Res-Disabled
Advertise-Tunnel-Link        : Disabled
Export Limit                 : 0
Exp Lmt Log Percent          : 0
Loopfree-Alternate           : Disabled
Remote-LFA                   : Disabled
Max PQ Cost                  : 4261412864
Remote-LFA (node-protect)    : Disabled
Max PQ nodes (node-protect)  : 16
Augment-route-table          : Disabled
TI-LFA                       : Disabled
Max SR FRR Labels            : 2
TI-LFA (node-protect)        : Disabled
L1 LFA                       : Included
L2 LFA                       : Included
Advertise Router Cap         : Disabled
Hello Padding                : Disabled
L1 Hello Padding             : Disabled
L2 Hello Padding             : Disabled
Ignore Lsp Errors            : Disabled
Ignore Narrow Metric         : Disabled
Reference Bandwidth          : 0
Ucast Import Disable         : None
Segment Routing              : Disabled
Segment Routing MT2          : Disabled
Flex Algo                    : Down
Mapping Server               : Disabled
Purge Originator Id          : Disabled
Class Based Forwarding       : Disabled
Entropy Label                : Enabled
Override ELC                 : Enabled
Micro loop avoidance         : Disabled fib-delay 15
UPA Received Processing      : Disabled
UPA Lifetime                 : 180
UPA Metric                   : 4261412865
UPA Max Number Advertised    : 32
Cfg Max ECMP Routes          : 64
Oper ECMP                    : 64
===============================================================================
```

Output example (show router IS-IS status for VPRN instance with ECMP route values)

```
A:node-2# show router 10 isis 10 status
===============================================================================
Rtr vprn10 ISIS Instance 10 Status
===============================================================================
ISIS Cfg System Id           : 0000.0000.0000
ISIS Oper System Id          : 0100.2000.1002
...
UPA Max Number Advertised    : 32
Cfg Max ECMP Routes          : 64
Oper ECMP                    : 64
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example (show router IS-IS status with LFA policies configured)

```
A:node-2# show router isis status
===============================================================================
Rtr Base ISIS Instance 0 Status
===============================================================================
ISIS Cfg System Id           : 0000.C0A8.0001
ISIS Oper System Id          : 0100.C0A8.1001
ISIS Cfg Additional Sys Id   : 0000.0000.0002
                             : 3000.0000.0003
                             : 3000.0000.0004
                             : 3000.0000.0005
ISIS Oper Additional Sys Id  : 0000.0000.0002
                             : 3000.0000.0003
                             : 3000.0000.0004
                             : 3000.0000.0005
ISIS Cfg Router Id           : 0.0.0.0
ISIS Oper Router Id          : 10.20.1.3
ISIS Cfg IPv6 Router Id      : ::
ISIS Oper IPv6 Router Id     : ::
ASN                          : 0
Admin State                  : Up
Oper State                   : Up
Ipv4 Routing                 : Enabled
Ipv6 Routing                 : Disabled
Mcast Ipv4 Routing           : Enabled, Native
Mcast Ipv6 Routing           : Disabled
Last Enabled                 : 12/09/2022 18:43:43
Level Capability             : L1
Authentication Check         : True
Auth Keychain                : Disabled
Authentication Type          : None
CSNP-Authentication          : Enabled
HELLO-Authentication         : Enabled
PSNP-Authentication          : Enabled
Traffic Engineering          : Disabled
Oper IPv6 TE Router Id       : ::
Graceful Restart             : Disabled
GR Helper Mode               : Disabled
Overload-On-Boot Timeout     : 0
Overload Max-Metric          : False
Overload-On-Boot Max-Metric  : False
Overload Include Locators    : Disabled
Ovl Export Interlevel        : Disabled
Ovl Export External          : Disabled
Ovl FIB Error Notify Only    : Disabled
Ovl FIB Error Retry          : N.A.
LSP Lifetime                 : 1200
LSP Min Remaining Lifetime   : N.A.
LSP Refresh Half Interval    : 600 (Config)  600 (Oper)
LSP Wait (ms)                : 5 (Max)  0 (Initial)  1 (Second)
LSP MTU Size                 : 1492 (Config)
L1 LSP MTU Size              : 1492 (Config)  1492 (Oper)
L2 LSP MTU Size              : 1492 (Config)  1492 (Oper)
L1 MAX LSP MTU Size          : 9187
L2 MAX LSP MTU Size          : 1497
Adjacency Check              : loose
L1 Auth Keychain             : Disabled
L1 Auth Type                 : none
L1 CSNP-Authentication       : Enabled
L1 HELLO-Authentication      : Enabled
L1 PSNP-Authentication       : Enabled
L1 Preference                : 15
L1 Ext. Preference           : 160
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
L1 Wide Metrics              : Enabled
L1 LSDB Overload             : Disabled
L1 LSPs                      : 51
L1 Default Metric            : 10
L1 IPv6 Def Metric           : 10
L1 Mcast IPv4 Def Metric     : 10
L1 Mcast IPv6 Def Metric     : 10
L1 Adv Router Cap            : Enabled
L1 Bier Template             : None, Disabled
L1 Total Exp Routes          : 1
All-L1-MacAddr (Cfg)         : 01:80:c2:00:00:14
Last SPF                     : 12/09/2022 18:43:43
SPF Wait (ms)                : 10 sec (Max)  1000 ms (Initial)  1000 ms (Second)
Multi-topology               : Disabled
IPv6-Unicast MT2             : Disabled
IPv4-Multicast MT3           : Disabled
IPv6-Multicast MT4           : Disabled
Area Addresses               : 49.0001
Standard Multi-Instance      : Disabled
IID TLV                      : Disabled
Prefix Attributes TLV        : Disabled
L2 Auth Keychain             : Disabled
L2 Auth Type                 : none
L2 CSNP-Authentication       : Enabled
L2 HELLO-Authentication      : Enabled
L2 PSNP-Authentication       : Enabled
L2 Preference                : 18
L2 Ext. Preference           : 165
L2 Wide Metrics              : Disabled
L2 LSDB Overload             : Disabled
L2 LSPs                      : 0
L2 Default Metric            : 10
L2 IPv6 Def Metric           : 10
L2 Mcast IPv4 Def Metric     : 10
L2 Mcast IPv6 Def Metric     : 10
L2 Adv Router Cap            : Enabled
L2 Bier Template             : None, Disabled
L2 Total Exp Routes          : 0
All-L2-MacAddr (Cfg)         : 01:80:c2:00:00:15
Export Policies              : static
Import Policies              : None
LFA Policies                 : pol1
                             : pol2
                             : pol3
                             : pol4
                             : pol5
Multicast Import             : None
Advertise-Passive-Only       : Disabled
Ignore Attached Bit          : Disabled
Suppress Attached Bit        : Disabled
Default Route Tag            : None
Rib Prio List High           : None
Rib Prio Tag High            : None
Ldp Sync Admin State         : Up
LDP-over-RSVP                : Disabled
IGP-Shortcut                 : Disabled
IGP SC Allow SR over SR-TE   : Disabled
IPv4 IGP SC Tunn-Nhop        : Res-Disabled
IPv6 IGP SC Tunn-Nhop        : Res-Disabled
SRv4 IGP SC Tunn-Nhop        : Res-Disabled
SRv6 IGP SC Tunn-Nhop        : Res-Disabled
Advertise-Tunnel-Link        : Disabled
Export Limit                 : 0
Exp Lmt Log Percent          : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Loopfree-Alternate           : Enabled
Remote-LFA                   : Disabled
Max PQ Cost                  : 4261412864
Remote-LFA (node-protect)    : Disabled
Max PQ nodes (node-protect)  : 16
Augment-route-table          : Disabled
TI-LFA                       : Disabled
Max SR FRR Labels            : 2
TI-LFA (node-protect)        : Disabled
L1 LFA                       : Included
L2 LFA                       : Included
Advertise Router Cap         : Disabled
Hello Padding                : Disabled
L1 Hello Padding             : Disabled
L2 Hello Padding             : Disabled
Ignore Lsp Errors            : Disabled
Ignore Narrow Metric         : Disabled
Reference Bandwidth          : 0
Ucast Import Disable         : None
Segment Routing              : Disabled
Segment Routing MT2          : Disabled
Flex Algo                    : Down
Mapping Server               : Disabled
Purge Originator Id          : Disabled
Class Based Forwarding       : Disabled
Entropy Label                : Enabled
Override ELC                 : Enabled
Micro loop avoidance         : Disabled fib-delay 15
UPA Received Processing      : Disabled
UPA Lifetime                 : 180
UPA Metric                   : 4261412865
UPA Max Number Advertised    : 32
===============================================================================
```

Output Example (show router IS-IS status with flexible algorithms enabled)

```
A:node-2# show router isis 0 status
===============================================================================
Rtr Base ISIS Instance 0 Status
===============================================================================
ISIS Cfg System Id           : 4900.0000.0001
ISIS Oper System Id          : 4900.0000.0001
ISIS Cfg Additional Sys Id   : 0000.0000.0002
                             : 3000.0000.0003
                             : 3000.0000.0004
                             : 3000.0000.0005
ISIS Oper Additional Sys Id  : 0000.0000.0002
                             : 3000.0000.0003
                             : 3000.0000.0004
                             : 3000.0000.0005
ISIS Cfg Router Id           : 10.20.1.1
ISIS Oper Router Id          : 10.20.1.1
ISIS Cfg IPv6 Router Id      : ::
ISIS Oper IPv6 Router Id     : ::
ASN                          : 0
Admin State                  : Up
Oper State                   : Up
Ipv4 Routing                 : Enabled
Ipv6 Routing                 : Disabled
Mcast Ipv4 Routing           : Enabled, Native
Mcast Ipv6 Routing           : Disabled
Last Enabled                 : 05/28/2020 13:17:48
Level Capability             : L1L2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Authentication Check         : True
Auth Keychain                : MyKeyChain
Authentication Type          : None
CSNP-Authentication          : Enabled
HELLO-Authentication         : Enabled
PSNP-Authentication          : Enabled
Traffic Engineering          : Disabled
Oper IPv6 TE Router Id       : ::
Graceful Restart             : Disabled
GR Helper Mode               : Disabled
Overload-On-Boot Timeout     : 0
Overload Max-Metric          : False
Overload-On-Boot Max-Metric  : False
Overload Include Locators    : Disabled
Ovl Export Interlevel        : Disabled
Ovl Export External          : Disabled
Ovl FIB Error Notify Only    : Disabled
Ovl FIB Error Retry          : N.A.
LSP Lifetime                 : 1200
LSP Min Remaining Lifetime   : N.A.
LSP Refresh Half Interval    : 600 (Config)  600 (Oper)
LSP Wait (ms)                : 5000 (Max)  10 (Initial)  1000 (Second)
LSP MTU Size                 : 1492 (Config)
L1 LSP MTU Size              : 1492 (Config)  1492 (Oper)
L2 LSP MTU Size              : 1492 (Config)  1492 (Oper)
L1 MAX LSP MTU Size          : 9775
L2 MAX LSP MTU Size          : 1561
Adjacency Check              : loose
L1 Auth Keychain             : Disabled
L1 Auth Type                 : none
L1 CSNP-Authentication       : Enabled
L1 HELLO-Authentication      : Enabled
L1 PSNP-Authentication       : Enabled
L1 Preference                : 15
L1 Ext. Preference           : 160
L1 Wide Metrics              : Enabled
L1 LSDB Overload             : Disabled
L1 LSPs                      : 1
L1 Default Metric            : 10
L1 IPv6 Def Metric           : 10
L1 Mcast IPv4 Def Metric     : 10
L1 Mcast IPv6 Def Metric     : 10
L1 Adv Router Cap            : Enabled
L1 Bier Template             : None, Disabled
L1 Total Exp Routes          : 0
All-L1-MacAddr (Cfg)         : 01:80:c2:00:00:14
Last SPF                     : 06/03/2020 10:27:06
SPF Wait (ms)                : 10000 (Max)  1000 (Initial)  1000 (Second)
Multi-topology               : Disabled
IPv6-Unicast MT2             : Disabled
IPv4-Multicast MT3           : Disabled
IPv6-Multicast MT4           : Disabled
Area Addresses               : 49.0001
Standard Multi-Instance      : Disabled
IID TLV                      : Disabled
Prefix Attributes TLV        : Disabled
L2 Auth Keychain             : Disabled
L2 Auth Type                 : none
L2 CSNP-Authentication       : Enabled
L2 HELLO-Authentication      : Enabled
L2 PSNP-Authentication       : Enabled
L2 Preference                : 18
L2 Ext. Preference           : 165
L2 Wide Metrics              : Enabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
L2 LSDB Overload             : Disabled
L2 LSPs                      : 3
L2 Default Metric            : 10
L2 IPv6 Def Metric           : 10
L2 Mcast IPv4 Def Metric     : 10
L2 Mcast IPv6 Def Metric     : 10
L2 Adv Router Cap            : Enabled
L2 Bier Template             : None, Disabled
L2 Total Exp Routes          : 0
All-L2-MacAddr (Cfg)         : 01:80:c2:00:00:15
Export Policies              : None
Import Policies              : None
LFA Policies                 : None
Multicast Import             : None
Advertise-Passive-Only       : Disabled
Ignore Attached Bit          : Disabled
Suppress Attached Bit        : Disabled
Default Route Tag            : None
Rib Prio List High           : None
Rib Prio Tag High            : None
Ldp Sync Admin State         : Up
LDP-over-RSVP                : Disabled
IGP-Shortcut                 : Disabled
IPv4 IGP SC Tunn-Nhop        : Res-Disabled
IPv6 IGP SC Tunn-Nhop        : Res-Disabled
SRv4 IGP SC Tunn-Nhop        : Res-Disabled
SRv6 IGP SC Tunn-Nhop        : Res-Disabled
Advertise-Tunnel-Link        : Disabled
Export Limit                 : 0
Exp Lmt Log Percent          : 0
Loopfree-Alternate           : Disabled
Remote-LFA                   : Disabled
Max PQ Cost                  : 4261412864
Remote-LFA (node-protect)    : Disabled
Max PQ nodes (node-protect)  : 16
Augment-route-table          : Disabled
TI-LFA                       : Disabled
Max SR FRR Labels            : 2
TI-LFA (node-protect)        : Disabled
L1 LFA                       : Included
L2 LFA                       : Included
Advertise Router Cap         : Area
Hello Padding                : Disabled
L1 Hello Padding             : Disabled
L2 Hello Padding             : Disabled
Ignore Lsp Errors            : Disabled
Ignore Narrow Metric         : Disabled
Reference Bandwidth          : 0
Ucast Import Disable         : None
Segment Routing              : Up
Segment Routing MT2          : Disabled
Flex Algo                    : Up
Mapping Server               : Down
Purge Originator Id          : Disabled
Class Based Forwarding       : Disabled
Entropy Label                : Enabled
Override ELC                 : Disabled
Micro loop avoidance         : Disabled fib-delay 15
UPA Received Processing      : Disabled
UPA Lifetime                 : 180
UPA Metric                   : 4261412865
UPA Max Number Advertised    : 32
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 619: Output fields: IS-IS status

Label	Description
ISIS Cfg System Id	Displays the configured IS-IS system ID
ISIS Oper System Id	Displays the operational IS-IS system ID
ISIS Cfg Additional Sys Id	Displays the configured additional IS-IS system IDs
ISIS Oper Additional Sys Id	Displays the operational additional IS-IS system IDs
ISIS Cfg Router Id	Displays the configured IS-IS router ID
ISIS Oper Router Id	Displays the operational IS-IS router ID
ISIS Cfg IPv6 Router Id	Displays the configured IS-IS IPv6 router ID
ISIS Oper IPv6 Router Id	Displays the operational IS-IS IPv6 router ID
ASN	Displays the Autonomous System Number (ASN) the IGP uses when the IS-IS Traffic Engineering Database (TEDB) export is enabled. The ASN value represents either the ASN from the confederation AS, or the router AS if confederations are not configured.
Admin State Oper State	Displays one of the following: • Up — IS-IS is administratively up • Down — IS-IS is administratively down
Ipv4 Routing	Displays one of the following: • Enabled — IPv4 routing is enabled • Disabled — IPv4 routing is disabled
Ipv6 Routing	Displays one of the following: • Disabled — IPv6 routing is disabled • Enabled, Native — IPv6 routing is enabled • Enabled, Multi-topology — Multi-topology TLVs for IPv6 routing is enabled
Mcast Ipv4 Routing	Displays one of the following: • Enabled — Multicast is enabled • Disabled — Multicast is disabled • Native — Multicast in IS-IS MT0 is enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• Multi-topology — Multicast in IS-IS MT3 (IPv4) is enabled
Mcast Ipv6 Routing	Displays one of the following: • Enabled — Multicast is enabled • Disabled — Multicast is disabled • Native — Multicast in IS-IS MT0 is enabled • Multi-topology — Multicast in IS-IS MT4 (IPv6) is enabled
Last Enabled	Displays the date and time when IS-IS was last enabled in the router
Level Capability	Displays the routing level for the IS-IS routing process
Authentication Check	Displays one of the following: • True — All IS-IS mismatched protocol packets are rejected • False — Authentication is performed on received IS-IS protocol packets but mismatched packets are not rejected
Auth Keychain	Displays the authentication keychain name used by IS-IS for the session when enabled
Authentication Type	Displays the authentication method used to verify the authenticity of packets sent by neighboring routers on an IS-IS interface
CSNP-Authentication	Displays one of the following: • Enabled — Complete Sequence Number Packet (CSNP) authentication is enabled • Disabled — CSNP authentication is disabled
HELLO-Authentication	Displays one of the following: • Enabled — Hello packet authentication is enabled • Disabled — Hello packet authentication is disabled
PSNP-Authentication	Displays one of the following: • Enabled — Partial Sequence Number Packet (PSNP) authentication is enabled • Disabled — PSNP authentication is disabled
Traffic Engineering	Displays one of the following: • Enabled — TE is enabled for the router • Disabled — TE is disabled so that TE metrics are not generated and are ignored when received by this node
Oper IPv6 TE Router Id	Displays the value of the IS-IS IPv6 TE Router ID TLV (TLV 140) defined by RFC 6119. The IPv6 TE Router ID is configured using the **configure router ipv6-te-router-id interface** *name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	command. By default, the system IPv6 address is used when IPv6 TE is enabled.
Graceful Restart	Displays one of the following: • Enabled — Graceful restart is enabled for this instance of IS-IS on the router • Disabled — Graceful restart capability is disabled for this instance of IS-IS on the router
GR Helper Mode	Displays if GR helper mode is configured
Overload-On-Boot Timeout	Displays if the overload-on-boot timeout is configured
Overload Max-Metric	Displays if overload max metric is configured
Overload-On-Boot Max-Metric	Displays if the overload-on-boot maximum metric is configured
Overload Include Locators	Displays if overload include locators is enabled
Ovl Export Interlevel	Displays if overload export interlevel is configured
Ovl Export External	Displays if overload export external is configured
Ovl FIB Error Notify Only	Displays if overload notification only is configured: • Disabled — Indicates the router will go into overload mode when the overload condition is reached. • Enabled — Indicates the router will not go into overload mode when the overload condition is reached and instead will only advertise a notification.
Ovl FIB Error Retry	Displays the amount of time in seconds until the router periodically retries to program the FIB during the gracious overload condition
LSP Lifetime	Displays the LSP lifetime value
LSP Min Remaining Lifetime	Displays the LSP minimum remaining lifetime information
LSP Refresh Half Interval	Displays the LSP refresh half interval
LSP Wait (ms)	Displays the max, initial, and initial wait times
LSP MTU Size	Displays the LSP Maximum Transmission Unit (MTU) size
L1 LSP MTU Size	Displays the level 1 LSP MTU size

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
L2 LSP MTU Size	Displays the level 2 LSP MTU size
L1 MAX LSP MTU Size	Displays the level 1 maximum LSP MTU size
L2 MAX LSP MTU Size	Displays the level 2 maximum LSP MTU size
Adjacency Check	Displays the adjacency check configuration
L1 Auth Keychain or L2 Auth Keychain	Displays if authentication keychain is enabled
L1 Auth Type or L2 Auth Type	Displays if the authentication type is configured
L1 CNSP-Authentication or L2 CSNP-Authentication	Displays one of the following: • Enabled — Complete Sequence Number Packet (CSNP) authentication is enabled • Disabled — CSNP authentication is disabled
L1 HELLO-Authentication or L2 HELLO-Authentication	Displays one of the following: • Enabled — Hello packet authentication is enabled • Disabled — Hello packet authentication is disabled
L1 PSNP-Authentication or L2 PSNP-Authentication	Displays one of the following: • Enabled — Partial Sequence Number Packet (PSNP) authentication is enabled • Disabled — PSNP authentication is disabled
L1 Preference or L2 Preference	Displays the preference
L1 Ext. Preference or L2 Ext. Preference	Displays the external preference
L1 Wide Metrics or L2 Wide Metrics	Displays if the wide metrics features is enabled
L1 LSDB Overload or L2 LSDB Overload	Displays if the Link-State Database (LSDB) overload is enabled
L1 LSPs or L2 LSPs	Displays the number of LSPs
L1 Default Metric or L2 Default Metric	Displays the default metric
L1 IPv6 Def Metric or L2 IPv6 Def Metric	Displays the IPv6 default metric

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
L1 Mcast IPv4 Def Metric or L2 Mcast IPv4 Def Metric	Displays the multicast IPv4 default metric
L1 Mcast IPv6 Def Metric or L2 Mcast IPv6 Def Metric	Displays the multicast IPv6 default metric
L1 Adv Router Cap or L2 Adv Router Cap	Displays if the advanced router capacity is enabled for the level
L1 Bier Template or L2 Bier Template	Displays if the Bit Indexed Explicit Replication (BIER) template is enabled
L1 Total Exp Routes or L2 Total Exp Routes	Displays the total exp routes for the level
All-L1-Mac_Addr (Cfg) or All-L2-MacAddr (Cfg)	Displays the MAC addresses for the level
Last SPF	Displays the last shortest path first (SPF) calculation time
SPF Wait (ms)	Displays the SPF wait time before doing another calculation
Muti-topology	Displays if multi-topology is enabled
IPv6-Unicast MT2	Displays if IPv6 unicast MT2 is enabled
IPv4-Multicast MT3	Displays if IPv4 multicast MT3 is enabled
IPv6-Multicast MT4	Displays if IPv6 multicast MT4 is enabled
Area Addresses	Displays the area addresses
Standard Multi-Instance	Displays if a standard multi-instance is enabled
IID TLV	Displays if the Instance ID TLV is enabled
Prefix TLV	Displays if the Prefix Attributes TLV is enabled
Export Policies	Displays if there are export policies
Import Policies	Displays if there are import policies
LFA Policies	Displays if there are Loop-Free Alternate policies
Multicast Import	Displays if there is a multicast import
Advertise-Passive-Only	Displays if advertise passive only is enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Ignore Attached Bit	Displays if ignore attached bit is enabled
Suppress Attached Bit	Displays if suppress attached bit is enabled
Default Route Tag	Displays the default route tag if one exists
Rib Prio List High	Displays the Routing Information Base (RIB) high priority list
Rib Prio Tag High	Displays the RIB high priority tag
Ldp Sync Admin State	Displays if the IGP-LDP synchronization feature is enabled on all interfaces participating in the OSPF routing protocol
LDP-over-RSVP	Displays if LDP over RSVP is enabled
IGP-Shortcut	Displays if Interior Gateway Protocol (IGP) shortcuts are enabled
IPv4 IGP SC Tunn-Nhop	Displays if IPv4 IGP shortcut tunnel next hop is enabled
IPv6 IGP SC Tunn-Nhop	Displays the IPv6 IGP shortcut tunnel next hop is enabled
SRv4 IGP SC Tunn-Nhop	Displays if the SRv4 IGP shortcut tunnel next hop is enabled
SRv6 IGP SC Tunn-Nhop	Displays if the SRv6 IGP shortcut tunnel next hop is enabled
Advertise-Tunnel-Link	Displays if advertise tunnel link is enabled
Export Limit	Displays the export limit
Exp Lmt Log Percent	Displays the export limit log percentage
Loopfree-Alternate	Displays if Loop-Free Alternate (LFA) is enabled in this IS-IS instance
Remote-LFA	Displays if remote LFA is enabled
Max PQ Cost	Displays the maximum PQ cost
Remote-LFA (node-protect)	Displays if remote LFA is enabled
Max PQ Nodes (node-protect)	Displays the maximum PQ nodes
LFA NH Template	Displays if the LFA Next-Hop (NH) template is applied for the configured LFA policies
Augment-route-table	Displays if the augment route table feature is enabled

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
TI-LFA	Displays if Topology-Independent Loop-Free Alternate (TI-LFA) is enabled
Max SR FFR Labels	Displays the maximum Segment Routing Fast Reroute (SR FRR) labels
TI-LFA (node-protect)	Displays if TI-LFA node protect is enabled
L1 LFA	Displays if level 1 LFA is included
L2 LFA	Displays if level 2 LFA is included
Advertise Router Cap	Displays the advertise router capacity
Hello Padding L1 Hello Padding L2 Hello Padding	Displays if Hello padding is enabled
Ignore Lsp Errors	Displays if ignoring LSP errors is enabled
Ignore Narrow Metric	Displays if ignoring narrow metric is enabled
Reference Bandwidth	Displays the reference bandwidth
Ucast Import Disable	Displays the Ucast import disable configuration information
Segment Routing	Displays if Segment Routing is enabled
Segment Routing MT2	Displays if Segment Routing MT2 is enabled.
Flex Algo	Displays if Flexible Algorithms are up
Mapping Server	Displays if the mapping server is up
Purge Originator Id	Displays if purge originator ID is enabled
Class Based Forwarding	Displays if class based forwarding is enabled
Entropy Label	Displays if the entropy label is enabled
Override ELC	Displays if override ELC is enabled
Micro loop avoidance	Displays if micro-loop avoidance is enabled and the Forwarding Information Base (FIB) delay
UPA Received Processing	Displays if Unreachable Prefix Announcement (UPA) processing is enabled. When enabled, this allows processing of received UPAs from other routers. When disabled, received UPAs are handled briefly with normal IGP routes and ignored by the router.
UPA Lifetime	Displays the amount of time a UPA is advertised

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
UPA Metric	Displays the metric to an advertised UPA
UPA Max Number Advertised	Displays the maximum number of UPAs the router can advertise
Cfg Max ECMP Routes	Displays the configured maximum number of ECMP routes
Oper ECMP	Displays the operational number of ECMP routes currently in use

status

Syntax

status

Context

[Tree] (show>router>ospf status)

[Tree] (show>router>ospf3 status)

Full Context

show router ospf status

show router ospf3 status

Description

This command displays the general status of OSPF.

Platforms

All

Output

The following outputs are examples of OSPF status information:

- Output example: OSPF status, Table 620: Output fields: OSPF status
- Output example:OSPFv3 status, Table 620: Output fields: OSPF status
- Output example: OSPF status showing neighbor path disabled, Table 620: Output fields: OSPF status
- Output example: OSPF status showing neighbor path enabledTable 620: Output fields: OSPF status

Output example: OSPF status

```
A:node-2>config>service# show router ospf status
===============================================================================
Rtr Base OSPFv2 Instance 0 Status
===============================================================================
OSPF Cfg Router Id           : 0.0.0.0
OSPF Oper Router Id          : 10.20.1.1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
OSPF Version                 : 2
OSPF Admin Status            : Enabled
OSPF Oper Status             : Enabled
Graceful Restart             : Disabled
GR Helper Mode               : Disabled
GR Strict LSA Checking       : Enabled
GR Helper Resync Timeout    : 120 sec
GR Protocol                  : standard
Preference                   : 10
External Preference          : 150
Backbone Router              : True
Area Border Router           : False
AS Border Router             : False
Opaque LSA Support           : True
Traffic Engineering Support  : True
RFC 1583 Compatible          : True
Demand Exts Support          : False
In Overload State            : False
In External Overflow State   : False
Exit Overflow Interval       : 0
Last Overflow Entered        : Never
Last Overflow Exit           : Never
External LSA Limit           : -1
Reference Bandwidth          : 100,000,000 Kbps
Init SPF Delay               : 1000 msec
Sec SPF Delay                : 1000 msec
Max SPF Delay                : 1000 msec
Min LS Arrival Interval      : 1000 msec
Init LSA Gen Delay           : 5000 msec
Sec LSA Gen Delay            : 5000 msec
Max LSA Gen Delay            : 5000 msec
Lsa accumulate               : 1000 msec
Redistribute delay           : 1000 msec
Incremental SPF wait         : 1000 msec
Last Ext SPF Run             : Never
Ext LSA Cksum Sum            : 0x0
OSPF Last Enabled            : 07/06/2017 18:51:52
Unicast Import               : True
Multicast Import             : False
Export Policies              : None
Import Policies              : None
Lfa Policies                 : None
OSPF Ldp Sync Admin Status   : Enabled
LDP-over-RSVP                : Disabled
IGP-Shortcut                 : Disabled
IPv4 IGP SC Tunn-Nhop        : Res-Disabled
Advertise-Tunnel-Link        : Disabled
LFA                          : Disabled
Remote-LFA                   : Disabled
Max PQ Cost                  : 65535
TI-LFA                       : Disabled
Max SR FRR Labels            : 2
Export Limit                 : 0
Export Limit Log Percent     : 0
Total Exp Routes             : 0
RIB-priority-high prefix list: None
Segment Routing              : Enabled
Database export              : Disabled
ASN                          : n/a
Entropy Label                : Enabled
Override ELC                 : Enabled
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: OSPFv3 status

```
A:node-2>config>router>ospf3# show router ospf3 0 status
===============================================================================
Rtr Base OSPFv3 Instance 0 Status
===============================================================================
OSPF Cfg Router Id           : 10.20.1.3
OSPF Oper Router Id          : 10.20.1.3
OSPF Version                 : 3
OSPF Admin Status            : Enabled
OSPF Oper Status             : Enabled
Graceful Restart             : Disabled
GR Helper Mode               : Disabled
GR Strict LSA Checking       : Enabled (operational down)
Preference                   : 10
External Preference          : 150
Backbone Router              : False
Area Border Router           : False
AS Border Router             : True
Traffic Engineering Support  : False
Demand Exts Support          : False
In Overload State            : False
In External Overflow State   : False
Exit Overflow Interval       : 0
Last Overflow Entered        : Never
Last Overflow Exit           : Never
External LSA Limit           : -1
Reference Bandwidth          : 100,000,000 Kbps
Init SPF Delay               : 1000 msec
Sec SPF Delay                : 1000 msec
Max SPF Delay                : 10000 msec
Min LS Arrival Interval      : 1000 msec
Init LSA Gen Delay           : 5000 msec
Sec LSA Gen Delay            : 5000 msec
Max LSA Gen Delay            : 5000 msec
Lsa accumulate               : 1000 msec
Redistribute delay           : 1000 msec
Incremental SPF wait         : 1000 msec
Last Ext SPF Run             : 10/11/2018 07:39:48
Ext LSA Cksum Sum            : 0x10926
OSPF Last Enabled            : 10/11/2018 07:39:45
Unicast Import               : True
Multicast Import             : False
Export Policies              : static
Import Policies              : None
Lfa Policies                 : None
OSPF Ldp Sync Admin Status   : Enabled
LDP-over-RSVP                : Disabled
IGP-Shortcut                 : Disabled
IPv6 IGP SC Tunn-Nhop        : Res-Disabled
Advertise-Tunnel-Link        : Disabled
LFA                          : Enabled
Remote-LFA                   : Enabled
Max PQ Cost                  : 65535
TI-LFA                       : Disabled
Max SR FRR Labels            : 2
Export Limit                 : 0
Export Limit Log Percent     : 0
Total Exp Routes             : 1
RIB-priority-high prefix list: None
Segment Routing              : Enabled
Extended LSA                 : sparse
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: OSPF status showing neighbor path disabled

```
A:node-2# show router ospf status
===============================================================================
Rtr Base OSPFv2 Instance 0 Status
===============================================================================
OSPF Cfg Router Id           : 221.0.0.2
OSPF Oper Router Id          : 221.0.0.2
OSPF Version                 : 2
OSPF Admin Status            : Enabled
OSPF Oper Status             : Enabled
Graceful Restart             : Disabled
GR Helper Mode               : Disabled
GR Strict LSA Checking       : Enabled (operational down)
GR Helper Resync Timeout     : N.A.
GR Protocol                  : N.A.
Preference                   : 10
External Preference          : 150
Backbone Router              : True
Area Border Router           : False
AS Border Router             : False
Opaque LSA Support           : True
Traffic Engineering Support  : False
RFC 1583 Compatible          : True
Demand Exts Support          : False
In Overload State            : False
In External Overflow State   : False
Exit Overflow Interval       : 0
Last Overflow Entered        : Never
Last Overflow Exit           : Never
External LSA Limit           : -1
Reference Bandwidth          : 100,000,000 Kbps
Init SPF Delay               : 1000 msec
Sec SPF Delay                : 1000 msec
Max SPF Delay                : 10000 msec
Min LS Arrival Interval      : 1000 msec
Init LSA Gen Delay           : 5000 msec
Sec LSA Gen Delay            : 5000 msec
Max LSA Gen Delay            : 5000 msec
Lsa accumulate               : 1000 msec
Redistribute delay           : 1000 msec
Incremental SPF wait         : 1000 msec
Last Ext SPF Run             : Never
Ext LSA Cksum Sum            : 0x0
OSPF Last Enabled            : 06/15/2026 15:19:28
Unicast Import               : True
Multicast Import             : False
Export Policies              : None
Import Policies              : None
Multicast Import Policies    : None
Lfa Policies                 : None
OSPF Ldp Sync Admin Status   : Enabled
LDP-over-RSVP                : Disabled
IGP-Shortcut                 : Disabled
IGP SC Allow SR over SR-TE   : Disabled
IPv4 IGP SC Tunn-Nhop        : Res-Disabled
Advertise-Tunnel-Link        : Disabled
LFA                          : Enabled
Remote-LFA                   : Disabled
Max PQ Cost (Remote-LFA)     : 65535
Remote-LFA (node-protect)    : Disabled
Max PQ nodes (node-protect)  : 16
TI-LFA                       : Enabled
Max SR FRR Labels            : 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
TI-LFA (nbr-path-expand)     : Disabled
TI-LFA (node-protect)        : Enabled
Mhp-LFA (IP-FRR)             : Disabled
Mhp-LFA (SR)                 : Disabled
Lfa augment Rtm              : Disabled
Export Limit                 : 0
Export Limit Log Percent     : 0
Total Exp Routes             : 0
RIB-priority-high prefix list: None
Segment Routing              : Enabled
Micro loop avoidance         : Disabled fib-delay 15
Database export              : Disabled
IGP identifier               : N.A.
BGP LS identifier            : N.A.
Reachable LS only            : N.A.
ASN                          : n/a
Class Based Forwarding       : Disabled
Entropy Label                : Enabled
Override ELC                 : Disabled
Flex Algo                    : Disabled
Cfg Max ECMP Routes          : 64
Oper ECMP                    : 1
===============================================================================
```

Output example: OSPF status showing neighbor path enabled

```
A:node-2# show router ospf status
===============================================================================
Rtr Base OSPFv2 Instance 0 Status
===============================================================================
OSPF Cfg Router Id           : 221.0.0.2
OSPF Oper Router Id          : 221.0.0.2
OSPF Version                 : 2
OSPF Admin Status            : Enabled
OSPF Oper Status             : Enabled
Graceful Restart             : Disabled
GR Helper Mode               : Disabled
GR Strict LSA Checking       : Enabled (operational down)
GR Helper Resync Timeout     : N.A.
GR Protocol                  : N.A.
Preference                   : 10
External Preference          : 150
Backbone Router              : True
Area Border Router           : False
AS Border Router             : False
Opaque LSA Support           : True
Traffic Engineering Support  : False
RFC 1583 Compatible          : True
Demand Exts Support          : False
In Overload State            : False
In External Overflow State   : False
Exit Overflow Interval       : 0
Last Overflow Entered        : Never
Last Overflow Exit           : Never
External LSA Limit           : -1
Reference Bandwidth          : 100,000,000 Kbps
Init SPF Delay               : 1000 msec
Sec SPF Delay                : 1000 msec
Max SPF Delay                : 10000 msec
Min LS Arrival Interval      : 1000 msec
Init LSA Gen Delay           : 5000 msec
Sec LSA Gen Delay            : 5000 msec
Max LSA Gen Delay            : 5000 msec
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Lsa accumulate               : 1000 msec
Redistribute delay           : 1000 msec
Incremental SPF wait         : 1000 msec
Last Ext SPF Run             : Never
Ext LSA Cksum Sum            : 0x0
OSPF Last Enabled            : 06/15/2026 15:19:28
Unicast Import               : True
Multicast Import             : False
Export Policies              : None
Import Policies              : None
Multicast Import Policies    : None
Lfa Policies                 : None
OSPF Ldp Sync Admin Status   : Enabled
LDP-over-RSVP                : Disabled
IGP-Shortcut                 : Disabled
IGP SC Allow SR over SR-TE   : Disabled
IPv4 IGP SC Tunn-Nhop        : Res-Disabled
Advertise-Tunnel-Link        : Disabled
LFA                          : Enabled
Remote-LFA                   : Disabled
Max PQ Cost (Remote-LFA)     : 65535
Remote-LFA (node-protect)    : Disabled
Max PQ nodes (node-protect)  : 16
TI-LFA                       : Enabled
Max SR FRR Labels            : 2
TI-LFA (nbr-path-expand)     : Enabled
TI-LFA (node-protect)        : Enabled
Mhp-LFA (IP-FRR)             : Disabled
Mhp-LFA (SR)                 : Disabled
Lfa augment Rtm              : Disabled
Export Limit                 : 0
Export Limit Log Percent     : 0
Total Exp Routes             : 0
RIB-priority-high prefix list: None
Segment Routing              : Enabled
Micro loop avoidance         : Disabled fib-delay 15
Database export              : Disabled
IGP identifier               : N.A.
BGP LS identifier            : N.A.
Reachable LS only            : N.A.
ASN                          : n/a
Class Based Forwarding       : Disabled
Entropy Label                : Enabled
Override ELC                 : Disabled
Flex Algo                    : Disabled
Cfg Max ECMP Routes          : 64
Oper ECMP                    : 1
```

Table 620: Output fields: OSPF status

Label	Description
OSPF Router Id	A 32-bit integer uniquely identifying the router in the Autonomous System. The SR OS system defaults to the System IP address, or if not configured, the 32 least significant bits of the system MAC address.
OSPF Version	The current version number of the OSPF protocol is 2
OSPF Admin Status	Disabled — denotes that the OSPF process is disabled on all interfaces

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Enabled — denotes that the OSPF process is active on at least one interface
OSPF Oper Status	Disabled — denotes that the OSPF process is not operational on all interfaces Enabled — denotes that the OSPF process is operational on at least one interface
Preference	The route preference for OSPF internal routes
External Preference	The route preference for OSPF external routes
Backbone Router	False — this variable indicates that this router is not configured as an OSPF backbone router True — this variable indicates that this router is configured as an OSPF backbone router
Area Border Router	False — this router is not an area border router True — this router is an area border router
AS Border Router	False — this router is not configured as an Autonomous System border router True — this router is configured as an Autonomous System border router
OSPF Ldp Sync Admin Status	Indicates whether the IGP-LDP synchronization feature is enabled or disabled on all interfaces participating in the OSPF routing protocol
TI-LFA (nbr-path-expand)	Indicates if the TI-LFA expanded neighbor backup path feature is enabled or disabled
TI-LFA (node-protect)	Indicates if the TI-LFA node protect feature is enabled or disabled

status

Syntax

status

Context

[Tree] (show>router>isis>srv6 status)

Full Context

show router isis segment-routing-v6 status

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the IS-IS SRv6 status.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

status

Syntax

status

Context

[Tree] (show>subscr-mgmt status)

Full Context

show subscriber-mgmt status

Description

Commands in this context display subscriber management status information.

Platforms

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

status

Syntax

status

Context

[Tree] (show>app-assure>group>aa-sub>um status)

Full Context

show application-assurance group aa-sub usage-monitor status

Description

This command displays the usage monitor status.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

status

Syntax

status

Context

[Tree] (show>router>bier status)

Full Context

show router bier status

Description

This command displays the BIER status.

Platforms

All

Output

The following output is an example of BIER status information, and Table 621: Output fields: BIER status describes the output fields.

Output Example

```
# show router bier status
===============================================================
BIER Status
===============================================================
Admin State        : Up                Oper State         : Up
FRR State          : Disabled          BFD State          : Disabled
Service-reserved-label-block: [NA | name of reserved block]
===============================================================
```

Table 621: Output fields: BIER status

Label	Description
Admin State	Displays the administrative state
Oper State	Displays the operational state
FRR State	Displays the FRR state
BFD State	Displays the BFD state
Service-reserved-label-block	Displays the service reserved label block name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.4 steering-profile

steering-profile

Syntax

steering-profile *steering-profile-name*

Context

[Tree] (show>subscr-mgmt steering-profile)

Full Context

show subscriber-mgmt steering-profile

Description

This command displays steering profile information.

Parameters

steering-profile-name

Specifies an existing steering profile name.

Platforms

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

25.5 sticky-dest

sticky-dest

Syntax

sticky-dest

Context

[Tree] (tools>dump>filter>resources sticky-dest)

Full Context

tools dump filter resources sticky-dest

Description

This command displays information about resources pertaining to sticky destinations timers.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of sticky destination filter action information.

Output Example

```
===============================================================================
Filter action - Sticky-dest resources
===============================================================================
Used  : 1
Free  : 2047
Total : 2048
===============================================================================
```

25.6 sticky-leases

sticky-leases

Syntax

sticky-leases [*hostname*]

Context

[Tree] (show>router>dhcp>server sticky-leases)

Full Context

show router dhcp local-dhcp-server sticky-leases

Description

This command shows either all sticky leases or a single specific sticky lease created under the specified DHCP server.

Parameters

hostname

Specifies the name of the host for which an entry is created.

Platforms

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

Output

The following output is an example of sticky lease information

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
Node# show router dhcp local-dhcp-server "dhcp_server" sticky-leases
===============================================================================
DHCP Server Sticky Leases
===============================================================================
Hostname                          IP address
-------------------------------------------------------------------------------
test_lease                        10.0.0.1
-------------------------------------------------------------------------------
No. of Matching Entries: 1
===============================================================================
```

Table 622: Output fields: sticky leases describes the sticky leases field descriptions.

Table 622: Output fields: sticky leases

Field	Description
Hostname	The name of the sticky host
IP address	The IP address of the sticky host
No. of Matching Entries	The total numbers of entries matching the command criteria

sticky-leases

Syntax

sticky-leases hostname [*hostname*]

sticky-leases hostname-prefix [*hostname-prefix*]

Context

[Tree] (clear>router>dhcp>server sticky-leases)

Full Context

clear router dhcp local-dhcp-server sticky-leases

Description

This command clears sticky leases.

Parameters

hostname

Clears information about the name of the host for which an entry is cleared.

hostname-prefix

Clears information about the sub-string of all host names starting with that sub-string.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

25.7 stop

stop

Syntax

stop

Context

[Tree] (tools>perform>router>l2tp>group stop)

Full Context

tools perform router l2tp group stop

Description

This command triggers an attempt to immediately stop all the L2TP connections within the specified L2TP tunnel group.

Platforms

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

stop

Syntax

stop

Context

[Tree] (tools>perform>router>l2tp>group>tunnel stop)

[Tree] (tools>perform>router>l2tp>tunnel stop)

Full Context

tools perform router l2tp group tunnel stop

tools perform router l2tp tunnel stop

Description

This command triggers an attempt to immediately stop all the L2TP connections within the specified L2TP tunnel.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

stop

Syntax

stop [*script-policy-name*] [**owner** *script-policy-owner*] [**all**]

Context

[Tree] (tools>perform>system>script-control>script-policy stop)

Full Context

tools perform system script-control script-policy stop

Description

This command stops the execution of scripts.

Parameters

script-policy-name

Specifies to only stop scripts with the specified script-policy, up to 32 characters.

script-policy-owner

Specifies to only stop scripts that are associated with script-policies with the specified owner, up to 32 characters.

Default TiMOS CLI

all

Specifies to stop all running scripts.

Platforms

All

25.8 stp

stp

Syntax

stp [**detail**]

Context

[Tree] (show>service>id stp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id stp

Description

Displays information for the spanning tree protocol instance for the service.

Parameters

detail

Displays detailed information.

Platforms

All

Output

The following output is an example of service STP information.

Output Example

```
A:ALA-12# show service id 1 stp
===============================================================================
Spanning Tree Information
===============================================================================
VPLS Spanning Tree Information
-------------------------------------------------------------------------------
RSTP Admin State  : Up                  RSTP Oper State   : Down
Core Connectivity : Down
Bridge-id         : 04:67:ff:00:00:01

Hold Timer        : 1                   Bridge fwd delay  : 15
Bridge Hello time : 1                   Bridge max age    : 20
Bridge priority   : 1                   Topology change   : Inactive
Last Top. change  : 0d 00:00:00         Top. change count : 0

Root bridge-id    : 00:03:fa:00:00:00

Root path cost    : 1                   Root forward delay: 15
Root hello time   : 1                   Root max age      : 20
Root priority     : 0                   Root port         : vcp

-------------------------------------------------------------------------------
Spanning Tree Specifics
-------------------------------------------------------------------------------
SAP Identifier    : 1/1/7:0             RSTP State        : Down
STP Port State    : Forwarding          BPDU encap        : dot1d
Port Number       : 2048                Priority          : 128
Cost              : 10                  Fast Start        : Disabled
Designated Port   : 34816               Designated Bridge : 02:fa:00:04:54:01
===============================================================================
A:ALA-12#
```

The following output is an example for the 7450 ESS.

```
ALA-1# show service id 1 stp
===============================================================================
Inherited Rstp State (from mVPLS), Service 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Sap/Spoke Id       Oper-     Prune-  Port-       Managed by  Managed by
                   State     State   State       Service     Sap/spoke
-------------------------------------------------------------------------------
1/1/1:2            Down      Pruned  Discarding  101         1/1/1:1
100:1              Up        Pruned  Discarding  100         100:100
===============================================================================
```

Table 623: Output fields: service ID STP describes show service-id STP output fields:

Table 623: Output fields: service ID STP

Label	Description
RSTP Admin State	The administrative state of the Rapid Spanning Tree Protocol instance associated with this service
Core Connectivity	The connectivity status to the core
RSTP Oper State	The operational state of the Rapid Spanning Tree Protocol instance associated with this service. This field is applicable only when STP is enabled on the router.
Bridge-id	The MAC address used to identify this bridge in the network.
Hold Time	The interval length during which no more than two Configuration BPDUs shall be transmitted by this bridge
Bridge fwd delay	The speed of bridge state changes when moving toward the forwarding state
Bridge Hello time	The amount of time between the transmission of Configuration BPDUs
Bridge max age	The maximum age of spanning tree protocol information learned from the network on any port before it is discarded. This is the actual value that this bridge is currently using.
Bridge priority	The priority of the spanning tree protocol instance associated with this service
Topology change	Topology change is currently in progress.
Last Top. change	The time (in hundredths of a second) since the last time a topology change was detected by the Spanning Tree Protocol instance associated with this service
Top. change count	The total number of topology changes detected by the Spanning Tree Protocol instance associated with this service since the management entity was last reset or initialized
Root bridge-id	The Root bridge-id
Root path cost	The Root path cost

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Root forward delay	The Root forward delay
Root hello time	The Root hello time
Root max age	The Root maximum age
Root priority	The Root priority level
Root port	The Root port number
SAP Identifier	The SAP identifier
RSTP State	The RSTP state
STP Port State	The STP port state
BPDU encap	The BPDU encapsulation
Port Number	The port number
Priority	The priority level
Cost	The cost
Fast Start	The fast start state
Designated Port	The designated port
Designated Bridge	The designated bridge
Sap/Spoke Id	The SAP or spoke ID
Oper-State	The operational state
Prune-State	The prune state
Port-State	The port state
Managed by Service	The managed service
Managed by Sap/ spoke	The managed SAP or spoke

stp

Syntax

stp

Context

[Tree] (clear>service>statistics>id stp)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

[Tree] (clear>service>id stp)

Full Context

clear service statistics id stp

clear service id stp

Description

Clears all spanning tree statistics for the service ID.

Platforms

All

25.9 streaming

streaming

Syntax

streaming

Context

[Tree] (show>oam-pm streaming)

Full Context

show oam-pm streaming

Description

Commands in this context show OAM performance monitoring telemetry report streaming information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

streaming

Syntax

streaming

Context

[Tree] (show>snmp streaming)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show snmp streaming

Description

Commands in this context display streaming counters information.

Platforms

All

25.10 sub-ident-policy

sub-ident-policy

Syntax

sub-ident-policy [*sub-ident-policy-name* [**association**]]

sub-ident-policy *sub-ident-policy-name* **script** { **primary** | **secondary** | **tertiary**}

Context

[Tree] (show>subscr-mgmt sub-ident-policy)

Full Context

show subscriber-mgmt sub-ident-policy

Description

This command displays subscriber identification policy information.

Parameters

sub-ident-policy-name

Specifies an existing subscriber identification policy name.

association

Displays information configured with the specified *sub-ident-policy-name*.

script {primary | secondary | tertiary}

Displays information for the specified identification script.

Platforms

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

Output

The following output is an example of subscriber management subscriber identification policy information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
B:Dut-A>show>subscr-mgmt# sub-ident-policy
===============================================================================
Subscriber Identification Policies
===============================================================================
Name                            Description
-------------------------------------------------------------------------------
sub_ident_all
sub_ident_pc
-------------------------------------------------------------------------------
Number of Subscriber Identification Policies : 2
===============================================================================
B:Dut-A>show>subscr-mgmt#


B:Dut-A>show>subscr-mgmt# sub-ident-policy sub_ident_all
===============================================================================
Subscriber Identification Policy sub_ident_all
===============================================================================
Sub Profile Map
-------------------------------------------------------------------------------
Key                             Sub profile
-------------------------------------------------------------------------------
sub_prof100                     sub_prof100
sub_prof110                     sub_prof110
sub_prof120                     sub_prof120
sub_prof130                     sub_prof130
sub_prof140                     sub_prof140
sub_prof230                     sub_prof230
sub_prof80                      sub_prof80
sub_prof81                      sub_prof81
sub_prof90                      sub_prof90
-------------------------------------------------------------------------------
SLA Profile Map
-------------------------------------------------------------------------------
Key                             SLA profile
-------------------------------------------------------------------------------
sla_prof100_VOIP                sla_prof100_VOIP
sla_prof110_VOIP                sla_prof110_VOIP
sla_prof120_VOIP                sla_prof120_VOIP
sla_prof130_VOIP                sla_prof130_VOIP
sla_prof140_VOIP                sla_prof140_VOIP
sla_prof230_VOIP                sla_prof230_VOIP
sla_prof80_VOIP                 sla_prof80_VOIP
sla_prof81_VOIP                 sla_prof81_VOIP
sla_prof90_VOIP                 sla_prof90_VOIP
-------------------------------------------------------------------------------
Python Scripts
-------------------------------------------------------------------------------
#         Admin Oper  Script
          State State Name
-------------------------------------------------------------------------------
Primary   Down  Down  pyTom.py
Secondary Up    Up    pyTomDebug.py
Tertiary  Up    Up    hardcoded.py
===============================================================================
B:Dut-A>show>subscr-mgmt#
B:Dut-A>show>subscr-mgmt# sub-ident-policy sub_ident_all association
===============================================================================
Subscriber Identification Policy sub_ident_all
===============================================================================
SAP Associations
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Service-Id : 80 (VPLS)
 - SAP : 1/2/1:80
Service-Id : 90 (VPLS)
 - SAP : 1/2/1:90
Service-Id : 100 (VPLS)
 - SAP : 1/2/1:100
 - SAP : 1/2/1:101
 - SAP : 1/2/1:102
Service-Id : 110 (VPLS)
 - SAP : 1/2/1:110
 - SAP : 1/2/1:111
 - SAP : 1/2/1:112
Service-Id : 120 (VPLS)
 - SAP : 1/2/1:120
 - SAP : 1/2/1:121
 - SAP : 1/2/1:122
Service-Id : 130 (VPLS)
 - SAP : 1/2/1:130
Service-Id : 140 (VPLS)
 - SAP : 1/2/1:140
===============================================================================
B:Dut-A>show>subscr-mgmt#


B:Dut-A>show>subscr-mgmt# sub-ident-policy sub_ident_all script primary
===============================================================================
Subscriber Identification Policy sub_ident_all
===============================================================================
Primary Script
-------------------------------------------------------------------------------
URL         : ftp://xxx:yyy@a.b.c.d/pyTom.py
Admin State : Down                      Oper State : Down
-------------------------------------------------------------------------------
Source (dumped from memory)
-------------------------------------------------------------------------------
Script is not active.
-------------------------------------------------------------------------------
===============================================================================
B:Dut-A>show>subscr-mgmt#


B:Dut-A>show>subscr-mgmt# sub-ident-policy sub_ident_all script secondary
===============================================================================
Subscriber Identification Policy sub_ident_all
===============================================================================
Secondary Script
-------------------------------------------------------------------------------
URL         : ftp://xxx:yyy@a.b.c.d/pyTomDebug.py
Admin State : Up                        Oper State : Up
-------------------------------------------------------------------------------
Source (dumped from memory)
-------------------------------------------------------------------------------
      1 import alc
      2 yiaddr = alc.dhcp.yiaddr
      3 # Subscriber ID equals full client IP address.
      4 # Note: IP address 10.10.10.10 yields 'sub-168430090'
      5 # and not 'sub-10.10.10.10'
      6 alc.dhcp.sub_ident = 'sub-' + str(yiaddr)
      7 # DHCP server is configured such that the third byte (field) of the IP
      8 # address indicates the session Profile ID.
      9 alc.dhcp.sla_profile = 'sp-' + str((yiaddr & 0x0000FF00) >> 8)
===============================================================================
B:Dut-A>show>subscr-mgmt#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
B:Dut-A>show>subscr-mgmt# sub-ident-policy sub_ident_all script tertiary
===============================================================================
Subscriber Identification Policy sub_ident_all
===============================================================================
Tertiary Script
-------------------------------------------------------------------------------
URL         : ftp://xxx:yyy@a.b.c.d/hardcoded.py
Admin State : Up                        Oper State : Up
-------------------------------------------------------------------------------
Source (dumped from memory)
-------------------------------------------------------------------------------
      1 from alc import dhcp
      2
      3 dhcp.sub_ident = 'sub_ident_A_1'
      4 dhcp.sub_profile_string = 'sub_prof_B_2'
      5 dhcp.sla_profile_string = 'sla_prof_C_3'
      6
===============================================================================
B:Dut-A>show>subscr-mgmt#
```

Table 624: Output fields: subscriber identification policy describes subscriber identification policy output fields.

Table 624: Output fields: subscriber identification policy

Field	Description
Name	The subscriber identification policy name
Description	The user provided description of this policy
Number of Subscriber Identification Policies	The total number of subscriber identification policies configured on the node
Sub Profile Map	The subscriber profile used to define the aggregate QoS for all hosts within a subscriber context
Key	The key that defines the auto-generated subscriber identification key for PPP hosts.
Sub profile	A list of subscriber identification profiles
SLA profile	A list of SLA profiles
Admin State	The administrative state of the Python scripts
Oper State	The operational state of the Python scripts
Script Name	The Python policy script name
SAP Associations	The subscriber identification policy SAP associations
Service-Id	The service ID associated with the subscriber identification policy
SAP	The SAP ID associated with the subscriber identification policy

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
URL	The URL of the script to change the Python message
Admin State	The admin state of the script
Oper State	The operational state of the script
Primary Script	Information about the primary Python script
Secondary Script	Information about the secondary Python script

25.11 sub-mcac

sub-mcac

Syntax

sub-mcac [**subscriber** *sub-ident-string*] [**policy** *sub-mcac-policy-name*]

Context

[Tree] (show>service>active-subscribers sub-mcac)

Full Context

show service active-subscribers sub-mcac

Description

This command displays active subscriber MCAC information.

Parameters

sub-ident-string

Specifies the subscriber identification string, up to 32 characters.

sub-mac-policy-name

Specifies the subscriber MAC policy name, up to 32 characters.

Platforms

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

Output

The following output is an example of active subscriber MCAC information.

Output Example

```
*A:eng-BNG-2# show service active-subscribers sub-mcac
===============================================================================
Active Subscribers Sub-MCAC
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Subscriber                          : user_1
MCAC-policy                         : sub-mcac-policy-01 (inService)
In use mandatory bandwidth          : 10
In use optional bandwidth           : 10
Available mandatory bandwidth       : 1000
Available optional bandwidth        : 100
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Subscribers: 1
===============================================================================
```

25.12 sub-mcac-policy

sub-mcac-policy

Syntax

sub-mcac-policy

sub-mcac-policy *policy-name* **association**

sub-mcac-policy *policy-name*

Context

[Tree] (show>subscr-mgmt sub-mcac-policy)

Full Context

show subscriber-mgmt sub-mcac-policy

Description

This command displays subscriber MCAC policy information.

Parameters

policy-name

Specifies the subscriber MCAC policy name, up to 32 characters.

association

Displays information associated with the subscriber MCAC policy.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.13 sub-profile

sub-profile

Syntax

sub-profile [*sub-profile-name* [**association**]]

Context

[Tree] (show>subscr-mgmt sub-profile)

Full Context

show subscriber-mgmt sub-profile

Description

This command displays subscriber profile information.

Parameters

sub-profile-name

Specifies an existing subscriber profile name.

association

Displays the association information configured with the specified *sub-profile-name*.

Platforms

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

Output

The following output is an example of subscriber profile information.

Output Example

```
# show subscriber-mgmt sub-profile "sub-profile-10"
===============================================================================
Subscriber Profile sub-profile-10
===============================================================================
Description      : (Not Specified)
Control plane(s) : local
Host Limits      : overall 1
                   ipv4-overall 1
                   ipv4-arp 1
                   ipv4-dhcp 1
                   ipv4-ppp 1
                   ipv6-overall 1
                   ipv6-pd-overall 1
                   ipv6-pd-ipoe-dhcp 1
                   ipv6-pd-ppp-dhcp 1
                   ipv6-wan-overall 1
                   ipv6-wan-ipoe-dhcp 1
                   ipv6-wan-ipoe-slaac 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                   ipv6-wan-ppp-dhcp 1
                   ipv6-wan-ppp-slaac 1
                   lac-overall 1
Session Limits   : overall 1
                   ipoe 1
                   pppoe-overall 1
                   pppoe-local 1
                   pppoe-lac 1
                   l2tp-overall 1
                   l2tp-lns 1
                   l2tp-lts 1
I. Sched. Policy : N/A
E. Sched. Policy : N/A                              E. Agg Rate Limit: Max
                                                    E. Min Resv Bw   : 1
I. Policer Ctrl. : N/A
E. Policer Ctrl. : N/A
I. vport-hashing : Disabled
I. sec-sh-hashing: Disabled
Q Frame-Based Ac*: Disabled
Acct. Policy     : N/A                              Collect Stats    : Disabled
ANCP Pol.        : N/A
Accu-stats-pol   : (Not Specified)
HostTrk Pol.     : N/A
IGMP Policy      : N/A
MLD Policy       : N/A
PIM Policy       : N/A
Sub. MCAC Policy : N/A
NAT Policy       : N/A
Firewall Policy  : N/A
UPnP Policy      : N/A
NAT Prefix List  : N/A
Allow NAT bypass : No
NAT access mode  : auto
Def. Encap Offset: none                             Encap Offset Mode: none
Vol stats type   : full
Preference       : 5
LAG hash class   : 1
LAG hash weight  : 1
-------------------------------------------------------------------------------
Radius Accounting
-------------------------------------------------------------------------------
Policy           : N/A
Session Opti.Stop: False
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
HS
-------------------------------------------------------------------------------
SLA-mode         : expanded                         E Agg Rate Limit : Maximum
                                                    E. Min Resv Bw   : 1
E low burst class: 6
-------------------------------------------------------------------------------
Last Mgmt Change : 09/30/2020 15:39:24
===============================================================================
* indicates that the corresponding row element may have been truncated.
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
SLA Profile Map
-------------------------------------------------------------------------------
Key                             SLA Profile
-------------------------------------------------------------------------------
No mappings configured.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

```
# show subscriber-mgmt sub-profile
===============================================================================
Subscriber Profiles
===============================================================================
Name                            Description
-------------------------------------------------------------------------------
sub_default
sub_prof100
sub_prof110
sub_prof120
sub_prof130
sub_prof140
sub_prof230
sub_prof80
sub_prof81
sub_prof90
sub_profPC1
sub_profPC2
sub_profPC3
-------------------------------------------------------------------------------
Number of Subscriber Profiles : 13
===============================================================================
A:Dut-A#

# show subscriber-mgmt sub-profile sub_prof100 association
===============================================================================
Subscriber Profile sub_prof100
-------------------------------------------------------------------------------
SAP Default-Profile Associations
-------------------------------------------------------------------------------
No associations found.
-------------------------------------------------------------------------------
SAP Static Host Associations
-------------------------------------------------------------------------------
No associations found.
-------------------------------------------------------------------------------
SAP Non-Sub-Traffic-Profile Associations
-------------------------------------------------------------------------------
No associations found.
-------------------------------------------------------------------------------
Sub-Ident-Policy Profile Map Associations
-------------------------------------------------------------------------------
Policy-name : sub_ident_all
 - Key : sub_prof100
-------------------------------------------------------------------------------
Explicit Subscriber Map Associations
-------------------------------------------------------------------------------
No associations found.
===============================================================================
A:Dut-A#
```

Table 625: Output fields: subscriber profile describes subscriber management profile field descriptions.

Table 625: Output fields: subscriber profile

Field	Description
Name	The subscriber profile name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Description	The user provided description of this policy
Control plane(s)	The subscriber profile controlled by the local control plane or CUPS control plane
I. Sched. Policy	The ingress scheduler policy assigned to the ingress subscriber profile
E. Sched. Policy	The egress scheduler policy assigned to the egress subscriber profile
E. Agg Rate Limit	The egress aggregate rate limit
E. Min Resv Bw	The egress minimum reserved bandwidth
I. Policer Ctrl	The ingress policer control status
E. Policer Ctrl	The egress policer control status
I. vport-hashing	The ingress vport-hashing status
I. sec-sh-hashing	The ingress security sh hashing status
Q Frame-Based Ac*	The Q frame-based accounting status
Acct. Policy	The number of accounting policies associated with this subscriber profile
ANCP Pol.	The ANCP policy
Accu-stats-pol	The accu-stats policy
HostTrk Pol.	The HostTrk policy
IGMP Policy	The IGMP policy
MLD Policy	The MLD policy
PIM Policy	The PIM policy
Sub. MCAC Policy	The subscriber MCAC policy
NAT Policy	The NAT policy
Host Limits	The configured maximum number of hosts per subscriber associated with this subscriber profile
Session Limits	The configured maximum number of sessions per subscriber associated with this subscriber profile
Number of Subscriber Profiles	The total number of subscriber profiles configured on this node

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Ingress Scheduler Overrides	Information about ingress scheduler overrides for the subscriber profile
Scheduler	The scheduler name
Rate	The scheduler rate
CIR	The CIR rate allowed for this scheduler
Egress Scheduler Overrides	Information about egress scheduler overrides for the subscriber profile
Key	The lookup key in the map
SLA Profile	Information about the SLA profile map
Collect Stats	The accounting statistics collected on this subscriber profile.
Last Mgmt Change	The time of the most recent management-initiated change

25.14 sub-services

sub-services

Syntax

sub-services [**id** *service-id*] [**sap sap-id**] [**ip** *ip-prefixIprefix-length*] [**mac** *ieee-address*] [**pppoe-session-id** *pppoe-session-id*] [**sub-service-name** *sub-service-name*] [**sub-service-type** *sub-service-type*] [**summary** | **associations**]

Context

[Tree] (show>service sub-services)

Full Context

show service sub-services

Description

This command displays subscriber service information.

Parameters

service-id

Specifies the subscriber service ID.

Values 1 to 2148278386 | *svc-name*: 64 char max

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sap-id

Specifies the SAP ID.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *eth-sat-id*	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id*:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-conn-prof-id]	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel] **esat**-*id*/*slot*/*port* **pxc**-*id*.*sub-port*	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id* | **lag**-*string*	
	lag	keyword
	id	1 to 800
	string	23 character max.
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 32767
qtag1	null | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	tunnel	keyword
	id	1 to 16
	tag	0 to 4094
eth-sat-id	**esat**-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

ip-prefix/ip-prefix-length

Specifies information for the specified IP prefix and mask length.

Values *ipv4-prefix* — a.b.c.d
ipv4-prefix-length — 0 to 32
ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x — [0..FFFF]H
d — [0..255]D
ipv6-prefix-length — 0 to 128

ieee-address

Specifies the MAC address.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx (cannot be all zeros)

pppoe-session-id

Specifies the PPPoE session ID.

Values 0 to 65535

sub-service-name

Specifies the subscriber service name, up to 255 characters.

sub-service-type

Specifies the subscriber service type, up to 255 characters.

summary

Displays summary information.

associations

Displays information associated with the subscriber service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

25.15 subnet-ext-stats

subnet-ext-stats

Syntax

subnet-ext-stats *ip-address*[/*mask*]

subnet-ext-stats pool *pool-name*

Context

[Tree] (show>router>dhcp>server subnet-ext-stats)

Full Context

show router dhcp local-dhcp-server subnet-ext-stats

Description

This command displays extended statistics per DHCPv4 subnet in local DHCPv4 server.

The following statistics are included in output:

- The number of stable leases in the subnet
- The number of provisioned address in the subnet
- The number of used address in the subnet
- The number of free address in the subnet
- The percentage of used address
- The percentage of free address

For each statistic (except for Provisioned Addresses), there is current value and peak value, peak value is the highest value since subnet creation or last reset via the **clear router** *rt-id* **dhcp local-dhcp-server** *svr-name* **subnet-ext-stats** command.

When parameter pool is used, the statistics of each subnet in the pool are displayed.

Parameters

ip-address[/mask]

Specifies the subnet and mask.

pool-name

Specifies the name of local DHCPv4 server pool.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of subnet extended statistics information.

Output Example

```
show router 500 dhcp local-dhcp-server "d4" subnet-ext-stats 239.10.10.0/24
===============================================================================
Extended statistics for subnet 239.10.10.0/24
===============================================================================
                          Current         Peak            TimeStamp
-------------------------------------------------------------------------------
Local:
  Stable Leases           1               1               01/07/2013 19:38:36
  Provisioned Addresses   101
  Used Addresses          1               1               01/07/2013 19:38:36
  Free Addresses          100             100             01/07/2013 19:38:36
  Used Pct                1               1               01/07/2013 19:38:36
  Free Pct                99              99              01/07/2013 19:38:36
Last Reset Time                                           01/07/2013 19:07:11
-------------------------------------------------------------------------------
Number of entries         1
===============================================================================
```

Table 626: Output fields: extended subnet statistics describes extended subnet statistics output field descriptions.

Table 626: Output fields: extended subnet statistics

Field	Descriptions
Current	The current statistics for the subnet
Peak	The peak statistics for the subnet
TimeStamp	The timestamp for the last reset
Stable Leases	The number of stable leases
Provision Addresses	The number of provisioned addresses in this subnet
Used Addresses	The number of used addresses in this subnet
Free Address	The number of free addresses in this subnet
Used Pct	The percentage of addresses in this subnet in use
Free Pct	The percentage of addresses in this subnet currently unused
Last Reset Time	The time of the last reset
Number of entries	The total number of entries

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

subnet-ext-stats

Syntax

subnet-ext-stats *ip-address*[/*mask*]

subnet-ext-stats pool *pool-name*

Context

[Tree] (clear>router>dhcp>server subnet-ext-stats)

Full Context

clear router dhcp local-dhcp-server subnet-ext-stats

Description

This command clears extended subnet statistics.

Parameters

ip-address[/mask]

Clears the specified IP address and mask.

pool-name

Clears statistics for the specified pool name.

Platforms

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

25.16 subnet-stats

subnet-stats

Syntax

subnet-stats *ip-address*[/*mask*]

subnet-stats pool *pool-name*

Context

[Tree] (show>router>dhcp>server subnet-stats)

Full Context

show router dhcp local-dhcp-server subnet-stats

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays subnet statistics.

Parameters

ip-address[/mask]

Specifies the subnet and mask.

pool-name

Specifies the name of local DHCPv4 server pool.

Platforms

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

Output

The following output is an example of subnet statistics information.

Output Example

```
*A:SUB-Dut-A# show router dhcp local-dhcp-server dhcpS2 subnet-stats pool POOL2
===============================================================================
Statistics for pool POOL2
===============================================================================
Subnet             Free         Offered      Stable
                     FRPending    RemPending   Declined
-------------------------------------------------------------------------------
10.0.0.0/8          16384        0            0
                     0            0            0
-------------------------------------------------------------------------------
No. of entries: 1
===============================================================================
*A:SUB-Dut-A#
```

Table 627: Output fields: subnet statistics pool describe the fields for subnet stats pool output.

Table 627: Output fields: subnet statistics pool

Field	Description
Subnet	The subnet address
Free	The number of addresses in this subnet that are free
Offered	The number of leases in this subnet that are in state **offered**
Stable	The number of leases in this subnet that are in state **stable**
FRPending	The number of leases in this subnet that are in state **forceRenewPending**
RemPending	The number of leases in this subnet that are in state **removePending**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Declined	The number of addresses in this subnet that are declined
No. of entries	The total number of entries

25.17 subscribe-to

subscribe-to

Syntax

subscribe-to log-id *log-id*

Context

[Tree] (tools>perform>log subscribe-to)

Full Context

tools perform log subscribe-to

Description

This command subscribes the current CLI session to the specified CLI log. Log events for the specified log will be output in the current CLI session until the CLI session closes or an unsubscribe-from command is used.

Parameters

log-id

Specifies the log ID for which subscription is requested.

Values 1 to 101

Platforms

All

25.18 subscriber

subscriber

Syntax

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**scheduler** *scheduler-name*] [**spi-sharing-type** *spi-sharing-type*] [**spi-sharing-id** *spi-sharing-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

subscriber *sub-ident-string* [**scheduler** *scheduler-name*] [**ingress** | **egress**]

Context

[Tree] (clear>qos>scheduler-stats subscriber)

Full Context

clear qos scheduler-stats subscriber

Description

This command clears scheduler stats by subscriber.

Parameters

sub-ident-string

Clears information for the specified subscriber name.

sap-id

Clears information for the specified SAP.

sla-profile-name

Clears information for the specified SLA profile name.

scheduler-name

Clears information for the specified scheduler.

spi-sharing-type

Clears information for sessions with the specified SPI sharing type.

Values per-group, per-session-ipoe, per-session-ppp

spi-sharing-id

Clears information for sessions with the specified SPI sharing type and sharing identifier. The SPI group identifier is:

- an identifier when the sharing type is per-group
- an internal PPP or IPoE sharing identifier when the sharing type is a per-PPP or per-IPoE session

Values 0 to 4294967295

egress

Clears egress information for the subscriber.

ingress

Clears ingress information for the subscriber.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

subscriber

Syntax

subscriber *sub-ident-string*

Context

[Tree] (clear>service>statistics subscriber)

Full Context

clear service statistics subscriber

Description

This command clears the statistics for a particular subscriber.

Parameters

sub-ident-string

Clears statistics for the specified subscriber identification string.

Platforms

All

subscriber

Syntax

subscriber *sub-ident-string*

subscriber *sub-ident-string* **detail**

subscriber *sub-ident-string* **mirror**

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**spi-sharing-type** *spi-sharing-type*] [**spi-sharing-id** *spi-sharing-id*]

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**spi-sharing-type** *spi-sharing-type*] [**spi-sharing-id** *spi-sharing-id*] **detail**

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**spi-sharing-type** *spi-sharing-type*] [**spi-sharing-id** *spi-sharing-id*] **mirror**

Context

[Tree] (show>service>active-subscribers subscriber)

Full Context

show service active-subscribers subscriber

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays active subscriber information for a subscriber.

Parameters

sub-ident-string

Displays the subscriber ID of the active subscriber, up to 32 characters.

sap-id

Displays the physical port identifier portion of the SAP definition.

sla-profile-name

Displays the existing SLA profile name, up to 32 characters.

spi-sharing-type

Displays subscriber information for sessions with the specified SPI sharing type.

Values per-group, per-session-ipoe, per-session-ppp

spi-sharing-id

Displays subscriber information for sessions with the specified SPI sharing type and sharing identifier. The SPI group ID is:

- a group id when sharing type is per-group
- an internal PPP or IPoE sharing id when the sharing type is per-PPP or per-IPoE session

Values 0 to 4294967295

detail

Displays detailed output.

mirror

Displays mirrored output.

Platforms

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

Output

The following output is an example of subscriber information for active subscribers.

Output Example

```
*A:eng-BNG-2# show service active-subscribers subscriber "user_1"
===============================================================================
Active Subscribers
===============================================================================
-------------------------------------------------------------------------------
Subscriber user_1
           (no-prof)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
(1) SLA Profile Instance sap:1/1/20:841 - sla:no-prof
-------------------------------------------------------------------------------
IP Address
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
               MAC Address        Session            Origin       Svc        Fwd
-------------------------------------------------------------------------------
192.168.0.14
               00:00:10:10:12:13  N/A                DHCP         1000       Y
-------------------------------------------------------------------------------
===============================================================================
```

subscriber

Syntax

subscriber *sub-ident-string* [{**ingress** | **egress**}] [{**detail** | **root-detail** | **thresholds** | **priority-info** | **depth**}] [**port** *port-id*] [**arbiter** {*name* | *root*}]

Context

[Tree] (show>qos>policer-hierarchy subscriber)

Full Context

show qos policer-hierarchy subscriber

Description

This command displays information about the policer hierarchy per subscriber.

Parameters

sub-ident-string

Displays information about the specified subscriber.

ingress

Displays ingress information about the specified subscriber.

egress

Displays egress information about the specified subscriber.

detail

Displays detailed information.

root-detail

Displays detailed information about the arbiter root.

thresholds

Displays threshold, parenting, rate, and traffic information related to a policer.

priority-info

Displays threshold information related to the root arbiter.

depth

Displays bucket depth, parenting, rate, and traffic information related to a policer.

port-id

Displays information about the specified port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values *slot/mda/port*[*.channel*]

name

Displays information about the named QoS arbiter.

root

Displays information about the arbiter root.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

subscriber

Syntax

subscriber *sub-ident-string* [**scheduler** *scheduler-name*] [{**ingress** | **egress**}] [**detail**]

subscriber *sub-ident-string* **sla-profile** *sla-profile-name* **sap** *sap-id* [**scheduler** *scheduler-name*] [**detail**] [**spi-sharing-type** *spi-sharing-type*] [**spi-sharing-id** *spi-sharing-id*]

Context

[Tree] (show>qos>scheduler-hierarchy subscriber)

Full Context

show qos scheduler-hierarchy subscriber

Description

This command displays the scheduler hierarchy per subscriber.

Parameters

sub-ident-string

Displays the subscriber identification policy name.

scheduler-name

Displays the scheduler name.

ingress

Displays ingress SAP subscriber scheduler stats.

egress

Displays egress SAP subscriber scheduler stats.

detail

Displays detailed information.

sla-profile-name

Displays information for the specified sla-profile-name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

spi-sharing-type

Displays subscriber scheduler hierarchy information for sessions with the specified SLA Profile Instance sharing type.

Values per-group, per-session-ipoe, per-session-ppp

spi-sharing-id

Displays subscriber scheduler hierarchy information for sessions with the specified SLA Profile Instance sharing type and sharing identifier. The spi-sharing-id is:

- a group id when sharing type is per-group
- an internal PPP or IPoE sharing id when the grouping type is per-PPP or per-IPoE-session

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of QoS scheduler hierarchy subscriber information, and Table 628: Output fields: QoS scheduler hierarchy subscriber describes the QoS scheduler hierarchy subscriber fields.

Output Example

```
*A:PE# show qos scheduler-hierarchy subscriber "sub1"

===============================================================================
Scheduler Hierarchy - Subscriber sub1
===============================================================================
Ingress Scheduler Policy: basic-upstream-policy
Egress Scheduler Policy : basic-downstream-policy
-------------------------------------------------------------------------------
Root (Ing)
| slot(1)
|--(S) : basic-upstream
|   |
|   |--(Q) : Sub=sub1:basic-sla 200->1/1/1:1->2 1-1
|   |
|   |--(Q) : Sub=sub1:basic-sla 200->1/1/1:1->1 1-1
|   |


Root (Egr)
| slot(1)
|--(S) : basic-downstream (Port 1/1/1)
|   |
|   |--(Q) : Sub=sub1:basic-sla 200->1/1/1:1->1
|   |
|


===============================================================================
*A:PE#
*A:PE# show qos scheduler-hierarchy subscriber "sub1" detail

===============================================================================
Scheduler Hierarchy - Subscriber sub1
===============================================================================
Ingress Scheduler Policy: basic-upstream-policy
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Egress Scheduler Policy : basic-downstream-policy
-------------------------------------------------------------------------------
Legend :
(*) real-time dynamic value
(w) Wire rates
B   Bytes
-------------------------------------------------------------------------------

Root (Ing)
| slot(1)
|--(S) : basic-upstream
|   |    AdminPIR:max                    AdminCIR:0(sum)
|   |    Limit Unused Bandwidth: disabled
|   |
|   |
|   |    [Within CIR Level 0 Weight 0]
|   |    Assigned:0          Offered:0
|   |    Consumed:0
|   |
|   |    [Above CIR Level 0 Weight 0]
|   |    Assigned:0          Offered:0
|   |    Consumed:0
|   |
|   |
|   |    TotalConsumed:0
|   |    OperPIR:max
|   |
|   |    [As Parent]
|   |    Rate:max
|   |    ConsumedByChildren:0
|   |
|   |
|   |--(Q) : Sub=sub1:basic-sla 200->1/1/1:1->2 1-1
|   |   |    AdminPIR:1000000    AdminCIR:0
|   |   |    Parent Limit Unused Bandwidth: not-found
|   |   |    CBS:31457280 B
|   |   |    MBS:51904512 B
|   |   |    Depth:0 B
|   |   |    HighPlus Drop Tail:51904512 B
|   |   |    High Drop Tail:51904512 B
|   |   |    Low Drop Tail:46399488 B
|   |   |    Exceed Drop Tail:40894464 B
|   |   |
|   |   |    [Within CIR Level 0 Weight 1]
|   |   |    Assigned:0          Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    [Above CIR Level 1 Weight 1]
|   |   |    Assigned:1000000    Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    TotalConsumed:0
|   |   |    OperPIR:max         OperCIR:0
|   |   |    OperFIR:0
|   |   |
|   |   |    PktByteOffset:add 0*
|   |   |    OnTheWireRates:false
|   |   |    ATMOnTheWireRates:false
|   |   |    LastMileOnTheWireRates:false
|   |
|   |--(Q) : Sub=sub1:basic-sla 200->1/1/1:1->1 1-1
|   |   |    AdminPIR:10000      AdminCIR:0
|   |   |    Parent Limit Unused Bandwidth: not-found
|   |   |    CBS:10420224 B
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |   |    MBS:20840448 B
|   |   |    Depth:0 B
|   |   |    HighPlus Drop Tail:20840448 B
|   |   |    High Drop Tail:20840448 B
|   |   |    Low Drop Tail:20840448 B
|   |   |    Exceed Drop Tail:16515072 B
|   |   |
|   |   |    [Within CIR Level 0 Weight 1]
|   |   |    Assigned:0          Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    [Above CIR Level 1 Weight 1]
|   |   |    Assigned:10000      Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    TotalConsumed:0
|   |   |    OperPIR:10000       OperCIR:0
|   |   |    OperFIR:0
|   |   |
|   |   |    PktByteOffset:add 0*
|   |   |    OnTheWireRates:false
|   |   |    ATMOnTheWireRates:false
|   |   |    LastMileOnTheWireRates:false
|   |


Root (Egr)
| slot(1)
|--(S) : basic-downstream (Port 1/1/1)
|   |    AdminPIR:max                    AdminCIR:0(sum)
|   |    Parent Limit Unused Bandwidth: not-found
|   |
|   |    AvgFrmOv:100.00
|   |    AdminPIR:max(w)     AdminCIR:0(w)
|   |
|   |    [Within CIR Level 0 Weight 0]
|   |    Assigned:0(w)       Offered:0(w)
|   |    Consumed:0(w)
|   |
|   |    [Above CIR Level 1 Weight 1]
|   |    Assigned:1000000(w) Offered:0(w)
|   |    Consumed:0(w)
|   |
|   |
|   |    TotalConsumed:0(w)
|   |    OperPIR:1000000
|   |
|   |    [As Parent]
|   |    Rate:1000000
|   |    ConsumedByChildren:0
|   |
|   |
|   |--(Q) : Sub=sub1:basic-sla 200->1/1/1:1->1
|   |   |    AdminPIR:1000000    AdminCIR:0
|   |   |    Parent Limit Unused Bandwidth: not-found
|   |   |    AvgFrmOv:100.00
|   |   |    CBS:0 B
|   |   |    MBS:1253376 B
|   |   |    Depth:0 B
|   |   |    HighPlus Drop Tail:1253376 B
|   |   |    High Drop Tail:1253376 B
|   |   |    Low Drop Tail:1253376 B
|   |   |    Exceed Drop Tail:983040 B
|   |   |
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
|   |   |    [Within CIR Level 0 Weight 1]
|   |   |    Assigned:0          Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    [Above CIR Level 1 Weight 1]
|   |   |    Assigned:1000000    Offered:0
|   |   |    Consumed:0
|   |   |
|   |   |    TotalConsumed:0
|   |   |    OperPIR:max         OperCIR:0
|   |   |
|   |   |    PktByteOffset:add 0*
|   |   |    OnTheWireRates:false
|   |   |    ATMOnTheWireRates:false
|   |   |    LastMileOnTheWireRates:false
|   |   |
|


===============================================================================
*A:PE#
```

Table 628: Output fields: QoS scheduler hierarchy subscriber

Label	Description
Legend	Admin CIR/PIR: Specifies the configured value of CIR/PIR. Assigned CIR/PIR: Specifies the PIR/CIR rate given to a member by that parent level. Offered CIR/PIR: Specifies the offered load on that member. Consumed CIR/PIR: Specifies the amount of scheduler bandwidth used by this member.
PIR	Specifies the PIR rate.
CIR	Specifies the CIR rate.
S	Displays the scheduler name.
Q	Displays the queue ID and information.

subscriber

Syntax

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**scheduler** *scheduler-name*] [**spi-sharing-type** *spi-sharing-type*] [**spi-sharing-id** *spi-sharing-id*]

subscriber *sub-ident-string* [**scheduler** *scheduler-name*] [{**ingress** | **egress**}]

Context

[Tree] (show>qos>scheduler-stats subscriber)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show qos scheduler-stats subscriber

Description

This command displays scheduler statistics information.

Parameters

sub-ident-string

Specifies an existing SLA profile string.

scheduler-name

Specifies an existing scheduler name.

ingress

Display only the policy displayed on ingress.

egress

Display only the policy displayed on egress.

sla-profile-name

Displays information for the specified sla-profile-name.

spi-sharing-type

Displays subscriber scheduler hierarchy information for sessions with the specified SLA Profile Instance sharing type.

Values per-group, per-session-ipoe, per-session-ppp

spi-sharing-id

Displays subscriber scheduler hierarchy information for sessions with the specified SLA Profile Instance sharing type and sharing identifier. The spi-sharing-id is:

- a group id when sharing type is per-group
- an internal PPP or IPoE sharing id when the sharing type is per-PPP or per-IPoE-session

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

Output

The following output is an example of QoS scheduler-stats subscriber information, and Table 629: Output fields: QoS scheduler statistics subscriber describes the QoS scheduler-stats subscriber fields.

Output Example

```
A:D# show qos scheduler-stats subscriber RoutedCoHost1
===============================================================================
Scheduler Stats
===============================================================================
Scheduler                          Forwarded Packets      Forwarded Octets
-------------------------------------------------------------------------------
Ingress Schedulers
gp                                 0                      0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Egress Schedulers
gp                                  0                    0
mb                                  0                    0
mbs                                 0                    0
pb                                  0                    0
pbs                                 0                    0
rb                                  0                    0
rbs                                 0                    0
===============================================================================
*A:D#
```

Table 629: Output fields: QoS scheduler statistics subscriber

Label	Description
Scheduler	Displays the scheduler policy name.
Forwarded Packets	Displays the number of packets forwarded.
Forwarded Octet	Displays the number of octets forwarded.

subscriber

Syntax

subscriber *sub-indent-string* [**egress**] [**detail**]

Context

[Tree] (show>qos>agg-rate subscriber)

Full Context

show qos agg-rate subscriber

Description

This command displays the H-QoS aggregate rate limit per subscriber.

Parameters

sub-indent-string

Specifies the subscriber identification string of the subscriber.

egress

Displays egress SAP customer scheduler stats.

detail

Displays detailed information.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of H-QoS aggregate rate limit per subscriber, and Table 630: Output fields: H-QoS aggregate rate limit per subscriber describes the H-QoS aggregate rate limit per subscriber fields.

Output Example

```
*A:PE1# show qos agg-rate subscriber "sub1" egress
===============================================================================
Aggregate Rate Information - Subscriber sub1
===============================================================================
-------------------------------------------------------------------------------
Root (Egr)
| slot(1)
|    AdminRate              : 1000
|    OperRate               : 0
|    Limit Unused Bandwidth : disabled
|    OnTheWireRates         : false
|    LastMileOnTheWireRates : false
|
|--(Q) : Sub=sub1:basic-sla 1->1/1/1:1->1  (Port 1/1/1)
|
===============================================================================
*A:PE#
```

Table 630: Output fields: H-QoS aggregate rate limit per subscriber

Label	Description
AdminRate	Displays the configured aggregate rate in the subscriber profile.
OperRate	Displays the actual downstream rate.
Limit Unused Bandwidth	Indicates whether the **limit-unused-bandwidth** command is enabled to protect against exceeding the aggregated bandwidth
OnTheWireRates	Indicates whether the displayed rates are on-the-wire rates.
LastMileOnTheWireRates	Indicates whether the displayed rates are on-the-wire rates for the last mile only.

subscriber

Syntax

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**repeat** *repeat*] [**absolute** | **rate**] [**base**]

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**repeat** *repeat*] [**absolute** | **rate**] **egress-policer-id** *egress-policer-id*

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**repeat** *repeat*] [**absolute** | **rate**] **egress-queue-id** *egress-queue-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**repeat** *repeat*] [**absolute** | **rate**] **ingress-policer-id** *ingress-policer-id*

subscriber *sub-ident-string* **sap** *sap-id* **sla-profile** *sla-profile-name* [**repeat** *repeat*] [**absolute** | **rate**] **ingress-queue-id** *ingress-queue-id*

Context

[Tree] (monitor>service subscriber)

Full Context

monitor service subscriber

Description

This command monitors statistics for a subscriber.

Parameters

sub-ident-string

Specifies an existing subscriber identification profile to monitor, up to 32 characters.

sap-id

Specifies the physical port identifier portion of the SAP definition.

Values

null	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id*	
dot1q	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *aps-id* | *pw-id*:[qtag1| cp-conn-prof-id]	
qinq	*port-id* | *bundle-id* | *bpgrp-id* | *lag-id* | *pw-id*:[qtag1 **cp**-*conn-prof-id*].[qtag2 | **cp**-conn-prof-id]	
	cp	keyword
	conn-prof-id	1 to 8000
cem	*slot/mda/port.channel*	
ima-grp	bundle-id [:vpi/vci | vpi | vpi1.vpi2 | **cp**.*conn-prof-id*]	
	cp	keyword
	conn-prof-id	1 to 8000
port-id	*slot/mda/port*[.channel]	
	esat-*id*/*slot*/*port*	
	pxc-*id*.*sub-port*	
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
ccag-id	**ccag**-*id*.*path-id*[*cc-type*]:*cc-id*	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

	ccag	keyword
	id	1 to 8
	path-id	a | b
	cc-type	.sap-net | .net-sap
	cc-id	1 to 4094
eth-tunnel	eth-tunnel-*id*[:*eth-tun-sap-id*]	
	id	1 to 1024
	eth-tun-sap-id	0 to 4094
lag-id	**lag**-*id*	
	lag	keyword
	id	1 to 800
pw-id	**pw**-*id*	
	pw	keyword
	id	1 to 10239
qtag1	* | 0 to 4094	
qtag2	* | null | 0 to 4094	
tunnel-id	**tunnel**-*id*.*private* | *public*:*tag*	
	tunnel	keyword
	id	1 to 16
	tag	0 to 4094

sla-profile-name

Specifies an existing SLA profile. The name can be a maximum of 32 characters long.

seconds

Configures the interval for each display, in seconds.

Values 11 to 60

Default 11

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

Default mode delta

rate

Displays rate-per-second for each statistic instead of the delta.

base

Monitor base statistics.

egress-policer-id

Monitors statistics for the policer.

Values 1 to 63

egress-queue-id

Monitors statistics for this queue.

Values 1 to 8

ingress-policer-id

Monitors statistics for this policer.

Values 1 to 63

ingress-queue-id

Monitors statistics for this queue.

Values 1 to 32

Platforms

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

Output

The following output is an example of subscriber-information.

Output Example

```
A:Dut-A# monitor service subscriber nokia_100 sap 1/2/1:101 sla-profile sla_
default
===============================================================================
Monitor statistics for Subscriber nokia_100
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
SLA Profile Instance statistics
-------------------------------------------------------------------------------
                        Packets                 Octets
Off. HiPrio           : 0                       0
Off. LowPrio          : 94531                   30704535
Off. Uncolor          : 0                       0

Queueing Stats (Ingress QoS Policy 1000)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 7332                  2510859
For. InProf           : 0                     0
For. OutProf          : 87067                 28152288

Queueing Stats (Egress QoS Policy 1000)
Dro. InProf           : 880                   127660
Dro. OutProf          : 0                     0
For. InProf           : 90862                 12995616
For. OutProf          : 0                     0
-------------------------------------------------------------------------------
SLA Profile Instance per Queue statistics
-------------------------------------------------------------------------------
                        Packets               Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                     0
Off. LowPrio          : 0                     0
Off. Uncolor          : 0                     0
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0

Ingress Queue 2 (Unicast) (Priority)
Off. HiPrio           : 0                     0
Off. LowPrio          : 94531                 30704535
Off. Uncolor          : 0                     0
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 7332                  2510859
For. InProf           : 0                     0
For. OutProf          : 87067                 28152288

Ingress Queue 3 (Unicast) (Priority)
Off. HiPrio           : 0                     0
Off. LowPrio          : 0                     0
Off. Uncolor          : 0                     0
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0

Ingress Queue 11 (Multipoint) (Priority)
Off. HiPrio           : 0                     0
Off. LowPrio          : 0                     0
Off. Uncolor          : 0                     0
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0

Egress Queue 1
Dro. InProf           : 880                   127660
Dro. OutProf          : 0                     0
For. InProf           : 90862                 12995616
For. OutProf          : 0                     0

Egress Queue 2
Dro. InProf           : 0                     0
Dro. OutProf          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0

Egress Queue 3
Dro. InProf           : 0                     0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dro. OutProf          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0
===============================================================================
A:Dut-A#


A:Dut-A# monitor service subscriber nokia_100 sap 1/2/1:101 sla-
profile  sla_default base rate
===============================================================================
Monitor statistics for Subscriber nokia_100
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
SLA Profile Instance statistics
-------------------------------------------------------------------------------
                        Packets                 Octets
Off. HiPrio           : 0                       0
Off. LowPrio          : 109099                  35427060
Off. Uncolor          : 0                       0
Queueing Stats (Ingress QoS Policy 1000)
Dro. HiPrio           : 0                       0
Dro. LowPrio          : 8449                    2894798
For. InProf           : 0                       0
For. OutProf          : 100523                  32489663
Queueing Stats (Egress QoS Policy 1000)
Dro. InProf           : 880                     127660
Dro. OutProf          : 0                       0
For. InProf           : 105578                  15104553
For. OutProf          : 0                       0
-------------------------------------------------------------------------------
At time t = 11 sec (Mode: Rate)
-------------------------------------------------------------------------------
SLA Profile Instance statistics
-------------------------------------------------------------------------------
                        Packets                 Octets                  % Port
                                                                        Util.
Off. HiPrio           : 0                       0                       0.00
Off. LowPrio          : 1469                    477795                  0.38
Off. Uncolor          : 0                       0                       0.00
Queueing Stats (Ingress QoS Policy 1000)
Dro. HiPrio           : 0                       0                       0.00
Dro. LowPrio          : 119                     40691                   0.03
For. InProf           : 0                       0                       0.00
For. OutProf          : 1349                    437350                  0.34
Queueing Stats (Egress QoS Policy 1000)
Dro. InProf           : 0                       0                       0.00
Dro. OutProf          : 0                       0                       0.00
For. InProf           : 1469                    209129                  0.16
For. OutProf          : 0                       0                       0.00
===============================================================================
A:Dut-A#
```

```
A:Dut-A# monitor service subscriber nokia_100 sap 1/2/1:101 sla-
profile sla_ default ingress-queue-id 1
===============================================================================
Monitor statistics for Subscriber nokia_100
===============================================================================
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
                        Packets                 Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio           : 0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Off. LowPrio          : 0                     0
Off. Uncolor          : 0                     0
Dro. HiPrio           : 0                     0
Dro. LowPrio          : 0                     0
For. InProf           : 0                     0
For. OutProf          : 0                     0
===============================================================================
A:Dut-A#


A:Dut-A# monitor service subscriber nokia_100 sap 1/2/1:101 sla-profile
sla_default egress-queue-id 1
===============================================================================
Monitor statistics for Subscriber nokia_100
-------------------------------------------------------------------------------
At time t = 0 sec (Base Statistics)
-------------------------------------------------------------------------------
                        Packets                 Octets
Egress Queue 1
Dro. InProf           : 880                     127660
Dro. OutProf          : 0                       0
For. InProf           : 164366                  23506178
For. OutProf          : 0                       0
===============================================================================
A:Dut-A#
```

subscriber

Syntax

subscriber *sub-ident-string* [**arbiter** {**root** | *name*}] [**ingress** | **egress**] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>qos>arbiter-stats subscriber)

Full Context

monitor qos arbiter-stats subscriber

Description

This command monitors arbiter statistics for a subscriber.

Parameters

sub-ident-string

Specifies an existing subscriber identification policy name, up to 32 characters.

name

Specifies the name of the policer control policy arbiter.

root

Specifies the arbiter to which this queue would be feeding.

ingress

Displays arbiter name statistics applied on the ingress SAP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

egress

Displays arbiter name statistics applied on the egress SAP.

seconds

Configures the interval for each display in seconds.

Values 11 to 60

Default 11 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

subscriber

Syntax

subscriber *sub-ident-string* [**scheduler** *scheduler-name*] [**ingress** | **egress**] [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

subscriber *sub-ident-string* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] **sap** *sap-id* **sla-profile** *sla-profile-name*

Context

[Tree] (monitor>qos>scheduler-stats subscriber)

Full Context

monitor qos scheduler-stats subscriber

Description

This command monitors scheduler statistics for a subscriber.

Parameters

sub-ident-string

Specifies an existing subscriber identification policy name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

scheduler-name

Specifies an existing QoS scheduler policy name, up to 32 characters. Scheduler names are configured in the **config>qos>scheduler-policy>tier** level context.

ingress

Displays *scheduler-name* statistics applied on the ingress SAP.

egress

Displays *scheduler-name* statistics applied on the egress SAP.

seconds

Configures the interval for each display in seconds.

Values 11 to 60

Default 11 seconds

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

sap-id

Specifies the physical port identifier portion of the SAP definition.

sla-profile-name

Specifies the SLA profile belonging to the subscriber host, up to 32 characters.

Platforms

All

subscriber

Syntax

subscriber *sub-ident-string* [**arbiter** {*name* **|** *root*}] [**ingress** | **egress**]

Context

[Tree] (clear>qos>arbiter-stats subscriber)

Full Context

clear qos arbiter-stats subscriber

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears the arbiter statistics per subscriber.

Parameters

sub-ident-string

Specifies the subscriber identification policy name, up to 32 characters.

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

subscriber

Syntax

subscriber id *subscriber-id* [**statistics**]

subscriber all [**statistics**]

Context

[Tree] (clear>subscr-mgmt>host-tracking subscriber)

Full Context

clear subscriber-mgmt host-tracking subscriber

Description

This command clears the host tracking data for a subscriber.

Parameters

subscriber-id

Specifies subscriber ID, up to 32 characters.

all

Clears all host tracking data.

statistics

Clears statistical host tracking information for the specified subscriber ID.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

subscriber

Syntax

subscriber *sub-ident-string* [**arbiter** *name* | *root*] [**ingress** | **egress**]

Context

[Tree] (show>qos>arbiter-stats subscriber)

Full Context

show qos arbiter-stats subscriber

Description

This command displays the arbiter statistics per subscriber.

Parameters

sub-ident-string

Displays information about the specified subscriber, up to 32 characters for the 7950 XRS and VSR platforms and up to 64 characters for all other platforms.

name

Specifies the arbiter name, up to 32 characters.

root

Specifies the arbiter root, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

subscriber

Syntax

subscriber *sub-ident-string* [**sla-profile** *sla-profile-name*] [**ingress** | **egress**] [**detail**] [**port** *port-id*]

Context

[Tree] (show>qos>policer subscriber)

Full Context

show qos policer subscriber

Description

This command displays the policer statistics per port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

sub-ident-string

Displays information about the specified subscriber, up to 32 characters for the 7950 XRS and VSR platforms and up to 64 characters for all other platforms.

sla-profile-name

Specifies the queue group name, up to 32 characters.

port-id

Displays information about the specified port.

Values *slot*/*mda*/*port*

eth-sat-id	**esat**-*id*/*slot*/*port*	
	esat	keyword
	id	1 to 20
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a, b

Platforms

7450 ESS, 7750 SR, 7750 SR-e, 7750 SR-s, 7950 XRS, VSR

25.19 subscriber-hosts

subscriber-hosts

Syntax

subscriber-hosts

Context

[Tree] (clear>service>id subscriber-hosts)

Full Context

clear service id subscriber-hosts

Description

Commands in this context clear information for a particular subscriber host.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

subscriber-hosts

Syntax

subscriber-hosts [**sap** *sap-id*] [**ip** *ip-prefix/prefix-length*] [**mac** *ieee-address*] [**sub-profile** *sub-profile-name*] [**sla-profile** *sla-profile-name*] [**app-profile** *app-profile-name*] [**wholesaler** *service-id*] [**address-origin** *address-origin*] [**detail**] [**statistics**] [**spi-sharing-type** *spi-sharing-type*] [**spi-sharing-id** *spi-sharing-id*]

Context

[Tree] (show>service>id subscriber-hosts)

Full Context

show service id subscriber-hosts

Description

This command displays subscriber host information.

Parameters

sap-id

Specifies the physical port identifier portion of the SAP definition.

ip-prefix/prefix-length

Shows information for the specified IP address and mask.

Values *ipv4-prefix* — a.b.c.d (host bits must be 0)

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — [0..FFFF]H

d — [0..255]D

ipv6-prefix-length — 0 to 128

ieee-address

Displays information only for the specified 48-bit MAC address. The MAC address can be expressed in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd- ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers.

sub-profile-name

Displays an existing subscriber profile name to be associated with the static subscriber host. The subscriber profile is configured in the **config>subscr-mgmt>sub-profile** context.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sla-profile-name

Displays subscriber host information for hosts with the specified SLA profile name.

app-profile-name

Specifies an existing SLA app profile name, up to 32 characters.

service-id

Specifies the ID that uniquely identifies a service.

Values service-id: 1 to 214748364

svc-name: string, up to 64 characters.

address-origin

Specifies an address origin.

Values aaa, dynamic, static, bonding

detail

Displays detailed information.

statistics

Displays the HTTP redirect statistics for the host. The redirect statistics are divided into HTTP GET and HTTP response for redirection.

spi-sharing-type

Displays subscriber host information for hosts with the specified SPI sharing type.

Values per-group, per-session-ipoe, per-session-ppp

spi-sharing-id

Displays subscriber host information for hosts with the specified SPI sharing type and sharing identifier. The SPI group ID is:

- a sharing ID when the sharing type is per-group
- an internal PPP or IPoE sharing ID when the sharing type is per-PPP or per-IPoE session

Values 0 to 4294967295

Platforms

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

Output

The following output is an example of subscriber host information.

Output Example

```
*A:Dut-C>#  show service id 3 subscriber-hosts
===============================================================
Subscriber Host table
===============================================================
Sap                    Subscriber
  IP Address
    MAC Address          PPPoE-SID     Origin       Fwding State
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------
2/1/5:2                     TEACAHEH74
  10.11.1.61
    00:80:00:00:00:0a          N/A              ARP-Host        Fwding
[pw-11:11]                   VIACAHEH74
  10.11.1.2
    00:00:11:11:01:02          N/A              ARP-Host        Fwding
[pw-11:12]                   pw-11:12
  10.11.1.3
    00:00:11:11:01:03          N/A              ARP-Host        Fwding
[pw-11:13]                   pw-11:13
  10.11.1.4
    00:00:11:11:01:04          N/A              ARP-Host        Fwding
[pw-22:22]                   XMACAHEH74
  10.22.1.2
    00:00:22:22:01:02          N/A              ARP-Host        Fwding

[pw-33:33]                   IUASAHEH74
  10.33.1.2
    00:00:33:33:01:02          N/A              ARP-Host        Fwding
-------------------------------------------------------------
Number of subscriber hosts: 6
=============================================================
*A:Dut-C>#


A:Dut-A# show service id 100 subscriber-hosts ip 10.100.1.5
===============================================================================
Subscriber Host table
===============================================================================
Sap                    IP Address      MAC Address       Origin(*) Subscriber
-------------------------------------------------------------------------------
1/2/1:102              10.100.1.5      00:10:00:00:00:03 -/D/- nokia_100
-------------------------------------------------------------------------------
Number of subscriber hosts : 1
===============================================================================
(*) S=Static Host, D=DHCP Lease, N=Non-Sub-Traffic
A:Dut-A#
```

The following table describes **show service-id subscriber hosts** output fields:

Table 631: Output fields: service ID subscriber hosts

Label	Description
Sap	The physical port identifier portion of the SAP definition.
IP Address	The IP address
MAC Address	The MAC address
PPPoE-SID	The PPPoE-SID of the originating subscriber
Origin Subscriber	The ID of the originating subscriber
Fwding State	The forwarding state
Number of subscriber hosts	The number of subscriber hosts

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.20 subscriber-identification

subscriber-identification

Syntax

subscriber-identification

Context

[Tree] (show>router>nat subscriber-identification)

Full Context

show router nat subscriber-identification

Description

This command displays the NAT subscriber identification information.

Platforms

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

subscriber-identification

Syntax

subscriber-identification subscriber-string *subscriber-string*

Context

[Tree] (clear>nat subscriber-identification)

Full Context

clear nat subscriber-identification

Description

This command clears NAT subscriber identification information.

Parameters

subscriber-string

Specifies the subscriber identification string, up to 64 characters.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.21 subscriber-mgmt

subscriber-mgmt

Syntax

subscriber-mgmt

Context

[Tree] (clear subscriber-mgmt)

Full Context

clear subscriber-mgmt

Description

This command enables the contect to clear subscriber management data.

Platforms

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

subscriber-mgmt

Syntax

subscriber-mgmt

Context

[Tree] (tools>perform subscriber-mgmt)

Full Context

tools perform subscriber-mgmt

Description

This command enables tools to control subscriber management.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

subscriber-mgmt

Syntax

subscriber-mgmt

Context

[Tree] (tools>dump subscriber-mgmt)

Full Context

tools dump subscriber-mgmt

Description

Commands in this context display subscriber management resources.

Platforms

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

subscriber-mgmt

Syntax

subscriber-mgmt

Context

[Tree] (show subscriber-mgmt)

Full Context

show subscriber-mgmt

Description

Commands in this context display subscriber management statistics.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.22 subscriber-using

subscriber-using

Syntax

subscriber-using [**service-id** *service-id*] [**sap-id** *sap-id*] [**interface** *ip-int-name*] [**ip** *ip-address*[*/mask*]] [**mac** *ieee-address*] [**sub-profile** *sub-profile-name*] [**sla-profile** *sla-profile-name*] [**app-profile** *app-profile-name*] [**port** *port-id*] [**no-inter-dest-id** | **inter-dest-id** *intermediate-destination-id*]

Context

[Tree] (show>service subscriber-using)

Full Context

show service subscriber-using

Description

This command displays selective subscriber information using specific options.

Parameters

service-id

Specifies the ID that uniquely identifies a service.

sap-id

Displays the physical port identifier portion of the SAP definition.

ip-int-name

Shows DHCP statistics on the specified interface.

port-id

Indicates the SAP or SDP for which this entry contains information.

***ip-address*[*/mask*]**

Shows information for the specified IP address and mask.

ieee-address

Displays information only for the specified 48-bit MAC address. The MAC address can be expressed in the form *aa*:*bb*:*cc*:*dd*:*ee*:*ff* or *aa-bb-cc-dd- ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers.

sub-profile-name

Displays an existing subscriber profile name to be associated with the static subscriber host. The subscriber profile is configured in the **config>subscr-mgmt>sub-profile** context.

sla-profile-name

Specifies an existing SLA profile name.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

app-profile-name

Displays the profile of the specified application.

intermediate-destination-id

Indicates the intermediate destination identifier received from either the DHCP or RADIUS server, or the local user database.

Platforms

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

Output

The following output is an example of selective subscriber information.

Output Example

```
A:Dut-A# show service subscriber-using service-id 100
===============================================================
Subscribers
===============================================================
Subscriber                      Sub Profile
---------------------------------------------------------------
nokia_100                     sub_prof100
---------------------------------------------------------------
Matching Subscribers : 1
===============================================================
A:Dut-A#

A:Dut-A# show service subscriber-using
===============================================================
Subscribers
===============================================================
Subscriber                      Sub Profile
---------------------------------------------------------------
nokia_100                       sub_prof100
nokia_110                       sub_prof110
nokia_120                       sub_prof120
nokia_130                       sub_prof130
nokia_80                        sub_prof80
nokia_90                        sub_prof90
client_PC1                      sub_profPC1
static                          sub_default
---------------------------------------------------------------
Matching Subscribers : 8
===============================================================
A:Dut-A#
```

Table 632: Output fields: subscriber using service ID describes subscriber using a specified service ID field descriptions.

Table 632: Output fields: subscriber using service ID

Field	Description
Subscriber	The subscriber name
Sub Profile	The subscriber profile name

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Matching Subscribers	The number of subscribers matching the search criteria

25.23 subscription

subscription

Syntax

subscription *subscription-id* [**paths**]

subscription

Context

[Tree] (show>system>telemetry>grpc subscription)

Full Context

show system telemetry grpc subscription

Description

This command displays the active telemetry gRPC subscriptions.

Parameters

subscription-id

Specifies the unique subscription ID or number that is assigned by the SR OS gRPC server to each active telemetry subscription.

paths

Keyword that indicates that the **show** command output includes all paths with the respective subscription ID information.

Platforms

All

Output

The following output is an example of the telemetry gRPC subscription information, and Table 633: Output fields: telemetry gRPC subscription describes the output fields.

Output Example

```
A:node-6>show>system>telemetry>grpc# subscription
===============================================================================
Telemetry gRPC subscriptions
===============================================================================
Id            User                              Mode                      Port
  Destination
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
1             admin                             stream                    49648
     192.99.5.0
-------------------------------------------------------------------------------
No. of gRPC Telemetry subscriptions: 1
===============================================================================
```

```
A:node-6>show>system>telemetry>grpc# subscription 2
===============================================================================
Telemetry gRPC subscription
===============================================================================
Subscription-id       : 2
User                  : admin
Destination           : 192.168.110.252
Port                  : 54309
===============================================================================
```

```
A:node-6>show>system>telemetry>grpc# subscription 1 paths
===============================================================================
Telemetry gRPC subscription
===============================================================================
Subscription id       : 1
User                  : admin
Destination           : 192.99.5.0
Port                  : 49648
Subscription mode     : stream
-------------------------------------------------------------------------------
Paths
-------------------------------------------------------------------------------
Path                  : /state/router[router-instance=*]/interface[interface-
                        name=*]/ipv4/oper-state
Path mode             : on-change
Heartbeat interval    : 10000 ms
Sample interval       : 10000 ms
Finished samples      : 1
Deferred samples      : 0
Total collection time : 6 ms
Min collection time   : 6 ms
Avg collection time   : 6 ms
Max collection time   : 6 ms
-------------------------------------------------------------------------------
No. of paths          : 1
===============================================================================
```

Table 633: Output fields: telemetry gRPC subscription

Label	Description
Subscription id	Displays the subscription ID
User	Displays name of the user who started the subscription
Destination	Displays the destination IP address
Port	Displays the destination port
Subscription mode	once — Short-lived subscription that transmits a single sample

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	stream — Long-lived subscription that transmits a sample at every interval
Encoding	Displays the encoding method used for telemetry notifications: bytes, json, json-ietf, proto
Notification count	Displays the notification count
Context count	Displays the context count
Notification bundling	Display the state of notification bundling. When enabled, additional statistics are displayed.
Path	Display the subscribed path
Path mode	Displays the path mode: on-change, sample, target-defined
Heartbeart interval	Displays the heartbeat interval
Finished samples	Displays the number of finished samples
Deferred samples	Displays the number of deferred samples
Total collection time	Displays the total collection time
Min collection time	Displays the minimum collection time
Avg collection time	Displays the average collection time
Max collection time	Displays the maximum collection time
No. of paths	Displays the total number of paths

subscription

Syntax

subscription *subscription-name* [**destinations** | **paths** | **scale-paths**]

subscription

Context

[Tree] (show>system>telemetry>persistent subscription)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show system telemetry persistent subscription

Description

This command displays the active persistent subscriptions.

Parameters

subscription-name

Specifies the subscription name, up to 32 characters.

destinations

Indicates that the output includes all destinations with the respective subscription name.

paths

Indicates that the output includes all paths with the respective subscription name.

scale-paths

Indicates that the output includes all scale paths with the respective subscription name.

Platforms

All

Output

The following output is an example of persistent subscription fields and Table 634: Output fields: persistent subscription describes the output fields.

Output Example

```
# show system telemetry persistent subscription
===============================================================================
Telemetry persistent subscriptions
===============================================================================
Name                                                          Admin   Oper
-------------------------------------------------------------------------------
miro                                                        Disabled   Down
-------------------------------------------------------------------------------
No. of persistent Telemetry subscriptions: 1
===============================================================================
```

```
# show system telemetry persistent subscription miro
===============================================================================
Telemetry persistent subscription
===============================================================================
Subscription Name     : miro
Administrative State  : Disabled
Operational State     : Down
Oper Down Reason      : TODO
Subscription Id       : 0
Description           :
Sensor Group          : miro
Destination Group     : miro
Path Mode             : none
Sample Interval       : 10000 ms
Encoding              : json
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

```
# show system telemetry persistent subscription miro destinations
===============================================================================
Telemetry persistent subscription
===============================================================================
Subscription Name     : miro
Administrative State  : Disabled
Operational State     : Down
Oper Down Reason      : TODO
Subscription Id       : 0
Description           :
Sensor Group          : miro
Destination Group     : miro
Path Mode             : none
Sample Interval       : 10000 ms
Encoding              : json
-------------------------------------------------------------------------------
Destinations
-------------------------------------------------------------------------------
Destination           : 1.1.1.1
Port                  : 57400
Operational State     : Down
Oper Down Reason      : TODO
Router Instance       :
Establishment Time    : 1970/01/01 00:00:00
Retry Count           : 0
Operational Qos       : be
Notification Count    : 0
Total Notification Co*: 0
-------------------------------------------------------------------------------
No. of destinations   : 1
* indicates that the corresponding row element may have been truncated.
===============================================================================
```

```
# show system telemetry persistent subscription miro paths
===============================================================================
Telemetry persistent subscription
===============================================================================
Subscription Name     : miro
Administrative State  : Disabled
Operational State     : Down
Oper Down Reason      : TODO
Subscription Id       : 0
Description           :
Sensor Group          : miro
Destination Group     : miro
Path Mode             : none
Sample Interval       : 10000 ms
Encoding              : json
-------------------------------------------------------------------------------
Paths
-------------------------------------------------------------------------------
Path                  : miro
Finished Samples      : 0
Deferred Samples      : 0
Total Collection Time : 0 ms
Min Collection Time   : 0 ms
Avg Collection Time   : 0 ms
Max Collection Time   : 0 ms
-------------------------------------------------------------------------------
No. of paths          : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Table 634: Output fields: persistent subscription

Label	Description
Subscription Name	Displays the name of the persistent subscription.
Administrative State	Enabled — The administrative state of the persistent subscription is enabled. Disabled — The administrative state of the persistent subscription is disabled.
Operational State	Up — The operational state of the persistent subscription is up. Down — The operational state of the persistent subscription is down. Transition — The persistent subscription is waiting for the **delay-on-boot** timer to expire.
No. of persistent Telemetry subscriptions	Displays the number of persistent telemetry subscriptions.
Oper Down Reason	Displays the reason for the operational down state.
Subscription Id	Displays the subscription ID.
Description	Displays the description information of the subscription.
Sensor Group	Displays the sensor group name.
Destination Group	Displays the destination group name.
Path Mode	Displays the path mode.
Sample Interval	Displays the sample interval.
Encoding	json — The encoding method used for telemetry notifications. bytes — The encoding method used for telemetry notifications.
Destination	Displays the destination IP address.
Port	Displays the destination port.
Router Instance	Displays the router instance.
Establishment Time	Displays the date and time of the destination establishment.
Retry Count	Displays the number of missed TCP keepalive probes before closing a TCP connection.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Operational Qos	Displays the QoS marking type.
Notification Count	Displays the notification count.
Total Notification Co*	Displays the total notification count.
No. of destinations	Displays the total number of configured destinations.
Path	Displays the path name.
Finished Samples	Displays the number of finished samples.
Deferred Samples	Displays the number of deferred samples.
Total Collection Time	Displays the total collection time.
Min Collection Time	Displays the minimum collection time.
Avg Collection Time	Displays the average collection time.
Max Collection Time	Displays the maximum collection time.
No. of paths	Displays the total number of configured paths.

25.24 subscriptions

subscriptions

Syntax

subscriptions

Context

[Tree] (tools>dump>log subscriptions)

Full Context

tools dump log subscriptions

Description

This command displays the list of CLI logs to which each CLI session is currently subscribed.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example, and Table 635: Output fields: tools dump log subscriptions describes the output fields.

Output Example

```
================================================================================
CLI log subscriptions of all CLI sessions
================================================================================
Session ID       : 6
Type             : console
User             : admin
Login time       : 19OCT2017 08:24:14
Remote IP address: 192.168.102.122
Log ID           : 1
                 : 2
                 : 3
                 : 4
                 : 5
...
                 : 20
--------------------------------------------------------------------------------
Session ID       : 25
Type             : telnet
User             : admin
Login time       : 19OCT2017 08:33:16
Remote IP address: 192.168.102.138
Log ID           : 1
                 : 2
================================================================================
```

Table 635: Output fields: tools dump log subscriptions

Label	Description
Session ID	Specifies the session ID.
Type	Specifies the type of session (console, telnet, and so on).
User	Specifies the name of the user.
Login time	Specifies the time the user logged in.
Remote IP address	Specifies the originating (client side) IP address of the session.
Log ID	Specifies the log ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.25 summary

summary

Syntax

summary

Context

[Tree] (show>router>dhcp6>server summary)

[Tree] (show>router>dhcp>server summary)

Full Context

show router dhcp6 local-dhcp-server summary

show router dhcp local-dhcp-server summary

Description

This command displays DHCP or DHCP6 server summary information.

Platforms

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

Output

The following output is an example of DHCP summary information.

Output Example

```
*A:SUB-Dut-A# show router dhcp local-dhcp-server dhcpS2 summary
===============================================================================
DHCP server dhcpS2  router Base
===============================================================================
dhcpS2-POOL2
Admin State            : inService
Persistency State      : ok
User Data Base         : N/A
Use gateway IP address : disabled
Send force-renewals    : disabled
-------------------------------------------------------------------------------
Pool name : POOL2
-------------------------------------------------------------------------------
Subnet             Free       Stable     Declined   Offered    Remove-pending
-------------------------------------------------------------------------------
10.0.0.0/8         16384      0          0          0          0

Totals for pool    16384      0          0          0          0
-------------------------------------------------------------------------------
Totals for server  16384      0          0          0          0
-------------------------------------------------------------------------------
Associations                    Admin
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No associations found
===============================================================================
*A:SUB-Dut-A#


*A:vsim-2# show router 500 dhcp local-dhcp-server "d4" summary
===============================================================================
DHCP server d4  router 500
===============================================================================
Admin State            : inService
Operational State      : inService
Persistency State      : shutdown
User Data Base         : N/A
Use gateway IP address : enabled (scope subnet)
Use pool from client   : disabled
Send force-renewals    : disabled
Creation Origin        : manual
Lease Hold Time        : 0h0m0s
Lease Hold Time For    : N/A
User-ident             : mac-circuit-id
Failover Admin State   : outOfService
Failover Oper State    : shutdown
Failover Persist Key   : N/A
Administrative MCLT    : 0h10m0s
Operational MCLT       : 0h10m0s
Startup wait time      : 0h2m0s
Partner down delay     : 23h59m59s
  Ignore MCLT          : disabled
-------------------------------------------------------------------------------
Pool name : v4-1
-------------------------------------------------------------------------------
Failover Admin State   : inService
Failover Oper State    : normal
Failover Persist Key   : N/A
Administrative MCLT    : 0h10m0s
Operational MCLT       : 0h10m0s
Startup wait time      : 0h2m0s
Partner down delay     : 23h59m59s
  Ignore MCLT          : disabled
-------------------------------------------------------------------------------
Subnet                 Free     %    Stable   Declined Offered  Rem-pend Drain
-------------------------------------------------------------------------------
10.20.20.0/24      (L) 10       90%  1        0        0        0        N
                   (R) N/A           0        N/A      N/A      N/A      N
Totals for pool        10       90%  1        0        0        0
-------------------------------------------------------------------------------
Totals for server      10       90%  1        0        0        0
-------------------------------------------------------------------------------
Interface associations
Interface                       Admin
-------------------------------------------------------------------------------
l1                              Up
-------------------------------------------------------------------------------
Local Address Assignment associations
Group interface                 Admin
-------------------------------------------------------------------------------
===============================================================================
*A:vsim-2#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

summary

Syntax

summary

Context

[Tree] (show>router>dhcp summary)

[Tree] (show>router>dhcp6 summary)

Full Context

show router dhcp summary

show router dhcp6 summary

Description

This command displays the status of the DHCP6 relay and DHCP snooping functions on each interface.

Platforms

All

Output

The following outputs are examples of DHCP and DHCP6 summary information.

Output Example

```
A:ALA-48>show>router>dhcp# summary
===============================================================================
Interface Name                   Arp      Used/     Info    Admin
                                 Populate Provided  Option  State
-------------------------------------------------------------------------------
ccaiesif                         No       0/0       Keep    Down
ccanet6                          No       0/0       Keep    Down
iesBundle                        No       0/0       Keep    Up
spokeSDP-test                    No       0/0       Keep    Down
test                             No       0/0       Keep    Up
test1                            No       0/0       Keep    Up
test2                            No       0/0       Keep    Up
testA                            No       0/0       Keep    Up
testB                            No       0/0       Keep    Up
testIES                          No       0/0       Keep    Up
to-web                           No       0/0       Keep    Up
-------------------------------------------------------------------------------
Interfaces: 11
===============================================================================
A:ALA-48>show>router>dhcp#


*A:vsim-2# show router 500 dhcp summary
===============================================================================
DHCP Summary (Service: 500)
===============================================================================
Interface Name                   Arp      Leases Per Interface/ Info    Admin
  SapId/Sdp                      Populate Per Sap Limit         Option  State
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
g1                              No       1/1                  Keep    Up
  sap:1/1/7                              1/1
l1                              No       0/0                  Keep    Down
-------------------------------------------------------------------------------
Interfaces: 2
===============================================================================
*A:vsim-2#
```

Table 636: Output fields: DHCP summary describes DHCP summary output field descriptions.

Table 636: Output fields: DHCP summary

Label	Description
Interface Name	The name of the router interface
ARP Populate	ARP populate is enabled or disabled
Used/Provided	The number of used and provided DHCP leases
Info Option	Option 82 processing is enabled or disabled on the interface
Admin State	The administrative state

Output Example

```
*A:vsim-2# show router 500 dhcp6 summary
===============================================================================
DHCP6 Summary (Service: 500)
===============================================================================
-------------------------------------------------------------------------------
Service Interfaces
-------------------------------------------------------------------------------
Interface Name                  Nbr      Used/Max Relay     Admin  Oper Relay
  SapId                         Resol.   Used/Max Server    Admin  Oper Server
-------------------------------------------------------------------------------
l1                              No          0/0             Down   Down
                                            0/8000          Down   Down
-------------------------------------------------------------------------------
Interfaces: 1
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routed CO Interfaces
-------------------------------------------------------------------------------
Interface Name                          Used               Admin (proxy/relay)
  SapId
-------------------------------------------------------------------------------
g1                                      1                  Down/Up
  sap:1/1/7                             1
-------------------------------------------------------------------------------
Interfaces: 1                           1
-------------------------------------------------------------------------------
===============================================================================
*A:vsim-2#

*A:vsim-2# show router 500 dhcp6 local-dhcp-server "d6" summary
===============================================================================
DHCP server d6  router 500
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Admin State            : inService
Operational State      : inService
Persistency State      : shutdown
Use Link Address       : enabled (scope subnet)
Use pool from client   : disabled
Creation Origin        : manual
Lease Hold Time        : 0h0m0s
Lease Hold Time For    : N/A
User-ident             : duid
Interface-id-mapping   : disabled
Ignore-rapid-commit    : disabled
Allow-lease-query      : disabled
Failover Admin State   : outOfService
Failover Oper State    : shutdown
Failover Persist Key   : N/A
Administrative MCLT    : 0h10m0s
Operational MCLT       : 0h10m0s
Startup wait time      : 0h2m0s
Partner down delay     : 23h59m59s
  Ignore MCLT          : disabled

-------------------------------------------------------------------------------
Pool name : v6-1
-------------------------------------------------------------------------------
Failover Admin State   : inService
Failover Oper State    : preNormal
Failover Persist Key   : N/A
Time Left              : 0h4m16s before state transition
Administrative MCLT    : 0h10m0s
Operational MCLT       : 0h10m0s
Startup wait time      : 0h2m0s
Partner down delay     : 23h59m59s
  Ignore MCLT          : disabled
-------------------------------------------------------------------------------
Prefix
                                  Stable   Declined Advert   Rem-pend Drain
-------------------------------------------------------------------------------
2001:dead:1::/56
                             (L)  1        0        0        0        N
2001:dead:2::/56
                             (R)  0        0        0        0        N
Totals for pool                   1        0        0        0
-------------------------------------------------------------------------------
Totals for server                 1        0        0        0
-------------------------------------------------------------------------------
Interface associations
Interface                      Admin
-------------------------------------------------------------------------------
l1                             Up
-------------------------------------------------------------------------------
Local Address Assignment associations
Group interface                Admin
-------------------------------------------------------------------------------
===============================================================================
*A:vsim-2#
```

Table 637: Output fields: DHCP6 summary describes DHCP6 summary output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 637: Output fields: DHCP6 summary

Label	Description
Interface Name	The name of the router interface
ARP Populate	ARP populate is enabled or disabled
Used/Provided	The number of used and provided DHCP leases
Info Option	Option 82 processing enabled or disabled on the interface
Admin State	The administrative state

summary

Syntax

summary [**interface** *interface-name* | **saps**]

Context

[Tree] (show>service>id>dhcp summary)

Full Context

show service id dhcp summary

Description

This command displays DHCP configuration summary information.

Parameters

interface-name

Displays information for the specified IP interface.

Values 32 characters maximum.

saps

Displays SAPs per interface.

Platforms

All

Output

The following outputs are examples of DHCP summary information:

- VPLS service: Output Example: (VPLS service), Table 638: Output fields: service ID DHCP summary (VPLS service)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Layer 3 service: Output Example: (Layer 3 service), Table 639: Output fields: service ID DHCP summary (Layer 3 service)

Output Example: (VPLS service)

```
# show service id 10 dhcp summary

===============================================================================
DHCP Summary, service 10
===============================================================================
Sap/Sdp/Bgp-Evpn       Snoop  Used/       Arp Reply   Info     Admin
                              Provided    Agent       Option   State
-------------------------------------------------------------------------------
sap:1/1/c1/4:2411.1061 Yes    0/0         No          Replace  Up
bgp-evpn               Yes    N/A         N/A         N/A      N/A
-------------------------------------------------------------------------------
Number of Entries : 3
-------------------------------------------------------------------------------
===============================================================================
```

Table 638: Output fields: service ID DHCP summary (VPLS service)

Label	Description
Sap/Sdp/Bgp-Evpn	The endpoint where DHCP snooping is configured: SAP ID, spoke SDP ID, mesh SDP ID, or BGP-EVPN (all EVPN destinations)
Snoop	Yes — The packets received from the DHCP clients were snooped No — The packets received from the DHCP clients were not snooped
Used/Provided	Used — The number of lease-states that are currently in use on a specific interface, that is, the number of clients on that interface got an IP address by DHCP. This value is always less than or equal to the 'Provided' field Provided — The lease-populate value that is configured for a specific interface
Arp Reply Agent	Displays whether or not there is proper handling of received ARP requests from subscribers
Info Option	Keep — The existing information is kept on the packet and the router does not add any additional information Replace — On ingress, the existing information-option is replaced with the information-option from the router Drop —The packet is dropped and an error is logged
Admin State	Indicates the administrative state

Output Example: (Layer 3 service)

```
# show service id "vprn-102" dhcp summary

===============================================================================
DHCP Summary, service 102
===============================================================================
Interface Name                   Arp      Leases Per Interface/ Info    Admin
  SapId/Sdp                      Populate Per Sap Limit         Option  State
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
int-loopback-1                  No       0/0                  Keep    Down
int-rvpls-1                     No       0/0                  Keep    Up
int-sap-1                       No       0/0                  Keep    Up
int-spoke-1                     No       0/0                  Keep    Up
-------------------------------------------------------------------------------
Interfaces: 4
===============================================================================

# show service id "vprn-102" dhcp summary saps

===============================================================================
DHCP Summary, service 102
===============================================================================
Interface Name                  Arp      Leases Per Interface/ Info    Admin
  SapId/Sdp                     Populate Per Sap Limit         Option  State
-------------------------------------------------------------------------------
int-loopback-1                  No       0/0                  Keep    Down
int-rvpls-1                     No       0/0                  Keep    Up
int-sap-1                       No       0/0                  Keep    Up
  sap:pxc-1.b:203                        0/0
int-spoke-1                     No       0/0                  Keep    Up
  sdp:spoke-15:202                       0/0
-------------------------------------------------------------------------------
Interfaces: 4
===============================================================================
```

Table 639: Output fields: service ID DHCP summary (Layer 3 service)

Label	Description
Interface Name	Name of the interface where DHCP snooping is configured
SapId/Sdp	SAP ID or spoke-SDP binding of the interface
Arp Populate	Indicates if **arp-populate** (MD-CLI: **ipv4 neighbor-discovery populate**) is configured on the interface
Leases Per Interface/Per Sap Limit	Displays the number of active leases and maximum number of leases on the interface or SAP. A per SAP limit can be configured on group-interface SAPs only.
Info Option	Keep — Incoming DHCP discover/request without Option 82 information are processed by the DHCP relay agent as is, ignoring any configured option. For incoming DHCP discover/request with Option 82 information present, configured vendor specific options are merged with the existing Option 82 information before processing by the DHCP relay agent. Configured Circuit ID and Remote ID options are ignored. Replace — If present, remove all the Option 82 information from the incoming DHCP discover/request. Insert the configured DHCP options before forwarding to the DHCP server. Drop —Drop all incoming DHCP discover/request with Option 82 information present. Incoming DHCP discover/request without Option 82 information are processed, ignoring the configured options.
Admin State	The administrative state of DHCP snooping

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

summary

Syntax

summary [**interface** *interface-name* | **saps**]

Context

[Tree] (show>service>id>dhcp6 summary)

Full Context

show service id dhcp6 summary

Description

This command displays DHCPv6 configuration summary information.

Parameters

interface-name

Specifies the interface name, up to 32 characters, for display.

saps

Keyword used to display the SAPs per interface.

Platforms

All

Output

The following output is an example of DHCP summary information, and Table 640: Output fields: service ID DHCP6 summary describes the output fields.

Output Example

```
# show service id "vpls-216" dhcp6 summary

===============================================================================
DHCPv6 Summary, service 216
===============================================================================
Sap/Sdp/Bgp-Evpn       LDRA  Interface      Interface-Id     Remote-Id
                             Type           Option           Option
-------------------------------------------------------------------------------
sap:1/1/c1/4:2411.1061 Yes   client-facing  ascii-tuple      mac
sdp:41:10              Yes   network-facing N/A              N/A
sdp:42:20              Yes   network-facing N/A              N/A
-------------------------------------------------------------------------------
Number of Entries : 3
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 640: Output fields: service ID DHCP6 summary

Label	Description
Sap/Sdp/Bgp-Evpn	Specifies the endpoint where LDRA is configured sap — specifies the SAP ID sdp — specifies the spoke- or mesh-SDP ID bgp-evpn — specifies the BGP EVPN for all EVPN destinations
LDRA	Specifies the state of the LDRA Yes — specifies the interface is enabled No —specifies the interface is disabled
Interface Type	Specifies the interface type client-facing — specifies a client facing interface type network-facing — specifies a network facing interface type N/A — not applicable
Interface-Id Option	Specifies the interface ID option ascii-tuple — specifies a ASCII tuple vlan-ascii-tuple — specifies a VLAN ASCII tuple N/A — not applicable
Remote-Id Option	Specifies the remote ID field in the relay agent remote ID mac — specifies a MAC option string — specifies a string option N/A — not applicable
Number of Entries	Specifies the number of entries

summary

Syntax

summary

Context

[Tree] (show>service>id>ppp summary)

Full Context

show service id ppp summary

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays PPP summary information.

Platforms

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

summary

Syntax

summary

Context

[Tree] (show>subscr-mgmt>gtp summary)

Full Context

show subscriber-mgmt gtp summary

Description

This command displays a GTP system summary of information.

Platforms

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

Output

The following output is an example of GTP summary information.

Output Example

```
Node# show subscriber-mgmt gtp summary
===============================================================================
GTP system summary
===============================================================================
Actual number of MME                                : 1
Actual number of ENODE-B                            : 1
Actual number of S11 Sessions                       : 1
Actual number of Mobile Gateways                    : 0
Actual number of Uplinks                            : 0
Actual number of Uplinks in Hold                    : 0
===============================================================================
```

summary

Syntax

summary

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>id>pppoe summary)

Full Context

show service id pppoe summary

Description

This command displays PPPoE summary information.

Platforms

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

summary

Syntax

summary

Context

[Tree] (show>service>id>ipoe summary)

Full Context

show service id ipoe summary

Description

This command displays a summary of IPoE information.

Platforms

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

summary

Syntax

summary

Context

[Tree] (show>service>dynsvc summary)

Full Context

show service dynamic-services summary

Description

This command displays the global configuration summary for dynamic services:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Service range
- Timers

Note:
This command is not available in the MD-CLI.

Platforms

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

Output

The following output is an example of dynamic service summary information.

Output Example

```
# show service dynamic-services summary
===============================================================================
Dynamic Services Summary
===============================================================================
range start                 : 100000
range end                   : 200001
setup timeout Access Accept : 30
===============================================================================
```

Table 641: Output fields: dynamic services summary describes Dynamic Services summary fields.

Table 641: Output fields: dynamic services summary

Output field	Description
range start	The start service ID to define the service range for dynamic services.
range end	The start and end service ID to define the service range for dynamic services.
setup timeout Access Accept	The timeout, in seconds, after which a script is canceled for setup actions received via RADIUS Access-Accept messages.

summary

Syntax

summary

Context

[Tree] (show>service>id>slaac summary)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id slaac summary

Description

This command displays a summary of all SLAAC hosts.

Platforms

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

summary

Syntax

summary [**sap** *sap-id*]

Context

[Tree] (show>service>id>host-connectivity-verify summary)

Full Context

show service id host-connectivity-verify summary

Description

This command displays a host connectivity verification summary.

Parameters

sap-id

Specifies the SAP ID to show statistics for.

Platforms

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

summary

Syntax

summary [**all**] [**dns**]

summary [**family** *family*] [**group** *name*] [**dns**]

summary [**family** *family*] [**neighbor** *ip-address*] [**dns**]

Context

[Tree] (show>router>bgp summary)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router bgp summary

Description

This command displays a summary of BGP neighbor information.

If confederations are not configured, that information is not displayed in the command output.

The "State” field displays the global BGP operational state. The valid values are:

- Up — BGP global process is configured and running.
- Down — BGP global process is administratively shutdown and not running.
- Disabled — BGP global process is operationally disabled. The process must be restarted by the operator. For example, if a BGP peer is operationally disabled, the state in the summary table shows the state 'Disabled’.

Parameters

all

Displays BGP peers in all instances.

family

Specifies the type of routing information to be distributed by the BGP instance.

Values ipv4, vpn-ipv4, ipv6, mcast-ipv4, vpn-ipv6, l2-vpn, mdt-safi, ms-pw, mvpn-ipv4, flow-ipv4, route-target, mcast-vpn-ipv4, mvpn-ipv6, flow-ipv6, evpn, mcast-ipv6, label-ipv4, label-ipv6, bgp-ls, mcast-vpn-ipv6, sr-policy-ipv4, sr-policy-ipv6, flow-vpn-ipv4, flow-vpn-ipv6

name

Specifies the group name up to 32 characters.

ip-address

Specifies the IPv4 or IPv6 address

Values *ipv4-address* — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x[-interface]

x:x:x:x:x:x:d.d.d.d[-interface]

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

interface — mandatory for link local address, up to 32 characters

dns

Displays the reverse DNS resolution of BGP neighbor.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of BGP summary information, and Table 642: Output fields: BGP summary describes the output fields.

Output Example

```
A:Dut-B>config>router>bgp# show router bgp summary
===============================================================================
BGP Router ID:1.0.0.2          AS:1          Local AS:1
===============================================================================
BGP Admin State         : Up          BGP Oper State              : Up
Total Peer Groups       : 1           Total Peers                 : 1
Total VPN Peer Groups   : 0           Total VPN Peers             : 0
Current Internal Groups : 1           Max Internal Groups         : 1
Total BGP Paths         : 19          Total Path Memory           : 6840
```

```
*A:ALA-12# show router 3 bgp summary
===============================================================================
 BGP Router ID : 10.0.0.14         AS : 65206   Local AS : 65206
===============================================================================
 BGP Admin State         : Up            BGP Oper State       : Up
 Confederation AS        : 40000
 Member Confederations   : 65205 65206 65207 65208

 Number of Peer Groups   : 2             Number of Peers      : 7
 Total BGP Active Routes : 86689         Total BGP Routes     : 116999
 Total BGP Paths         : 35860         Total Path Memory    : 2749476
 Total Supressed Routes  : 0             Total History Routes : 0
 Total Decayed Routes    : 0
===============================================================================
BGP Summary
===============================================================================
Neighbor           AS PktRcvd PktSent InQ OutQ   Up/Down State|Recv/Actv/Sent
-------------------------------------------------------------------------------
10.0.0.1        65206       5   21849   0    0 00h01m29s 32/0/86683
10.0.0.12       65206       0       0   0    0 00h01m29s Active
10.0.0.13       65206       5   10545   0   50 00h01m29s 6/0/86683
10.0.0.15       65205       0       0   0    0 00h01m29s Active
10.0.0.16       65206       5    9636   0   50 00h01m29s 6/0/86683
10.0.27.1           2       0       0   0    0 00h01m29s Active
10.0.28.1       60203   22512      15   0    0 00h01m29s 116955/86689/9
===============================================================================
*A:ALA-12#
```

```
*A:ALA-12# show router 3 bgp summary dns
===============================================================================
BGP Router ID : 10.0.0.14 AS : 65206 Local AS : 65206
===============================================================================
BGP Admin State : Up BGP Oper State : Up
Confederation AS : 40000
Member Confederations : 65205 65206 65207 65208
Number of Peer Groups : 2 Number of Peers : 7
Total BGP Active Routes : 86689 Total BGP Routes : 116999
Total BGP Paths : 35860 Total Path Memory : 2749476
Total Supressed Routes : 0 Total History Routes : 0
Total Decayed Routes : 0
===============================================================================
BGP Summary
===============================================================================
Neighbor
   Name
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description
         AS PktRcvd PktSent InQ OutQ Up/Down State|Recv/Actv/Sent
-------------------------------------------------------------------------------
10.0.0.1
   dut1.nokia.com
         65206 5 21849 0 0 00h01m29s 32/0/86683
10.0.0.12
   dut2.nokia.com
         65206 0 0 0 0 00h01m29s Active
10.0.0.13
   dut3.nokia.com
         65206 5 10545 0 50 00h01m29s 6/0/86683
10.0.0.15
   dut4.nokia.com
         65205 0 0 0 0 00h01m29s Active
10.0.0.16
   10.0.0.16
         65206 5 9636 0 50 00h01m29s 6/0/86683
10.0.27.1
   dut6.nokia.com
         2 0 0 0 0 00h01m29s Active
10.0.28.1
   10.0.28.1
         60203 22512 15 0 0 00h01m29s 116955/86689/9
===============================================================================
```

Table 642: Output fields: BGP summary

Label	Description
BGP Router ID	The local BGP router ID
AS	The configured autonomous system number
Local AS	The configured local AS setting, if not configured it is the same as the system AS
BGP Admin State	Down — BGP is administratively disabled Up — BGP is administratively enabled
BGP Oper State	Down — BGP is operationally disabled Up — BGP is operationally enabled
Confederation AS	The configured confederation AS
Current Internal Groups	The current number of internal BGP peer groups. BGP peers are grouped within the BGP software to optimize the building of UPDATE messages towards peers with a similar configuration. An internal group is not the same as a configured BGP peer group.
Max Internal Groups	The maximum number of internal BGP peer groups that existed at any point since the last restart of BGP. BGP peers are grouped within the BGP software to optimize the building of UPDATE messages towards peers with a similar

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	configuration. An internal group is not the same as a configured BGP peer group.
Member Confederations	The configured members of the BGP confederation
Number of Peer Groups	The total number of configured BGP peer groups
Number of Peers	The total number of configured BGP peers
Total BGP Active Routes	The total number of BGP routes used in the forwarding table
Total BGP Routes	The total number of BGP routes learned from BGP peers
Total BGP Paths	The total number of unique sets of BGP path attributes learned from BGP peers
Total Path Memory	Total amount of memory used to store the path attributes
Total Suppressed Routes	Total number of suppressed routes due to route damping
Total History Routes	Total number of routes with history due to route damping
Total Decayed Routes	Total number of decayed routes due to route damping
Neighbor	BGP neighbor address
Name	DNS name of the BGP neighbor
AS (Neighbor)	BGP neighbor autonomous system number
PktRcvd	Total number of packets received from the BGP neighbor
PktSent	Total number of packets sent to the BGP neighbor
InQ	The number of BGP messages to be processed
OutQ	The number of BGP messages to be transmitted
Up/Down	The amount of time that the BGP neighbor has either been established or not established depending on its current state
State|Recv/Actv/Sent	The BGP neighbor’s current state (if not established) or the number of received routes, active routes and sent routes (if established)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

summary

Syntax

summary [**session** *ip-addr*[*label-space*]] [**ipv4** | **ipv6**]

Context

[Tree] (show>router>ldp>bindings summary)

Full Context

show router ldp bindings summary

Description

This command displays a summary of LDP bindings.

Parameters

session *ip-addr[label-space*]

Specifies the IP address and label space identifier.

Values <ip-addr[label-spa*> : ipv4-address:label-space ipv6-address[label-space] label-space - [0 to 65535]

ipv4

Displays IPv4 summary bindings information.

ipv6

Displays IPv6 summary bindings information.

Platforms

All

summary

Syntax

summary

Context

[Tree] (show>router>mpls-labels summary)

Full Context

show router mpls-labels summary

Description

This command displays the MPLS label summary.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of MPLS label summary information.

Table 643: Output fields: MPLS label summary describes MPLS label summary output fields.

Output Example

```
*A:cses-V23>show>router>mpls-labels># show router mpls-labels summary
===============================================================================
Mpls-Labels Summary
===============================================================================
Static Label Range             : 18400
Bgp Labels Hold Timer          : 30
Segment Routing Start Label    : 0
Segment Routing End Label      : 0
Reserved Label Block Name      :
        test reserved-label
===============================================================================
```

Table 643: Output fields: MPLS label summary

Label	Description
Static Label Range	Displays the static label range.
Bgp Labels Hold Timer	Displays the BGP labels hold timer.
Segment Routing Start Label	Displays the segment routing start label.
Segment Routing End Label	Displays the segment routing end label.
Reserved Label Block Name	Displays the reserved label block name.

summary

Syntax

summary

Context

[Tree] (show>app-assure>group>http-enrich summary)

Full Context

show application-assurance group http-enrich summary

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays summarized HTTP enrichment information.

Platforms

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

summary

Syntax

summary

Context

[Tree] (show>app-assure>group>policy summary)

Full Context

show application-assurance group policy summary

Description

This command displays application-assurance policy summary information.

Platforms

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

summary

Syntax

summary

Context

[Tree] (show>app-assure>group>aa-sub summary)

Full Context

show application-assurance group aa-sub summary

Description

This command displays a summary of statistics for a specific aa-sub.

Platforms

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

Output

The following output is an example of the summary information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:ALU>show>app-assure>group>aa-sub# summary
===============================================================================
Application-Assurance Subscriber Summary
===============================================================================
AA-Subscriber       : TestSubscriberName
ISA assigned        : 3/2
App-Profile         : Power_Profile
App-Profile divert  : Yes
Sub-quarantined     : No
Capacity cost       : 1
-------------------------------------------------------------------------------
Traffic                   Octets           Packets         Flows
-------------------------------------------------------------------------------
Admitted from subscriber: 7092548          52935           2843
Denied from subscriber:   51160            617             374
Active flows from subscriber:                              12
Admitted to subscriber:   73705675         73538           1453
Denied to subscriber:     0                0               0
Active flows to subscriber:                                12
Total flow duration:      12750 seconds
Terminated flows:                                          4646
Short Duration flows:                                      4516
Medium Duration flows:                                     130
Long Duration flows:                                       0
-------------------------------------------------------------------------------
Top App-Groups                  Octets           Packets         Flows
-------------------------------------------------------------------------------
MultiMedia                      29060053         29961           138
Tunneling                       19659289         33535           164
Web                             14856331         19829           932
===============================================================================
A:ALU>show>app-assure>group>aa-sub#
```

summary

Syntax

summary

Context

[Tree] (tools>dump>app-assure>group summary)

Full Context

tools dump application-assurance group summary

Description

This command displays subscriber summary information.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

summary

Syntax

summary

Context

[Tree] (show>router>firewall summary)

Full Context

show router firewall summary

Description

This command displays a simple overview of all firewall configurations specific to the routing instance.

Platforms

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

Output

The following output is an example of summary firewall information.

Output Example

```
Node# show router 4 firewall summary
===============================================================================
Firewall policies
===============================================================================
Policy                              : firewall_dhcp6_4
-------------------------------------------------------------------------------
Domain                              : domain_dhcp6_4
ISA group                           : 1
Administrative state                : in-service
Policy                              : firewall_slaac_4
-------------------------------------------------------------------------------
Domain                              : domain_slaac_4
ISA group                           : 1
Administrative state                : in-service
-------------------------------------------------------------------------------
No. of policies: 2
===============================================================================
```

summary

Syntax

summary

Context

[Tree] (show>router>nat summary)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router nat summary

Description

This command displays the NAT information summary.

Platforms

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

Output

The following output is an example of this command.

Output Example

```
*A:SR12_PPPOE>show>router>nat# show router Base nat summary
===============================================================================
NAT pools
===============================================================================
Pool                            NAT-group  Type       Admin-state
-------------------------------------------------------------------------------
privpool                        3          largeScale inService
pubpool                         1          largeScale inService
-------------------------------------------------------------------------------
No. of pools: 2
===============================================================================
```

The following is an output example showing NAT import policy information.

```
*A:Dut-C>config>service>vprn>nat>inside# /show router 101 nat summary
===============================================================================
ISA NAT group redundancy              : active-standby
===============================================================================
===============================================================================
Subscriber identification
===============================================================================
Admin state                           : outOfService
Attribute vendor                      : nokia
Attribute type                        : alc-sub-string
Description                           : (Not Specified)
Drop unidentified traffic             : false
Radius proxy server router            : (Not Specified)
Radius proxy server name              : (Not Specified)
Last management change                : 05/11/2021 11:09:25
===============================================================================
===============================================================================
NAT Redundancy
===============================================================================
Peer                                  : (Not Specified)
IPv6 peer                             : (Not Specified)
Steering route                        : (Not Specified)
===============================================================================
===============================================================================
NAT policies
===============================================================================
Policy                                : n44Pool1-1
-------------------------------------------------------------------------------
Inside router                         : vprn101
Outside router                        : vprn601
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Pool                                : n44Pool1
Type                                : default
Active                              : true
-------------------------------------------------------------------------------
No. of policies: 1
===============================================================================
===============================================================================
NAT-Import policies
===============================================================================
Policy 1 : policystatment1
Policy 2 : bgpNat3
Policy 3 : (Not Specified)
Policy 4 : (Not Specified)
Policy 5 : (Not Specified)
===============================================================================
===============================================================================
Destination NAT
===============================================================================
Inside source prefix list            : (Not Specified)
Outside route limit                  : 32768
Outside routes                       : 0
===============================================================================
===============================================================================
Large Scale NAT destination prefixes
===============================================================================
Destination prefix                    Nat policy
-------------------------------------------------------------------------------
200.0.0.0/16                          n44Pool1-1
===============================================================================
```

The following output example shows NAT summary information for an inside router and Table 644: Output fields: NAT summary (inside router) describes the output fields.

```
# show router nat summary
===============================================================
Firewall 66
===============================================================================
Hash Prefix Length                  : 64
Subscriber Prefix Length            : 128
===============================================================================

===============================================================================
Firewall policies
===============================================================================
Policy                              : fw66-pol-1
-------------------------------------------------------------------------------
Inside router                       : Base
Outside router                      : vprn12
Domain                              : demo-domain-1
Active                              : true

Policy                              : fw66-pol-2
-------------------------------------------------------------------------------
Inside router                       : Base
Outside router                      : vprn13
Domain                              : demo-domain-2
Active                              : true

-------------------------------------------------------------------------------
No. of policies: 2
===============================================================================

===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Firewall destination prefixes
===============================================================================
Destination prefix                    Firewall policy
-------------------------------------------------------------------------------
0.0.0.0/0                             fw-pol-1
===============================================================================
```

Table 644: Output fields: NAT summary (inside router)

Label	Description
Hash Prefix Length	Specifies the hash prefix length value
Subscriber Prefix Length	Specifies the subscriber prefix length value
Firewall policies	
Policy	Specifies the firewall policy
Inside router	Specifies the inside router name
Outside router	Specifies the outside router name
Domain	Specifies the domain name
Active	Specifies the active state
No. of policies	Specifies the number of policies
Firewall destination prefixes	
Destination prefix	Specifies the destination prefix
Firewall policy	Specifies the firewall policy

The following output example shows NAT summary information for an outside router and Table 645: Output fields: NAT summary (outside router) describes the output fields.

```
# show router 12 nat summary
===============================================================================
Firewall Redundancy
===============================================================================
Peer                                : (Not Specified)
IPv6 peer                           : (Not Specified)
Steering route                      : (Not Specified)
===============================================================================

===============================================================================
Firewall policies
===============================================================================
Policy                              : fw-pol-1
-------------------------------------------------------------------------------
Inside router                       : Base
Outside router                      : vprn12
Domain                              : demo-domain-1
Active                              : true
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Policy                              : fw-pol-2
-------------------------------------------------------------------------------
Inside router                       : Base
Outside router                      : vprn13
Domain                              : demo-domain-2
Active                              : true

-------------------------------------------------------------------------------
No. of policies: 2
===============================================================================


===============================================================================
Firewall Domains
===============================================================================
Domain                        NAT-group           Admin-state
-------------------------------------------------------------------------------
demo-domain-1                     1                 inService

===============================================================================
```

Table 645: Output fields: NAT summary (outside router)

Label	Description
Firewall Redundancy	
Peer	Specifies the peer
IPv6 peer	Specifies the IPv6 peer
Steering route	Specifies the steering route value
Firewall policies	
Policy	Specifies the firewall policy
Inside router	Specifies the inside router name
Outside router	Specifies the outside router name
Domain	Specifies the domain name
Active	Specifies the active state
No. of policies	Specifies the number of policies
Firewall Domains	
Domain	Specifies the domain name
NAT-group	Specifies the NAT group ID
Admin-state	Specifies the domain administrative state

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

summary

Syntax

summary

Context

[Tree] (show>grp-encryp summary)

Full Context

show group-encryption summary

Description

This command shows NGE summary information.

Platforms

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

Output

The following output is an example of NGE summary information, and Table 646: Output fields: group encryption summary describes the fields.

Output Example

```
domain1>show>grp-encryp# summary
============================
Group Encryption
============================
Encryption Label : 34
============================
=========================================================
Encryption Keygroup
=========================================================
Id Name         Auth Algo    Encr Algo    Active OutSA
---------------------------------------------------------
2  KG1_secure   sha256       aes128                  6
4               sha256       aes128                  0
---------------------------------------------------------
No. of Encryption Keygroup: 2
=========================================================
domain1>show>grp-encryp#
```

Table 646: Output fields: group encryption summary

Label	Description
Group Encryption	
Encryption Label	The unique network-wide group encryption label
Encryption Keygroup	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Id	The key group identifier value
Name	The key group name
Auth Algo	The authentication algorithm used by the key group
Encr Algo	The encryption algorithm used by the key group
Active OutSA	The active outbound SA for the key group
No. of Encryption Keygroup	The number of encryption key groups currently configured on the node

summary

Syntax

summary

Context

[Tree] (show>router>seg-rt>sr-policies summary)

Full Context

show router segment-routing sr-policies summary

Description

This command displays summary information about all policies: BGP, static local, and static non-local.

Platforms

All

Output

The following output is an example of policies summary information.

Output Example

```
*A:Dut-A>config>router# show router segment-routing sr-policies summary

===============================================================================
SR-Policies Summary
===============================================================================
Admin Status          : Up
Ingress Stats         : N/A             Egress Stats          : N/A
Resv Label Blk Name:
TTM Preference        : 14              BSID Allocated        : 0
Static Local Policies : 2               Active Static Lcl Pol : 2
Static Non Local Pol  : 0
BGP Policies          : 0               Active BGP Policies   : 0
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

summary

Syntax

summary

Context

[Tree] (show>subscr-mgmt>pfcp summary)

Full Context

show subscriber-mgmt pfcp summary

Description

This command displays PFCP session and association counters.

Platforms

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

Output

The following output is an example of PFCP summary information.

Output Example

```
A:BNG-UPF# show subscriber-mgmt pfcp summary
===============================================================================
PFCP system summary
===============================================================================
Actual number of associations                   : 1
Actual number of PFCP sessions                  : 2
    Actual number of PFCP sessions in setup     : 0
    Actual number of default tunnels            : 1
    Actual number of PPP sessions               : 1
    Actual number of IPOE sessions              : 0
===============================================================================
```

summary

Syntax

summary

Context

[Tree] (show>router>srv6 summary)

Full Context

show router segment-routing-v6 summary

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the summary SRv6 status.

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

summary

Syntax

summary

Context

[Tree] (show>li>x-interfaces summary)

Full Context

show li x-interfaces summary

Description

This command displays a summary of the status of the X1, X2, and X3 interfaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

summary

Syntax

summary

Context

[Tree] (tools>dump>system>cpm-http-redirect summary)

Full Context

tools dump system cpm-http-redirect summary

Description

This command displays the summary of the **cpm-http-redirect optimized-mode** information for the total number of hosts and connections currently in use. This output can also be used to compare the current system utilization with the maximum system scale.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of the **summary** information.

Output Example

```
A# tools dump system cpm-http-redirect summary
===============================================================================
CPM HTTP Redirect summary
===============================================================================
Actual number of hosts                                 : 0
Actual number of connections                           : 0
Number of hosts created in the last second             : 0
Number of connections created in the last second       : 0
===============================================================================
```

summary

Syntax

summary [*family*] [**egress-if** *port-id*]

summary [*family*] [**egress-lsp** *tunnel-id*]

summary [**egress-nh** *ip-address*] [*family*]

Context

[Tree] (show>router>ldp>bindings>active summary)

Full Context

show router ldp bindings active summary

Description

This command displays a summary of the LDP active bindings.

Parameters

ip-address

Specifies the IPv4 or IPv6 address.

Values

ipv4-address:	a.b.c.d
ipv6-address:	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

family

Specifies the address family.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values ipv4, ipv6

port-id

Specifies the port ID.

Values

slot[/*mda*[/*port*]] or *slot*/*mda*/*port* [.*channel*]		
aps-id	**aps**-*group-id*[.channel]	
	aps	keyword
	group-id	1 to 128
eth-sat-id	**esat**-*id*[/*slot*/[**u**]*port*]	
	esat	keyword
	id	1 to 20
	u	keyword for up-link port
pxc-id	**pxc**-*id*.*sub-port*	
	pxc	keyword
	id	1 to 64
	sub-port	a to b

tunnel-id

Specifies the tunnel ID.

Values 0 to 4294967295

Platforms

All

25.26 summary-address

summary-address

Syntax

summary-address [*ip-address* [*/prefix-length*]] [**detail**]

Context

[Tree] (show>router>isis summary-address)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router isis summary-address

Description

This command displays IS-IS summary addresses information.

Parameters

ip-prefix[/prefix-length]

Displays the summary address information for a certain IPv4 or IPv6 address.

detail

Keyword to display detailed information.

Platforms

All

Output

The following output is an example of summary address information and Table 647: Output fields: IS-IS summary address describes the IS-IS summary address output fields.

Output example

```
A:node-2# show router isis summary-address

===============================================================================
Rtr Base ISIS Instance 0 Summary Address
===============================================================================
Address                                 Level    Tag        Algo  UPA
-------------------------------------------------------------------------------
1.1.1.2/32                              L1L2     None       0     Yes
1.1.2.0/24                              L1       None       N.A.  No
1.2.3.4/32                              L1L2     4294967295 128   No
-------------------------------------------------------------------------------
Summary Addresses : 3
===============================================================================
```

The following output is an example of detailed summary address information and Table 647: Output fields: IS-IS summary address describes the IS-IS summary address output fields.

Output example

```
A:node-2# show router isis summary-address detail

===============================================================================
Rtr Base ISIS Instance 0 Summary Address (detail)
===============================================================================
-------------------------------------------------------------------------------
Summary Address : 1.1.1.2/32
-------------------------------------------------------------------------------
Level                   : L1L2
Tag                     : None
Algorithm               : 0
Advertise Unreachable   : Enabled
Match Route Tag         : 1234
Advertise Route Tag     : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Summary Address : 1.1.2.0/24
-------------------------------------------------------------------------------
Level                   : L1
Tag                     : None
Algorithm               : N.A.
Advertise Unreachable   : Disabled
Match Route Tag         : N.A.
Advertise Route Tag     : N.A.

-------------------------------------------------------------------------------
Summary Address : 1.2.3.4/32
-------------------------------------------------------------------------------
Level                   : L1L2
Tag                     : 4294967295
Algorithm               : 128
Advertise Unreachable   : Disabled
Match Route Tag         : N.A.
Advertise Route Tag     : N.A.
===============================================================================
```

Table 647: Output fields: IS-IS summary address

Label	Description
Address or Summary Address	Displays the IP address
Level	Displays the IS-IS level from which the prefix is summarized
Tag	Displays the tag number or displays as None if no tag number exists
Algo or Algorithm	Displays the flexible algorithm number if it exists
UPA	Displays if the summary is configured for the originating UPA when suddenly a summary member route disappears
Advertise Unreachable	Displays if advertise unreachable is enabled
Match Route Tag	When configured, displays the match route tag if it is applicable. When advertise unreachable is enabled, but no route tag is configured, this field displays as None. When advertise unreachable is disabled, this field displays as N.A.
Advertise Route Tag	When configured, displays the advertise route tag. When advertise unreachable is enabled, but no route tag is configured this field displays as None. When advertise unreachable is disabled, this field displays as N.A.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.27 support-mode

support-mode

Syntax

support-mode

Context

[Tree] (tools>dump>system>security support-mode)

Full Context

tools dump system security support-mode

Description

Commands in this context display system support-mode information used by Nokia technical support for troubleshooting.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

support-mode

Syntax

support-mode

Context

[Tree] (tools>perform>system>security support-mode)

Full Context

tools perform system security support-mode

Description

Commands in this context perform security support-mode operations.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.28 svlan-statistics

svlan-statistics

Syntax

svlan-statistics port *port-id* **all-svlans**

svlan-statistics port *port-id* **svlan** *tag*

Context

[Tree] (show>subscr-mgmt svlan-statistics)

Full Context

show subscriber-mgmt svlan-statistics

Description

This command displays S-VLAN statistics.

Parameters

port-id

Specifies the physical port ID in the *slot/mda/port* format of the S-VLAN.

Values

slot/*mda*/*port*		
lag-id	lag-*id*	
	lag	keyword
	id	1 to 800
pw-id	pw-*id*	
	id	1 to 32767

all-svlans

Displays statistics for all S-VLANs on the port.

svlan

Displays information about the S-VLAN.

tag

Specifies a valid S-VLAN identifier.

Values 0 to 4095

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of S-VLAN statistics information.

The collected statistics per outer VLAN tag, including the number of subscriber hosts is captured in the output.

Output Example

```
*A:Dut-C# show subscriber-mgmt svlan-statistics port 1/1/2 all-svlans
===============================================================================
Subscriber VLAN statistics for port 1/1/2 vlan 51
===============================================================================
                                    Ingress             Egress
-------------------------------------------------------------------------------
IP packets                          5                   5
Bytes in IP packets                 670                 670
Last cleared                        12/18/2020 10:03:48
-------------------------------------------------------------------------------
Number of active subscriber hosts : 1
===============================================================================
===============================================================================
Subscriber VLAN statistics for port 1/1/2 vlan 113
===============================================================================
                                    Ingress             Egress
-------------------------------------------------------------------------------
IP packets                          10                  10
Bytes in IP packets                 1320                1320
Last cleared                        12/18/2020 10:03:48
-------------------------------------------------------------------------------
Number of active subscriber hosts : 2
===============================================================================
*A:Dut-C#
```

This counter counts subscriber hosts (represented as individual IP addresses) and not sessions. This is shown in the output of the following commands where there is only one session but two subscriber hosts counted in the VLAN statistics.

```
*A:Dut-C# show service active-subscribers
===============================================================================
Active Subscribers
===============================================================================
-------------------------------------------------------------------------------
Subscriber test-1
          (sub_profile)
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
(1) SLA Profile Instance sap:1/1/5:4 - sla:sla_profile
-------------------------------------------------------------------------------
IP Address
             MAC Address        Session            Origin       Svc        Fwd
-------------------------------------------------------------------------------
10.2.3.41
             00:00:00:00:00:04  IPoE               DHCP         10         Y
90:64:1:2::/64
             00:00:00:00:00:04  IPoE               SLAAC        10         Y
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of active subscribers : 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
*A:Dut-C#

*A:Dut-C# show subscriber-mgmt svlan-statistics port 1/1/5 all-svlans
===============================================================================
Subscriber VLAN statistics for port 1/1/5 vlan 4
===============================================================================
                                    Ingress             Egress
-------------------------------------------------------------------------------
IP packets                          0                   0
Bytes in IP packets                 0                   0
-------------------------------------------------------------------------------
Number of active subscriber hosts : 2
===============================================================================
*A:Dut-C#
```

svlan-statistics

Syntax

svlan-statistics port *port-id* **all-svlans**

svlan-statistics port *port-id* **svlan** *tag*

Context

[Tree] (clear>subscr-mgmt svlan-statistics)

Full Context

clear subscriber-mgmt svlan-statistics

Description

This command clears Subscriber-VLAN statistics.

Parameters

port-id

Specifies the physical port ID in the *slot/mda/port* format of the S-VLAN.

all-svlans

Clears statistics for all S-VLANs on the port.

svlan

Clears information associated with the S-VLAN.

tag

Specifies a valid S-VLAN identifier.

Values 0 to 4095

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.29 switch-fabric

switch-fabric

Syntax

switch-fabric [**exclude-sfm** *sfm-list*]

switch-fabric high-bandwidth-multicast

switch-fabric failure-recovery

Context

[Tree] (show>system switch-fabric)

Full Context

show system switch-fabric

Description

This command displays switch fabric information. When an MDA is not provisioned in an XCM, no information is displayed relating to that MDA. To display the forwarding capacity and multicast planes corresponding to that MDA, regardless of whether an XMA is equipped, an **mda-type** must be provisioned for that MDA.

Parameters

sfm-list

Specifies the SFMs, listed as a comma-separated list of SFM numbers (1 to 16, depending on the platform), to exclude from the displayed switch fabric information.

Values *sfm-name* [,*sfm-name*...]

where *sfm-name* can be 1 to 16

high-bandwidth-multicast

Keyword to display the high-bandwidth multicast traffic tap allocations of the switch fabric.

failure-recovery

Keyword to display information about the automatic switch fabric recovery process. The SFMs are listed in numerical order and are shown only when the recovery process is in progress or has completed.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-e, 7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

Output

The following outputs are examples of switch fabric information, and the tables describe the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- Output Example show system switch-fabric; Table 648: Output fields: switch fabric
- Output Example show system switch-fabric exclude-sfm; Table 648: Output fields: switch fabric
- Output Example show system switch-fabric high-bandwidth-multicast; Table 649: Output fields: switch fabric high bandwidth multicast
- Output Example show system switch-fabric failure-recovery (7750 SR); Table 650: Output fields: switch fabric failure recovery

Output Example show system switch-fabric

```
*A:DUT-A# show system switch-fabric
===============================================================================
Switch Fabric
===============================================================================
Slot/FP         Min. Forwarding Capacity      Max. Forwarding Capacity
-------------------------------------------------------------------------------
1/1             100%                          100%
1/2             100%                          100%
1/5             100%                          100%
1/6             100%                          100%
3/1             100%                          100%
3/5             100%                          100%
3/6             100%                          100%
5/1             100%                          100%
5/2             100%                          100%
5/3             100%                          100%
5/5             100%                          100%
5/6             100%                          100%
5/7             100%                          100%
5/8             100%                          100%
A               100%                          100%
B               100%                          100%
-------------------------------------------------------------------------------
sfm-loss-threshold: 2
===============================================================================
```

Table 648: Output fields: switch fabric describes the switch fabric output fields.

Table 648: Output fields: switch fabric

Label	Description
Slot/FP	Displays either the FP (uniquely identified by an IOM number and FP number) or a CPM letter.
Min. Forwarding Capacity	Displays the minimum forwarding capacity of the slot and XMA/MDA as a percentage.
Max. Forwarding Capacity	Displays the maximum forwarding capacity of the slot and XMA/MDA as a percentage.
Sfm-loss-threshold	Displays the number of SFMs that are permitted to fail prior to SFM overload. Supported on SR-7s and SR-14s platforms only.

Output Example show system switch-fabric exclude-sfm

```
*B:DUT-A# show system switch-fabric exclude-sfm 1,2,3
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Switch Fabric
===============================================================================
Slot/FP         Min. Forwarding Capacity      Max. Forwarding Capacity
-------------------------------------------------------------------------------
1/1             69%                           71%
1/2             69%                           71%
1/5             100%                          100%
1/6             100%                          100%
3/1             100%                          100%
3/5             69%                           69%
3/6             69%                           69%
5/1             69%                           71%
5/2             69%                           71%
5/3             69%                           71%
5/5             69%                           71%
5/6             69%                           71%
5/7             69%                           71%
5/8             69%                           71%
A               100%                          100%
B               100%                          100%
-------------------------------------------------------------------------------
sfm-loss-threshold: 2
===============================================================================
```

Output Example show system switch-fabric high-bandwidth-multicast

```
*A:PE-1# show system switch-fabric high-bandwidth-multicast
===============================================================================
Switch Fabric
===============================================================================
         Cap:               Planes:
Slot/FP  Min  Max  Hbm Grp  Hi | Lo
-------------------------------------------------------------------------------
 2/1     100% 100% No  0     1  0  2  3  4  5  6  7  8  9 10 11 12 13 14 | 15
 5/1     100% 100% No  0    17 16 18 19 20 21 22 23 24 25 26 27 28 29 30 | 31
 A       100% 100% No  0    40 | 40
 B       100% 100% No  0    24 | 24
===============================================================================
*A:PE-1#
```

Table 649: Output fields: switch fabric high bandwidth multicast describes the switch fabric high-bandwidth multicast output fields.

Table 649: Output fields: switch fabric high bandwidth multicast

Label	Description
Slot/FP	Displays either the FP (uniquely identified by an IOM number and FP number) or a CPM letter.
Cap Min	Displays the minimum forwarding capacity of the slot and XMA/MDA as a percentage.
Cap Max	Displays the maximum forwarding capacity of the slot and XMA/MDA as a percentage.
Hbm	Displays high-bandwidth multicast traffic information, which can be used to avoid overlapping planes on FPs that have a lot of multicast ingress traffic.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Grp	Displays high-bandwidth multicast groups for each FP.
Planes Hi | Lo	Displays plane information. When 2 FPs are in a different group, no plane overlap occurs.

Output Example show system switch-fabric failure-recovery (7750 SR)

```
A:Dut-B# show system switch-fabric failure-recovery
===============================================================================
Automatic Switch Fabric Failure Recovery
===============================================================================
Admin state : enabled
Oper state  : recoveryInProgress
-------------------------------------------------------------------------------
SFM Slot            State               Time
-------------------------------------------------------------------------------
1                   pending             02/11/2021 21:05:45
2                   inProgress          02/11/2021 21:05:45
===============================================================================
A:Dut-B#
```

Table 650: Output fields: switch fabric failure recovery describes the automatic switch fabric recovery process output fields.

Table 650: Output fields: switch fabric failure recovery

Label	Description
Admin State	Displays the administrative state, enabled or disabled.
Oper State	Displays the current operational state: • disabled • holdDown • ready • recoveryInProgress • detectedDisabled • detectedHoldDown • detectedXRS40Migration • detectedSFMUpgradePending
SFM Slot	Displays the fabric slot within a chassis in the system.
State	Displays the stage of the automatic switch fabric recovery process.
Time	Displays the date and time of the stage.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

switch-fabric

Syntax

switch-fabric

Context

[Tree] (tools>perform>system switch-fabric)

Full Context

tools perform system switch-fabric

Description

This command performs switch fabric operations.

Platforms

7450 ESS, 7750 SR-7, 7750 SR-12e, 7950 XRS

25.30 switch-path

switch-path

Syntax

switch-path [**lsp** *lsp-name*] [**path** *path-name*]

Context

[Tree] (tools>perform>router>mpls switch-path)

Full Context

tools perform router mpls switch-path

Description

Use this command to move from a standby (or an active secondary) to another standby of the same priority. If a new standby path with a higher priority or a primary path comes up after the **tools perform** command is executed, the path re-evaluation command runs and the path is moved to the path specified by the outcome of the re-evaluation.

Parameters

lsp-name

Specifies an existing LSP name, up to 64 characters in length.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

path-name

Specifies the path name to which to move the specified LSP.

Platforms

All

25.31 sync

sync

Syntax

sync [**peer** *ip-address*]

sync peer *ip-address* **detail**

sync [**peer** *ip-address*] **statistics**

Context

[Tree] (show>redundancy>multi-chassis sync)

Full Context

show redundancy multi-chassis sync

Description

This command displays synchronization information.

Parameters

ip-address

Shows peer information about the specified IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

detail

Displays detailed peer information.

statistics

Displays peer statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

See the following sections for output example:

- Multi-Chassis Sync Output Example
- Redundancy Multi-Chassis Sync Peer Output Example
- Output Example: Redundancy Multi-Chassis Sync Peer Detail

The following output is an example of multi-chassis sync information, and Table 651: Output fields: redundancy multi-chassis sync describes the output fields.

Multi-Chassis Sync Output Example

```
*A:subscr_mgt_2# show redundancy multi-chassis sync
===============================================================================
Multi-chassis Peer Table
===============================================================================
Peer
-------------------------------------------------------------------------------
Peer IP Address         : 10.10.10.20
Description             : Mc-Lag peer 10.10.10.20
Authentication          : Disabled
Source IP Address       : 0.0.0.0
Admin State             : Enabled
-------------------------------------------------------------------------------
Sync-status
-------------------------------------------------------------------------------
Client Applications     : SUBMGMT
Sync Admin State        : Up
Sync Oper State         : Up
DB Sync State           : inSync
Num Entries             : 1
Lcl Deleted Entries     : 0
Alarm Entries           : 0
Rem Num Entries         : 1
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
A:subscr_mgt_2#
```

Table 651: Output fields: redundancy multi-chassis sync

Label	Description
Peer IP Address	Displays the multi-chassis redundancy peer.
Description	The text string describing the peer.
Authentication	If configured, displays the authentication key used between this node and the multi-chassis peer.
Source IP Address	Displays the source address used to communicate with the multi-chassis peer.
Admin State	Displays the administrative state of the peer.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Client Applications	Displays the list of client applications synchronized between SRs.
Sync Admin State	Displays the administrative state of the synchronization.
Sync Oper State	Displays the operation state of the synchronization.
DB Sync State	Displays the database state of the synchronization.
Num Entries	Displays the number of entries on local router.
Lcl Deleted Entries	Displays the number of deleted entries made at the local router.
Alarm Entries	Displays the alarm entries on the local router.
Rem Num Entries	Displays the number of entries on the remote router.
Rem Lcl Deleted Entries	Displays the number of locally deleting entries made by the remote router.
Rem Alarm Entries	Displays alarm entries on the remote router.

The following output is an example of multi-chassis sync peer information, and Table 652: Output fields: redundancy multi-chassis sync peer describes the output fields.

Redundancy Multi-Chassis Sync Peer Output Example

```
*A:subscr_mgt_2# show redundancy multi-chassis sync peer 10.10.10.20
===============================================================================
Multi-chassis Peer Table
===============================================================================
Peer
-------------------------------------------------------------------------------
Peer IP Address         : 10.10.10.20
Description             : Mc-Lag peer 10.10.10.20
Authentication          : Disabled
Source IP Address       : 0.0.0.0
Admin State             : Enabled
-------------------------------------------------------------------------------
Sync-status
-------------------------------------------------------------------------------
Client Applications     : SUBMGMT
Sync Admin State        : Up
Sync Oper State         : Up
DB Sync State           : inSync
Num Entries             : 1
Lcl Deleted Entries     : 0
Alarm Entries           : 0
Rem Num Entries         : 1
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
MCS Application Stats
===============================================================================
Application             : igmp
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : igmpSnooping
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : subMgmt
Num Entries             : 1
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 1
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : srrp
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
*A:subscr_mgt_2#
```

Table 652: Output fields: redundancy multi-chassis sync peer

Label	Description
Peer IP Address	Displays the multi-chassis redundancy peer.
Description	The text string describing the peer.
Authentication	If configured, displays the authentication key used between this node and the multi-chassis peer.
Source IP Address	Displays the source address used to communicate with the multi-chassis peer.
Admin State	Displays the administrative state of the peer.
Client Applications	Displays the list of client applications synchronized between SRs.
Sync Admin State	Displays the administrative state of the synchronization.
Sync Oper State	Displays the operation state of the synchronization.
DB Sync State	Displays the database state of the synchronization.
Num Entries	Displays the number of entries on local router.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Lcl Deleted Entries	Displays the number of deleted entries made at the local router.
Alarm Entries	Displays the alarm entries on the local router.
Rem Num Entries	Displays the number of entries on the remote router.
Rem Lcl Deleted Entries	Displays the number of locally deleting entries made by the remote router.
Rem Alarm Entries	Displays alarm entries on the remote router.

The following output is an example of multi-chassis sync detail information, and Table 653: Output fields: redundancy multi-chassis sync peer detail describes the output fields.

Output Example: Redundancy Multi-Chassis Sync Peer Detail

```
*A:subscr_mgt_2# show redundancy multi-chassis sync peer 10.10.10.20 detail
===============================================================================
Multi-chassis Peer Table
===============================================================================
Peer
-------------------------------------------------------------------------------
Peer IP Address         : 10.10.10.20
Description             : Mc-Lag peer 10.10.10.20
Authentication          : Disabled
Source IP Address       : 0.0.0.0
Admin State             : Enabled
-------------------------------------------------------------------------------
Sync-status
-------------------------------------------------------------------------------
Client Applications     : SUBMGMT
Sync Admin State        : Up
Sync Oper State         : Up
DB Sync State           : inSync
Num Entries             : 1
Lcl Deleted Entries     : 0
Alarm Entries           : 0
Rem Num Entries         : 1
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
MCS Application Stats
===============================================================================
Application             : igmp
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : igmpSnooping
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : subMgmt
Num Entries             : 1
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 1
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
-------------------------------------------------------------------------------
Application             : srrp
Num Entries             : 0
Lcl Deleted Entries     : 0
Alarm Entries           : 0
-------------------------------------------------------------------------------
Rem Num Entries         : 0
Rem Lcl Deleted Entries : 0
Rem Alarm Entries       : 0
===============================================================================
Ports synced on peer 10.10.10.20
===============================================================================
Port/Encap                    Tag
-------------------------------------------------------------------------------
lag-1                         test123
===============================================================================
*A:subscr_mgt_2#
```

Table 653: Output fields: redundancy multi-chassis sync peer detail

Label	Description
Peer IP Address	Displays the multi-chassis redundancy peer.
Description	The text string describing the peer.
Authentication	If configured, displays the authentication key used between this node and the multi-chassis peer.
Source IP Address	Displays the source address used to communicate with the multi-chassis peer.
Admin State	Displays the administrative state of the peer.
Client Applications	Displays the list of client applications synchronized between routers.
Sync Admin State	Displays the administrative state of the synchronization.
Sync Oper State	Displays the operation state of the synchronization.
DB Sync State	Displays the database state of the synchronization.
Num Entries	Displays the number of entries on local router.
Lcl Deleted Entries	Displays the number of deleted entries made at the local router.
Alarm Entries	Displays the alarm entries on the local router.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Rem Num Entries	Displays the number of entries on the remote router.
Rem Lcl Deleted Entries	Displays the number of locally deleting entries made by the remote router.
Rem Alarm Entries	Displays alarm entries on the remote router.

25.32 sync-database

sync-database

Syntax

sync-database [**peer** *ip-address*] [**port** *port-id* | *lag-id*] [**sync-tag** *sync-tag*] [**application** *application*] [**detail**] [**type** *type*]

sync-database [**peer** *ip-address*] [**sdp** *sdp-id*] [**sync-tag** *sync-tag*] [**application** *application*] [**detail**] [**type** *type*]

Context

[Tree] (tools>dump>redundancy>multi-chassis sync-database)

Full Context

tools dump redundancy multi-chassis sync-database

Description

This command dumps multi-chassis sync database information.

Parameters

ip-address

Dumps the specified address of the multi-chassis peer.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

port-id

Dumps the specified port ID of the multi-chassis peer.

Values

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

port-id, *lag-id*	slot/mda/port		
	lag-id	lag-*id*	
		lag	keyword
		id	1 to 800
	pw-id	pw-*id*	
		pw	keyword
		id	1 to 32767

lag-id

Dumps the specified Link Aggregation Group (LAG) on this system.

Values

port-id, *lag-id*	slot/mda/port		
	lag-id	lag-*id*	
		lag	keyword
		id	1 to 800
	pw-id	pw-*id*	
		pw	keyword
		id	1 to 32767

sync-tag

Dumps the synchronization tag used while synchronizing this port with the multi-chassis peer, up to 32 characters in length.

application

Dumps the specified application information that was synchronized with the multi-chassis peer.

Values

dhcp-server	local DHCP server
igmp	internet group management protocol
igmp-snooping	IGMP snooping
mc-ring	multi-chassis ring
l2tp	L2TP
mld	multicast listener discovery
mld-snooping	multicast listener discovery snooping
srrp	simple router redundancy protocol

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sub-host-trk	subscriber host tracking
sub-mgmt-ipoe	subscriber management for IPoE
sub-mgmt-pppoe	subscriber management for PPPoE
mc-ipsec	multi-chassis IPsec
python	Python cache
diameter-proxy	diameter proxy
pim-snpg-sap	protocol independent multicast snooping for SAP
pim-snpg-sdp	protocol independent multicast snooping for SDP

detail

Displays detailed information.

type

Displays information for the specified type.

Values alarm-deleted, local-deleted, global-deleted, omcr-standby, omcr-alarmed

sdp-id

Displays information for the specified SDP ID.

Values 1 to 32767

Platforms

All

Output

The following output is an example of sync database information.

Output Example

```
A:Dut-C# tools dump redundancy multi-chassis sync-database application

 <ip-address>         : a.b.c.d
 <port-id|lag-id>     : slot/mda/port or lag-<lag-id>
 <sync-tag>           : [32 chars max]
 <application>        : dhcp-server    - local dhcp server
                        igmp           - internet group management protocol
                        igmp-snooping  - igmp-snooping
                        mc-ring        - multi-chassis ring
                        mld            - multicast listener discovery
                        mld-snooping   - multicast listener discovery-snooping
                        srrp           - simple router redundancy protocol
                        sub-host-trk   - subscriber host tracking
                        sub-mgmt-ipoe  - subscriber management for IPoE
                        sub-mgmt-pppoe - subscriber management for PPPoE
                        mc-ipsec       - multi-chassis IPsec
 <detail>             :  - displays detailed information
 <type>               : alarm-deleted|local-deleted|global-deleted|
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                        omcr-standby|omcr-alarmed
```

sync-database

Syntax

sync-database peer *ip-address* **all application** *application*

sync-database peer *ip-address* **port** { *port-id* | *lag-id*} [**sync-tag** *sync-tag*] **application** *application*

sync-database peer *ip-address* **sdp** *sdp-id* [**sync-tag** *sync-tag*] **application** *application*

sync-database peer *ip-address* **sync-tag** *sync-tag* **application** *application*

Context

[Tree] (clear>redundancy>multi-chassis sync-database)

Full Context

clear redundancy multi-chassis sync-database

Description

This command clears multi-chassis sync database information.

Parameters

ip-address

Clears the specified address of the multi-chassis peer.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x – [0 to FFFF] H
- d – [0 to 255] D

port-id

Clears the specified port ID of the multi-chassis peer.

Values *slot*/*mda*/*port*

lag-id

Clears the specified Link Aggregation Group (LAG) on this system.

Values lag-*lag-id*

all

Clears all ports and synchronization tags.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sync-tag

Clears the synchronization tag used while synchronizing this port with the multi-chassis peer. The synchronization tag can be up to 32 characters.

sdp-id

Specifies the SDP identifier.

Values 1 to 32767

application

Clears the specified application information that was synchronized with the multi-chassis peer.

Values The following are values for the 7750 SR and 7950 XRS:

all:	All supported applications
dhcp-server:	local dhcp server
igmp:	internet group management protocol
igmp-snooping:	igmp-snooping
mc-ring:	multi-chassis ring
mld-snooping:	multicast listener discovery-snooping
srrp:	simple router redundancy protocol
sub-host-trk	subscriber host tracking
sub-mgmt:	subscriber management

Values The following are values for the 7450 ESS:

all	All supported applications
igmp-snooping	igmp-snooping
mc-ring	multi-chassis ring
mld-snooping	multicast listener discovery-snooping
sub-host-trk	subscriber host tracking
sub-mgmt	subscriber management

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

25.33 sync-database-reconcile

sync-database-reconcile

Syntax

sync-database-reconcile [**peer** *ip-address*] [**port** *port-id* | *lag-id* [**sync-tag** *sync-tag*]] [**application** *application*]

sync-database-reconcile [**peer** *ip-address*] [**sdp** *sdp-id* [**sync-tag** *sync-tag*]] [**application** *application*]

Context

[Tree] (tools>perform>redundancy>multi-chassis sync-database-reconcile)

Full Context

tools perform redundancy multi-chassis sync-database-reconcile

Description

This command provides the parameters to reconcile MCS database entries.

Parameters

ip-address

Specifies the IP address (in the form of a.b.c.d).

port-id

Specifies the port ID in the slot/MDA/port format.

lag-id

Specifies the LAG ID.

Values lag-id: **lag**-*id*
lag: keyword
id: 1 to 200

syn-tag

Specifies the syn tag up to 32 characters.

application

Specifies the application.

Values dhcp-server — Specifies the local DHCP server
igmp — Specifies the Internet group management protocol
igmp-snooping — Specifies igmp-snooping
mc-ring — Specifies multi-chassis ring
l2tp — Specifies L2TP

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

mld — Specifies multicast listener discovery

mld-snooping — Specifies multicast listener discovery-snooping

srrp — Specifies simple router redundancy protocol

sub-host-trk — Specifies subscriber host tracking

sub-mgmt-ipoe — Specifies subscriber management for IPoE

sub-mgmt-pppoe — Specifies subscriber management for PPPoE

mc-ipsec — Specifies multi-chassis IPsec

python — Specifies Python cache

diameter-proxy — Specifies diameter proxy

pim-snpg-sap — Specifies protocol independent multicast snooping for SAPs

pim-snpg-sdp — Specifies protocol independent multicast snooping for SDPs

sdp-id

Specifies the SDP ID.

Values 1 to 17407

Platforms

All

25.34 sync-if-timing

sync-if-timing

Syntax

sync-if-timing

Context

[Tree] (show>system>satellite>eth-sat sync-if-timing)

Full Context

show system satellite eth-sat sync-if-timing

Description

This command displays synchronous interface timing operational information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of Ethernet satellite synchronous interface timing information where it is the default case of using the first two uplink ports as sources into the satellite. Table 654: Output fields: system satellite timing describes the fields.

```
show system satellite eth-sat 1 sync-if-timing

===============================================================================
Satellite esat-1 Synchronous Interface Timing Operational Information
===============================================================================
System Status                     : Master Locked
System Quality Level              : eec1
Quality Level Selection           : Enabled
Current Frequency Offset (ppm)    : +0
Operating mode                    : automatic

Reference Input 1
    Admin Status                  : up
    Rx Quality Level              : eec1
    Qualified For Use             : yes
    Selected For Use              : yes
    Source Port                   : esat-1/1/c33/u1
Reference Input 2
    Admin Status                  : up
    Rx Quality Level              : eec1
    Qualified For Use             : yes
    Selected For Use              : no
        Not Selected Due To       : on standby
    Source Port                   : esat-1/1/c35/u1
===============================================================================
```

The following output is an example of Ethernet satellite synchronous interface timing information and Table 654: Output fields: system satellite timing describes the fields.

```
A:node-2# show system satellite eth-sat 1 sync-if-timing

===============================================================================
Satellite esat-1 Synchronous Interface Timing Operational Information
===============================================================================
System Status                     : Master Holdover
System Quality Level              : st3
Quality Level Selection           : Enabled
Current Frequency Offset (ppm)    : +0
Operating mode                    : manual

Reference Input 1
    Admin Status                  : up
    Rx Quality Level              : eec1
    Qualified For Use             : yes
    Selected For Use              : no
        Not Selected Due To       : disabled
    Source Port                   : esat-1/1/c1/1

Reference Input 2
    Admin Status                  : up
    Rx Quality Level              : eec1
    Qualified For Use             : yes
    Selected For Use              : yes
    Source Port                   : estat-1/1/c35/u1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 654: Output fields: system satellite timing

Label	Description
System Status	The system status
System Quality Level	The quality level being generated by the system clock
Quality Level Selection	The quality level selection status
Current Frequency Offset (ppm)	The offset that is applied within the central clock to align the local oscillator to the frequency of the selected input reference. The units for this value are parts per million (ppm). This value should not be misinterpreted as an indicator of the frequency accuracy of the output of the central clock. If the central clock is locked to a true Primary Reference Clock or Stratum 1 frequency reference, this value should report a number within the range [-5, +5] ppm.
Operating mode	The operating mode of the clock: automatic – no user configuration has been made to the clock configuration of the satellite, and it is operating with the default configuration manual – the user has modified the configuration in some way and all functionality must now be manually controlled
Reference Input 1/2	
Admin Status	down — Indicates **ref1** or **ref2** configuration is administratively shutdown up — Indicates **ref1** or **ref2** configuration is administratively enabled diag — Indicates the reference has been forced using the **force-reference** command
Rx Quality Level	The QL value received on the interface: • inv — SSM received on the interface indicates an invalid code for the interface type • unknown — No QL value was received on the interface
Quality Level Override	Indicates whether the QL value used to determine the reference was configured directly by the user
Qualified for Use	Indicates whether the reference has been qualified to be used as a source of timing for the node
Not Qualified Due To	The reason why the reference has not been qualified

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Selected for Use	Indicates whether the method is presently selected
Not Selected Due To	The reason why the method is not selected: • disabled • not qualified • previous failure • LOF • AIS-L • validating • on standby • ssm quality
Source Port	The source port for the reference

sync-if-timing

Syntax

sync-if-timing [*cpm-slot*]

Context

[Tree] (show>system sync-if-timing)

Full Context

show system sync-if-timing

Description

This command displays synchronous interface timing operational information.

Parameters

cpm-slot

Specifies the system CPM slot.

Values standby, A, B

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of sync-if-timing information, and Table 655: Output fields: system timing describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example
The following system example shows:

- **sync-if timing**, or
- **sync-if-timing** "A" when the SETS reference on the active CPM-A locks to BITS A, or
- **sync-if-timing** "B" when the SETS reference on the active CPM-B locks to BITS A

Note:
The following output applies only to the 7750 SR-1e/2e/3e and 7950 XRS-16/20/40 platforms.

```
*A:Dut-B# show system sync-if-timing or show system sync-if-timing "A"
===============================================================================
System Interface Timing Operational Info
===============================================================================
System Status CPM A                : Master Locked
    Reference Input Mode           : Revertive
    Quality Level Selection        : Disabled
    Reference Selected             : BITS A
    System Quality Level           : prc
    Current Frequency Offset (ppm) : +0
    Input Minimum Quality Level    : st3
    Wait to Restore Timer          : Disabled

Reference Order                    : bits ref1 ref2

Reference Input 1
    Admin Status                   : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Source Port                    : 1/1/5

Reference Input 2
    Admin Status                   : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Source Port                    : 3/1/5

Reference BITS A
    Input Admin Status             : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : Yes
    Interface Type                 : E1
    Framing                        : PCM31 CRC
    Line Coding                    : HDB3
    SSM Bit                        : 8
    Output Admin Status            : up
    Output Minimum Quality Level   : st2
    Output Source                  : line reference
    Output Reference Selected      : ref1
    Output Squelch                 : Disabled
    Tx Quality Level               : prc
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Reference BITS B
    Input Admin Status             : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Interface Type                 : E1
    Framing                        : PCM31 CRC
    Line Coding                    : HDB3
    SSM Bit                        : 8
    Output Admin Status            : up
    Output Minimum Quality Level   : st2
    Output Source                  : line reference
    Output Reference Selected      : ref1
    Output Squelch                 : Disabled
    Tx Quality Level               : prc
===============================================================================
```

The following system example shows:

- **sync-if timing** standby, or
- **sync-if-timing** "B" when the SETS reference on the standby CPM-B locks to Mate CPM (BITS A), or
- **sync-if-timing** "A" when the SETS reference on the standby CPM-A locks to Mate CPM (BITS A)

Note:
The following output applies only to the 7750 SR-1e/2e/3e and 7950 XRS-16/20/40 platforms.

```
-------------------------------------------------------------------------------
*A:Dut-B# show system sync-if-timing standby or show system sync-if-timing "B"
===============================================================================
System Interface Timing Operational Info
===============================================================================
System Status CPM B                : Master Locked
    Reference Input Mode           : Revertive
    Quality Level Selection        : Disabled
    Reference Selected             : Mate CPM (BITS A)
    System Quality Level           : prc
    Current Frequency Offset (ppm) : +0sync-if-timing "A
    Input Minimum Quality Level    : st3
    Wait to Restore Timer          : Disabled

Reference Order                    : bits ref1 ref2

Reference Mate CPM
    Qualified For Use              : Yes
    Selected For Use               : Yes

Reference Input 1
    Admin Status                   : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Source Port                    : 1/1/5

Reference Input 2
    Admin Status                   : up
    Rx Quality Level               : prc
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Source Port                    : 3/1/5

Reference BITS A
    Input Admin Status             : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Interface Type                 : E1
    Framing                        : PCM31 CRC
    Line Coding                    : HDB3
    SSM Bit                        : 8
    Output Admin Status            : up
    Output Minimum Quality Level   : st2
    Output Source                  : line reference
    Output Reference Selected      : ref1
    Output Squelch                 : Disabled
    Tx Quality Level               : prc

Reference BITS B
    Input Admin Status             : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Interface Type                 : E1
    Framing                        : PCM31 CRC
    Line Coding                    : HDB3
    SSM Bit                        : 8
    Output Admin Status            : up
    Output Minimum Quality Level   : st2
    Output Source                  : line reference
    Output Reference Selected      : ref1
    Output Squelch                 : Disabled
    Tx Quality Level               : prc

===============================================================================
```

The following system example shows:

- **sync-if timing**, or
- **sync-if-timing** "A” when the SETS reference on the active CPM-A locks to BITS B, or
- **sync-if-timing** "B” when the SETS reference on the active CPM-B locks to BITS B

Note:
The following output applies only to the 7750 SR-1e/2e/3e and 7950 XRS-16/20/40 platforms.

```
-------------------------------------------------------------------
*A:Dut-B# show system sync-if-timing or show system sync-if-timing "A"
===============================================================================
System Interface Timing Operational Info
===============================================================================
System Status CPM A                : Master Locked
    Reference Input Mode           : Non-revertive
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Quality Level Selection        : Disabled
    Reference Selected             : BITS B
    System Quality Level           : prc
    Current Frequency Offset (ppm) : +0
    Input Minimum Quality Level    : st3
    Wait to Restore Timer          : Disabled

Reference Order                    : bits ref1 ref2

Reference Input 1
    Admin Status                   : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Source Port                    : 1/1/5

Reference Input 2
    Admin Status                   : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     on standby
    Source Port                    : 3/1/5

Reference BITS A
    Input Admin Status             : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : No
        Not Selected Due To        :     previous failure
    Interface Type                 : E1
    Framing                        : PCM31 CRC
    Line Coding                    : HDB3
    SSM Bit                        : 8
    Output Admin Status            : up
    Output Minimum Quality Level   : st2
    Output Source                  : line reference
    Output Reference Selected      : ref1
    Output Squelch                 : Disabled
    Tx Quality Level               : prc

Reference BITS B
    Input Admin Status             : up
    Rx Quality Level               : prc
    Quality Level Override         : none
    Qualified For Use              : Yes
    Selected For Use               : Yes
    Interface Type                 : E1
    Framing                        : PCM31 CRC
    Line Coding                    : HDB3
    SSM Bit                        : 8
    Output Admin Status            : up
    Output Minimum Quality Level   : st2
    Output Source                  : line reference
    Output Reference Selected      : ref1
    Output Squelch                 : Disabled
    Tx Quality Level               : prc
===============================================================================
```

The following system example shows:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- **sync-if timing** standby, or
- **sync-if-timing** "B" when the SETS reference on the standby CPM-B locks to Mate CPM (BITS B), or
- **sync-if-timing** "A" when the SETS reference on the standby CPM-A locks to Mate CPM (BITS B)

Note:
The following output applies only to the 7750 SR-1e/2e/3e and 7950 XRS-16/20/40 platforms.

```
-------------------------------------------------------------------
*A:Dut-B# show system sync-if-timing standby or show system sync-if-timing "B"
===============================================================================
System Interface Timing Operational Info
===============================================================================
System Status CPM B               : Master Locked
    Reference Input Mode          : Non-revertive
    Quality Level Selection       : Disabled
    Reference Selected            : Mate CPM (BITS B)
    System Quality Level          : prc
    Current Frequency Offset (ppm) : +0
    Input Minimum Quality Level   : st3
    Wait to Restore Timer         : Disabled

Reference Order                   : bits ref1 ref2

Reference Mate CPM
    Qualified For Use             : Yes
    Selected For Use              : Yes

Reference Input 1
    Admin Status                  : up
    Rx Quality Level              : prc
    Quality Level Override        : none
    Qualified For Use             : Yes
    Selected For Use              : No
        Not Selected Due To       :     on standby
    Source Port                   : 1/1/5

Reference Input 2
    Admin Status                  : up
    Rx Quality Level              : prc
    Quality Level Override        : none
    Qualified For Use             : Yes
    Selected For Use              : No
        Not Selected Due To       :     on standby
    Source Port                   : 3/1/5

Reference BITS A
    Input Admin Status            : up
    Rx Quality Level              : prc
    Quality Level Override        : none
    Qualified For Use             : Yes
    Selected For Use              : No
        Not Selected Due To       :     previous failure
    Interface Type                : E1
    Framing                       : PCM31 CRC
    Line Coding                   : HDB3
    SSM Bit                       : 8
    Output Admin Status           : up
    Output Minimum Quality Level  : st2
    Output Source                 : line reference
    Output Reference Selected     : ref1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Output Squelch                : Disabled
    Tx Quality Level              : prc

Reference BITS B
    Input Admin Status            : up
    Rx Quality Level              : prc
    Quality Level Override        : none
    Qualified For Use             : Yes
    Selected For Use              : No
        Not Selected Due To       :     on standby
    Interface Type                : E1
    Framing                       : PCM31 CRC
    Line Coding                   : HDB3
    SSM Bit                       : 8
    Output Admin Status           : up
    Output Minimum Quality Level  : st2
    Output Source                 : line reference
    Output Reference Selected     : ref1
    Output Squelch                : Disabled
    Tx Quality Level              : prc

===============================================================================
```

Table 655: Output fields: system timing

Label	Description
System Status CPM A/B	Indicates the present status of the synchronous timing equipment subsystem (SETS). Not Present — Only shown on systems without central clocks Master Freerun — The clock is in free-run because it hasn't had a qualified input reference to lock to Master Holdover — The clock was locked to an input reference but has lost all qualified input references and is in holdover. Master Locked — The clock is locked to an input reference Acquiring — The clock is training to a qualified input reference.
Reference Input Mode	Revertive — Indicates that for a re-validated or a newly validated reference source which has a higher priority than the currently selected reference has reverted to the new reference source. Non-revertive — The clock cannot revert to a higher priority clock if the current clock goes offline.
Quality Level Selection	Indicates whether the ql-selection command has been enabled or disabled. If this command is enabled, then the reference is selected first using the QL value, then by the priority reference order. If this command is not enabled, then the reference is selected by the priority reference order.
Reference Selected	Indicates which reference has been selected: • ref1, ref2 — (for all chassis) • BITS A, BITS B:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	– 7450 ESS-7/12 – 7750 SR-7/12 – 7750 SR-12e – 7750 SR-1e/2e/3e – 7750 SR-a4/8 – 7950 XRS-16/20 – 7950 XRS-40 • BITS C, BITS D - (7950 XRS-40)
	• Mate CPM (BITS A), Mate CPM (BITS B) — **show>system>sync-if-timing> standby**: – 7450 ESS-7/12 – 7750 SR-7/12 – 7750 SR-12e – 7750 SR-1e/2e/3e – 7750 SR-a4/8 – 7950 XRS-16/20 – 7950 XRS-40 • Mate CPM (BITS A), Mate CPM (BITS B) — **show>system>sync-if-timing**: – 7450 ESS-7/12 – 7750 SR-7/12 – 7750 SR-12e – 7750 SR-a4/8 • Mate CPM (none) - **show>system>sync-if-timing>standby** when standby locked to active which is freerun or holdover - (for all chassis) • Mate CPM (ref1), Mate CPM (ref2) - **show>system>sync-if-timing>standby** when standby locked to active which is locked to ref1 or ref2: – 7750 SR-7/12 – 7450 ESS-7/12 – 7750 SR-12e – 7750 SR-1e/2e/3e – 7750 SR-a4/8 – 7950 XRS-16/20/40

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
System Quality Level	Indicates the quality level being generated by the system clock.
Current Frequency Offset	This value indicates the offset that is applied within the central clock to align the local oscillator to the frequency of the selected input reference. The units for this value are parts per million (ppm). This value should not be misinterpreted as an indicator of the frequency accuracy of the output of the central clock. If the central clock is locked to a true Primary Reference Clock or Stratum 1 frequency reference, this value should report a number within the range [-5, +5] ppm.
Input Minimum Quality Level	The configured minimum acceptable QL to consider for use by the central clock.
Wait to Restore Timer	The configured timeout to use for the Wait to Restore timer.
Reference Order	ref1, ref2, bits — Indicates that the priority order of the timing references.
Reference Mate CPM	Data within this block represents the status of the timing reference provided by the Mate CPM. This will be the BITS input from the standby CPM.
Admin Status	down — The **ref1** or **ref2** configuration is administratively shutdown. up — The **ref1** or **ref2** configuration is administratively enabled. diag — Indicates the reference has been forced using the force-reference command.
Quality Level Override	Indicates whether the QL value used to determine the reference was configured directly by the user.
Rx Quality Level	Indicates the QL value received on the interface. • inv — SSM received on the interface indicates an invalid code for the interface type. • unknown — No QL value was received on the interface.
Qualified for Use	Indicates whether the reference has been qualified to be used as a source of timing for the node.
Not Qualified Due To	Indicates the reason why the reference has not been qualified: • disabled • LOS • OOPIR • OOF

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Selected for Use	Indicates whether the method is presently selected.
Not Selected Due To	Indicates the reason why the method is not selected: • disabled • not qualified • previous failure • LOF • AIS-L • validating • on standby • ssm quality
Source Port	Identifies the Source port for the reference.
Interface Type	The interface type configured for the BITS port.
Framing	The framing configured for the BITS port.
Line Coding	The line coding configured for the BITS port.
Line Length	The line length value of the BITS output.
Output Admin Status	down — The BITS output is administratively shutdown. up — The BITS output is administratively enabled.
Output Minimum Quality Level	The configured minimum acceptable QL to use for the BITSout signal.
Output Source	The source to be used to provide the signal on the BITS output port. line reference — unfiltered recovered line reference. internal clock — filtered node clock output.
Output Reference Selected	The reference selected as the source for the BITS output signal (ref1, ref2, or PTP).
Output Squelch	Indicates whether the squelch function for BITSout is enabled or disabled.
TX Quality Level	QL value for BITS output signal.

The following output is an example of synchronization interface timing information, and Table 656: Output fields: synchronization interface timing describes the output fields.

The following output is an example of a node locked to the active BITS input and directing the signal on ref1 to the BITS output.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
*A:sasr_dutb>show>system# sync-if-timing

===============================================================================
System Interface Timing Operational Info
===============================================================================
System Status CPM A                : Master Free Run
    Reference Input Mode           : Non-revertive
    Quality Level Selection        : Disabled
    Reference Selected             : none
    System Quality Level           : st3
    Current Frequency Offset       : +0 ppb
    Input Minimum Quality Level    : none
    Wait to Restore Timer          : Disabled

Reference Order                    : bits1 ref1 ref2 ptp

Reference Mate CPM
    Qualified For Use              : No
    Not Qualified Due To           : LOS
    Selected For Use               : No
    Not Selected Due To            : not qualified

Reference Input 1
    Admin Status                   : down
    Rx Quality Level               : unknown
    Quality Level Override         : none
    Qualified For Use              : No
      Not Qualified Due To         :   disabled
    Selected For Use               : No
      Not Selected Due To          :   disabled
    Source Port                    : None

Reference Input 2
    Admin Status                   : down
    Rx Quality Level               : unknown
    Quality Level Override         : none
    Qualified For Use              : No
      Not Qualified Due To         :     disabled
    Selected For Use               : No
        Not Selected Due To        :     disabled
    Source Port                    : None

Reference BITS 1A
    Input Admin Status             : down
    Rx Quality Level               : stu
    Quality Level Override         : none
    Qualified For Use              : No
        Not Qualified Due To       :     disabled
    Selected For Use               : No
        Not Selected Due To        :     disabled
    Interface Type                 : DS1
    Framing                        : ESF
    Line Coding                    : B8ZS
    Line Length                    : 0-110ft
    Output Admin Status            : down
    Output Source                  : internal clock
    Output Reference Selected      : none
    Tx Quality Level               : N/A

Reference PTP
    Admin Status                   : down
    Rx Quality Level               : unknown
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Quality Level Override         : none
    Qualified For Use              : No
        Not Qualified Due To       :     disabled
    Selected For Use               : No
        Not Selected Due To        :     disabled
===============================================================================
*A:sasr_dutb>show>system#
```

Table 656: Output fields: synchronization interface timing

Label	Description
System Status CPM A	Indicates the system status of CPM A
Current Frequency Offset	Displays frequency offset in parts per billion (ppb)
Reference Input Mode	Indicates the reference input mode
Reference Order	Indicates the reference order
Reference Input 1	Displays information about Reference Input 1
Admin Status	Indicates the Admin status of Reference Input 1 down — Indicates the **ref1** or **ref2** configuration is administratively shutdown up — Indicates the **ref1** or **ref2** configuration is administratively enabled diag — Indicates the reference has been forced using the force-reference command
Qualified For Use	Indicates if the Reference Input 1 is qualified for use
Selected For Use	Indicates if Reference Input 1 is selected for use
Source Port	The source port information
Reference Input 2	Displays information about Reference Input 2
Admin Status	Indicates the Admin status of Reference Input 2 down — Indicates the **ref1** or **ref2** configuration is administratively shutdown up — Indicates the **ref1** or **ref2** configuration is administratively enabled diag — Indicates the reference has been forced using the force-reference command
Qualified For Use	Indicates if the Reference Input 2 is qualified for use
Selected For Use	Indicates if Reference Input 2 is selected for use
Not Selected Due To	Indicates the reason if Reference Input 2 is not selected
Source Port	The source port information

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Interface Type	The interface type configured for the BITS port
Framing	The framing configured for the BITS port
Line Coding	The line coding configured for the BITS port
Line Length	The line length value of the BITS output
Output Admin Status	down — The BITS output is administratively shutdown up — The BITS output is administratively enabled diag — Indicates the BITS output has been forced using the **force-reference** command
Output Reference Selected	The reference selected as the source for the BITS output signal (ref1 or ref2)
TX Quality Level	QL value for BITS output signal
Quality Level Selection	Indicates whether the **ql-selection** command is enabled or disabled If this command is enabled, the reference is selected first using the QL value, then by the priority reference order. If this command is not enabled, the reference is selected by the priority reference order.
Input Minimum Quality Level	Indicates the minimum input quality level that the system clock can generate
System Quality Level	Indicates the quality level that the system clock can generate
Rx Quality Level	Indicates the QL value received on the interface inv — SSM received on the interface indicates an invalid code for the interface type unknown — No QL value was received on the interface
Wait to Restore Timer	Indicates whether the **wait-to-restore-timer** command is enabled or disabled

sync-if-timing

Syntax

sync-if-timing {**ref1** | **ref2** | **bits** | **bitsa** | **bitsb** | **gnss** | **gnssa** | **gnssb** | **synce** | **syncea** | **synceb** }

Context

[Tree] (clear>system sync-if-timing)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear system sync-if-timing

Description

This command individually clears (re-enables) a previously failed reference. As long as the reference is one of the valid options, this command is always executed. An inherent behavior enables the revertive mode which causes a reevaluation of all available references.

The timing options may vary depending on the platform because not all options are supported on all platforms.

This command also clears the Wait-to-Restore state of the reference so that it can be selected.

Parameters

ref1

Clears the first timing reference.

ref2

Clears the second timing reference.

bits

Clears the bits timing reference on the CPM.

bitsa

Clears the BITS port timing reference of CPM A for redundant systems with a BITS port on each CPM.

bitsb

Clears the BITS port timing reference of CPM B for redundant systems with a BITS port on each CPM.

gnss

Clears the GNSS port timing reference. This keyword is only supported on 7750 SR single-slot FP5 platforms.

gnssa

Clears the GNSS port timing reference for the CPM in slot A. This keyword is only supported on 7750 SR-2se platforms.

gnssb

Clears the GNSS port timing reference for the CPM in slot B. This keyword is only supported on 7750 SR-2se platforms.

synce

Clears the SyncE/1588 port timing reference. This keyword is only supported on single slot systems.

syncea

Clears the SyncE/1588 port of the CPM A timing reference. This keyword is only supported on platforms supporting redundant CPM.

synceb

Clears the SyncE/1588 port of the CPM B timing reference. This keyword is only suported on platforms supporting redundant CPM.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

sync-if-timing

Syntax

sync-if-timing *reference*

Context

[Tree] (clear>system>satellite>eth-sat sync-if-timing)

Full Context

clear system satellite eth-sat sync-if-timing

Description

This command clears (re-enables) a previously failed reference on the Ethernet satellite.

Parameters

reference

Specifies to clear the first or second timing reference.

Values ref1, ref2

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

26 s Commands – Part IV

26.1 synchronization

synchronization

Syntax

synchronization

Context

[Tree] (show>redundancy synchronization)

Full Context

show redundancy synchronization

Description

This command displays redundancy synchronization times.

Platforms

All

Output

The following output is an example of redundancy synchronization information, and Table 657: Output fields: synchronization describes the output fields.

Output Example

```
A:ALA-1>show>redundancy# synchronization
===============================================================================
Synchronization Information
===============================================================================
Standby Status               : disabled
Last Standby Failure         : N/A
Standby Up Time              : N/A
Failover Time                : N/A
Failover Reason              : N/A
Boot/Config Sync Mode        : None
Boot/Config Sync Status      : No synchronization
Last Config File Sync Time   : Never
Last Boot Env Sync Time      : Never
===============================================================================
A:ALA-1>show>redundancy#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 657: Output fields: synchronization

Label	Description
Standby Status	Displays the status of the standby CPM.
Last Standby Failure	Displays the timestamp of the last standby failure.
Standby Up Time	Displays the length of time the standby CPM has been up.
Failover Time	Displays the timestamp when the last redundancy failover occurred causing a switchover from active to standby CPM. If there is no redundant CPM card in this system or no failover has occurred since the system last booted, the value will be 0.
Failover Reason	Displays a text string giving an explanation of the cause of the last redundancy failover. If no failover has occurred, an empty string displays.
Boot/Config Sync Mode	Displays the type of synchronization operation to perform between the primary and secondary CPMs after a change has been made to the configuration files or the boot environment information contained in the boot options file (BOF).
Boot/Config Sync Status	Displays the results of the last synchronization operation between the primary and secondary CPMs.
Last Config File Sync Time	Displays the timestamp of the last successful synchronization of the configuration files.
Last Boot Env Sync Time	Displays the timestamp of the last successful synchronization of the boot environment files.

26.2 syslog

syslog

Syntax

syslog [*syslog-id*]

Context

[Tree] (show>log syslog)

Full Context

show log syslog

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays syslog event log destination summary information or detailed information on a specific syslog destination.

Parameters

syslog-id

Displays detailed information on the specified syslog event log destination.

Values 1 to 10

Platforms

All

Output

The following output is an example of syslog information, and Table 658: Output fields: log syslog describes the output fields.

Output example: syslog summary

```
A:node-2# show log syslog

===============================================================================
Syslog Target Hosts
===============================================================================
Syslog Name
Id     Ip Address                                    Port        Sev Level
 Below Level Drop                                Facility    Prefix
   TLS Profile
-------------------------------------------------------------------------------
Sunnyvale Server
1      10.1.1.2                                      514         emergency
 0                                                 local7      yes

Naperville Server
2      192.168.0.10                                  514         info
 0                                                 local7      yes

===============================================================================
```

Table 658: Output fields: log syslog

Label	Description
Syslog Name	The syslog name for the syslog destination
Id	The syslog ID for the syslog destination
Ip Address	The IP address of the syslog target host
Port	The configured port number used when sending Syslog messages
Sev Level	The Syslog message severity level threshold

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Below Level Drop	A count of messages not sent to the syslog collector target because the severity level of the message was above the configured severity. The higher the level, the lower the severity.
Facility	The facility code for messages sent to the syslog target host
Prefix	Yes — A log prefix was prepended to the Syslog message sent to the syslog host No — A log prefix was not prepended to the Syslog message sent to the syslog host
TLS Profile	The TLS profile name

The following output is an example of syslog information, and Table 659: Output fields: log syslog ID describes the output fields.

Output example: syslog ID 1 summary

```
A:node-2# show log syslog 1

===============================================================================
Syslog target 1 name Sunnyvale Server
===============================================================================
IP Address       : 10.1.1.2
Port             : 514
Log-ids          : none
Prefix           : TMNX
Facility         : local7
Severity Level   : info
Prefix           : yes
Below Level Drop : 0
Description      : N/A
TLS Profile Name : N/A
HOSTNAME         : node-2
TIMESTAMP Format : millisecond
Protocol Version : rfc3164
===============================================================================
```

Table 659: Output fields: log syslog ID

Label	Description
IP Address	The IP address of the syslog target host
Port	The configured port number used when sending Syslog messages
Log-ids	Events are directed to this destination
Prefix	The prefix string prepended to the Syslog message
Facility	The facility code for messages sent to the syslog target host
Severity Level	The Syslog message severity level threshold

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Prefix	Yes — A log prefix was prepended to the Syslog message sent to the syslog host No — A log prefix was not prepended to the Syslog message sent to the syslog host
Below Level Drop	A count of the messages not sent to the syslog collector target because the severity level of the message was above the configured severity. The higher the level, the lower the severity.
Description	The syslog server description
TLS Profile Name	The TLS profile name
HOSTNAME	A string-based name used for the syslog HOSTNAME field instead of an IP address
TIMESTAMP Format	The timestamp format used for the syslog TIMESTAMP field: • standard – the standard HH:MM:SS format is being used • millisecond – a format of HH:MM:SS.sss is being used. The 3 additional fractional second digits provide millisecond granularity.
Protocol Version	The version of the syslog protocol being used: • rfc3164 – The RFC 3164 syslog protocol is being used • rfc5424 – The RFC 5424 syslog protocol is being used

syslog

Syntax

syslog

Context

[Tree] (show>service>nat syslog)

Full Context

show service nat syslog

Description

This command enters the connect to display NAT syslog information

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

26.3 syslog-export-policy

syslog-export-policy

Syntax

syslog-export-policy *name* **associations**

syslog-export-policy *name*

syslog-export-policy

Context

[Tree] (show>service>nat>syslog syslog-export-policy)

Full Context

show service nat syslog syslog-export-policy

Description

This command displays information about syslog export policies.

Parameters

name

Displays information about the specified NAT syslog export policy.

associations

Displays where the **syslog-export-policy** is configured.

Platforms

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

Output

The following output is an example of syslog export policy information.

Output Example

```
*SR-OS-NODE-1# show service nat syslog syslog-export-policy <name>
===============================================================================
NAT syslog policy
===============================================================================
Description
Facility
Log prefix
Max tx delay (deciseconds)
MTU
Rate limit (pps)
Severity level
Includes
Last management change
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Collectors
-------------------------------------------------------------------------------
Router
Source IP address
Administrative state
Destination port
IP address
Last management change
-------------------------------------------------------------------------------
```

The following output is an example of syslog export policy associations.

Output Example

```
*A:Dut-C# show service nat syslog syslog-export-policy <name> associations
===============================================================================
policies with syslog-export-policy <name>
===============================================================================
Policy
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
No. of policies
===============================================================================
```

The following output is an example of syslog-export-policy <*name*> information.

```

*A:Dut-C# show service nat nat-policy <name>
===============================================================================
NAT Policy policy_lsn_1_3
===============================================================================
Description                         :

Pool                                :
Router                              :
Filtering                           :
Block limit                         :
Reserved ports                      :
Port usage High Watermark (%)       :
Port usage Low Watermark (%)        :
Port forwarding limit               :
Port forwarding range end           :
Session limit                       :
Reserved sessions                   :
Session usage High Watermark (%)    :
Session usage Low Watermark (%)     :
ALG enabled                         :
Prioritized forwarding classes      :
Timeout TCP established (s)         :
Timeout TCP transitory (s)          :
Timeout TCP SYN (s)                 :
Timeout TCP TIME-WAIT (s)           :
Timeout TCP RST (s)                 :
Timeout UDP mapping (s)             :
Timeout UDP initial (s)             :
Timeout UDP DNS (s)                 :
Timeout ICMP Query (s)              :
Timeout SIP Inactive Media (s)      :
Subscriber retention (s)            :
UDP inbound refresh                 :
TCP MSS Adjust                      :
Destination NAT classifier          :
Destination-NAT-only router         :
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Destination-NAT-only ISA NAT group    :
IPFIX export policy                   :
Syslog export policy                  # syslog-export-policy associated with this nat-policy
Reset unknown TCP                     :
L2 outside                            :
Last Mgmt Change                      :
```

The following output is an example of syslog-export-policy information.

```
*A:Dut-C>show>service>nat>syslog# syslog-export-policy
===============================================================================
Syslog export policies
===============================================================================
Syslog export policy
Description# description of each syslog-export-policy
-------------------------------------------------------------------------------
No. of syslog export policies:
```

Table 660: Output fields: syslog export policy displays syslog export policy field descriptions.

Table 660: Output fields: syslog export policy

Field	Description
Description	Displays the description for the syslog export policy.
Facility	Displays information about the facility. Valid values: kernel, user, mail, systemd, auth, syslogd, printer, netnews, uucp, cron, authpriv, ftp, ntp, logaudit, logalert, cron2, local0, local1, local2, local3, local4, local5, local6, local7
Log prefix	Displays information about the log prefix.
Max tx delay (deciseconds)	Displays the time waited to aggregate multiple events info a single log message (event aggregation).
MTU	Displays information about the IP MTU of the syslog frame.
Rate limit (pps)	Displays the rate limit imposed on syslog frames sent toward the collector.
Severity level	Displays the syslog severity level. Valid values: emergency, alert, critical, error, warning, notice, info, debug
Includes	Displays the optional fields related to the flow that can be included in the flow log message.
Last management change	Displays the time and date of the last configuration change.
Router	Displays the routing instance from which the collector is reachable.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Description
Source IP address	Displays the source IP address of the syslog frame.
Administrative state	Displays the administrative state of the collector.
Destination port	Displays the destination port of the collector.
IP address	Displays the IP address of the collector.
Syslog export policy	Displays the syslog export policy associated with this NAT policy.
No. of syslog export policies	Displays the number of syslog export policies configured in the system.

26.4 system

system

Syntax

system

Context

[Tree] (show system)

Full Context

show system

Description

Commands in this context display system information.

Platforms

All

system

Syntax

system

Context

[Tree] (tools>perform system)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
tools perform system

Description
This command is a tool for controlling the system.

Platforms
All

system

Syntax
system

Context
[Tree] (show>service system)

Full Context
show service system

Description
Commands in this context display service system information.

Platforms
All

system

Syntax
system [**all**]

Context
[Tree] (tools>dump>resource-usage system)

Full Context
tools dump resource-usage system

Description
This command displays resource information for resources that are managed at the system level.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

all

Displays all system resource usage information, as well as resource usage information for all cards, FPs, and MDAs in the system.

Platforms

All

Output

The following output is an example of system information.

Output Example

```
*A:PE# tools dump resource-usage system
===============================================================================
Resource Usage Information for System
===============================================================================
                                                 Total   Allocated        Free
-------------------------------------------------------------------------------
                SAP Ingress QoS Policies |        3071           1        3070
                 SAP Egress QoS Policies |        3071           2        3069
           Ingress Queue-Group Templates |        2047           4        2043
            Egress Queue-Group Templates |        2047           5        2042
       Egress Port Queue-Group Instances |      163839           4      163835
        Ingress FP Queue-Group Instances |       16383           0       16383
             Fast Depth Monitored Queues |       50000          25       49975
                       Egress Port VPort |       40959           1       40958
```

system

Syntax

system

Context

[Tree] (clear system)

Full Context

clear system

Description

This command allows an operator to clear system information.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

system

Syntax

system

Context

[Tree] (tools>dump system)

Full Context

tools dump system

Description

Commands in this context dump tools information for the system.

Platforms

All

system

Syntax

system

Context

[Tree] (tools>dump>service system)

Full Context

tools dump service system

Description

Commands in this context dump service system information.

Platforms

All

system

Syntax

system status

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>subscr-mgmt>status system)

Full Context

show subscriber-mgmt status system

Description

This command displays subscriber management status information.

Platforms

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

Output

The following output is an example of subscriber management system status information.

Output Example

```
*B:Dut-C# show subscriber-mgmt status system
===============================================================================
Subscriber Management System Status
===============================================================================
Chassis 1
-------------------------------------------------------------------------------
Memory usage high                                    : No
DHCP message processing overload                     : No
Statistics usage high                                : No
Number of subscribers using statistics               : 0
Data-trigger statistics
-------------------------------------------------------------------------------
Packets received                                     : 0
Packets dropped                                      : 0
Packets in queue (actual)                            : 0
Packets in queue (peak)                              : 1
Bridged Residential Gateway statistics
-------------------------------------------------------------------------------
BRG initialized                                      : 0
BRG operational                                      : 0
BRG in connectivity verification                     : 0
BRG on hold                                          : 0
BRG authenticated by proxy                           : 0
Subscriber VLAN statistics resources
-------------------------------------------------------------------------------
Administrative state                                 : in-service
Number of entries                                    : 2
Interface statistics resources
-------------------------------------------------------------------------------
Administrative state sub-if                          : in-service
Number of sub-if stats entries                       : 1
Administrative state grp-if                          : in-service
Number of grp-if stats entries                       : 2
===============================================================================
*B:Dut-C#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

26.5 system-config

system-config

Syntax

system-config

Context

[Tree] (show>eth-cfm system-config)

Full Context

show eth-cfm system-config

Description

This command displays the ETH-CFM system-level configuration parameters under the **configure eth-cfm [{redundancy | slm | system}]** hierarchies and various system capabilities.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of ETH-CFM system-level configuration information.

Output Example

```
A:node-2# show eth-cfm system-config
===============================================================================
CFM System Configuration
===============================================================================
Redundancy
    MC-LAG Standby MEP Shutdown: false
    MC-LAG Hold-Timer          :   1 second(s)

Synthetic Loss Measurement
    Inactivity Timer           : 100 second(s)

ETH-CCM Grace-Period
    Transmit Enabled           : true

Sender ID Information
    ChassisID Subtype          : chassisComponent

MD Auto-Id Range Information
    md-index start             : 3294967295
    md-index end               : 4294967295
    ma-index start             : 3294967295
    ma-index end               : 4294967295

Display
    Name-based display         : false
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
ETH-CFM System Configuration Limits
-------------------------------------------------------------------------------
Component       Current Usage   System Limit
-------------------------------------------------------------------------------
Maintenance Domain (MD)
Maintenance Association (MA)
Extended MA (up to 400 MEPs)
Maintenance Endpoint (MEP)
  One-second MEP
  Sub-second MEP
  Remote MEP
Alarm Indication Signal (AIS)
Client Signal Fail (CSF)
Primary Vlan Ingress MP
Primary Vlan Egress MP
LMM Stats Enabled
LBM Concurrent Tests
Multicast LB Tests
LTM Concurrent Tests
```

```
MD Auto-Id Range Information
    md-index start             : 3000000000
    md-index end               : 4000000000
    ma-index start             : 3000000000
    ma-index end               : 4000000000
-------------------------------------------------------------------------------
ETH-CFM System Configuration Limits
-------------------------------------------------------------------------------
Component       Current Usage   System Limit
-------------------------------------------------------------------------------
Maintenance Domain (MD)
Maintenance Association (MA)
Extended MA (up to 400 MEPs)
Maintenance Endpoint (MEP)
  One-second MEP
  Sub-second MEP
  Remote MEP
Alarm Indication Signal (AIS)
Client Signal Fail (CSF)
Primary Vlan Ingress MP
Primary Vlan Egress MP
LMM Stats Enabled
LBM Concurrent Tests
Multicast LB Tests
LTM Concurrent Tests
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

26.6 system-filter

system-filter

Syntax

system-filter [**chained-to**]

Context

[Tree] (show>filter system-filter)

Full Context

show filter system-filter

Description

This command shows system filter information.

Parameters

chained-to

Displays filters that chain to a given system filter.

Platforms

All

Output

No Parameters Specified — When no parameters are specified, the output is grouped for IPv4 and IPv6, and displays information about the active system filter and all filters with scope **system**.

The following output is an example of system filter information when no parameters are specified.

Output Example

```
*A:Dut-C>show>filter# system-filter

===============================================================================
IP system filters
===============================================================================
Filter-Id                    Active
-------------------------------------------------------------------------------
100                          Yes
65535                        No
-------------------------------------------------------------------------------
No. of IP system filters (total / active): 2 / 1
===============================================================================

===============================================================================
IPv6 system filters
===============================================================================
Filter-Id                    Active
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No Matching Entries
-------------------------------------------------------------------------------
No. of IPv6 system filters (total / active): 0 / 0
===============================================================================
```

With chained-to Option Specified — The following output is an example of system filter information when the **chained-to** option is specified.

```
*A:Dut-C>show>filter# system-filter chained-to

===============================================================================
IP filters that chain to the active IP system filter
===============================================================================
3                  4                  5                  6
5:23               6:24
-------------------------------------------------------------------------------
No. of IP filters that chain to the active IP system filter: 6
===============================================================================

===============================================================================
IPv6 filters that chain to the active IPv6 system filter
===============================================================================
No Matching Entries
-------------------------------------------------------------------------------
No. of IPv6 filters that chain to the active IPv6 system filter: 0
===============================================================================
```

26.7 system-info

system-info

Syntax

system-info

Context

[Tree] (show>eth-cfm system-info)

Full Context

show eth-cfm system-info

Description

This command displays system-level ETH-CFM information states.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of system-level ETH-CFM information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show eth-cfm system-info
===============================================================================
CFM System State Information
===============================================================================
ETH-CCM Grace-Period           : Inactive
===============================================================================
```

26.8 system-statistics

system-statistics

Syntax

system-statistics data-trigger

Context

[Tree] (clear>subscr-mgmt system-statistics)

Full Context

clear subscriber-mgmt system-statistics

Description

This command clears subscriber statistics at the system level.

Parameters

data-trigger

Clears data trigger statistics for all data trigger enabled SAPs in the system.

Platforms

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

system-statistics

Syntax

system-statistics

Context

[Tree] (clear>nat system-statistics)

Full Context

clear nat system-statistics

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command clears NAT statistics at the system level.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27 t Commands

27.1 tacplus

tacplus

Syntax

tacplus *server-index* **router-instance** *router-name*

tacplus *server-index*

tacplus *server-index* **service-name** *service-name*

Context

[Tree] (clear tacplus)

Full Context

clear tacplus

Description

This command clears TACACS+ server statistics.

Parameters

server-index

Specifies the index for the TACACS+ server.

Values 1 to 5

service-name

Specifies the service name, up to 64 characters.

router-name

Specifies the router instance, expressed as the router name or the service ID.

Values *router-name* — "Base", "management", "vpls-management"
vprn-svc-id — 1 to 2147483647

Default Base

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.2 taii-type2-using

taii-type2-using

Syntax

taii-type2-using *global-id*[:*prefix*[:*ac-id*]]

Context

[Tree] (show>service taii-type2-using)

Full Context

show service taii-type2-using

Description

This command displays switch-point information using TAII.

Parameters

global-id[:prefix[:ac-id]]

Specifies the switch-point information using SAII-Type2.

Values

<global-id[:prefix*> : <global-id>[:<prefix>[:<ac-id>]]	
global-id	1 to 4294967295
prefix	a.b.c.d | 1 to 4294967295
ac-id	1 to 4294967295

Platforms

All

Output

The following output is an example of service switch-point information using TAII information.

Output Example

```
*A:Dut-E# show service taii-type2-using 6:10.20.1.6:1
===============================================================
Service Switch-Point Information
===============================================================
SvcId      Oper-SdpBind      TAII-Type2
---------------------------------------------------------------
2147483598 17407:4294967195  6:10.20.1.6:1
---------------------------------------------------------------
Entries found: 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================
```

27.3 tail

tail

Syntax

tail [**lsp-id** *lsp-id*] [**tunnel-id** *tunnel-id*] [**source-address** *ip-address*]

tail ldp prefix *ip-prefix/prefix-length* [**source-address** *ip-address*]

tail statistics

Context

[Tree] (tools>dump>test-oam>lsp-bfd tail)

Full Context

tools dump test-oam lsp-bfd tail

Description

This command dumps information for BFD sessions on LSPs.

Parameters

lsp-id

Specifies an LSP for which to dump information.

Values 1 to 65535

tunnel-id

Specifies a tunnel for which to dump information.

Values 1 to 65535

ip-address

Specifies an IP address for which to dump information.

Values *ipv4-address* — a.b.c.d

ipv6-address — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

ldp

Dumps LDP information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-prefix/prefix-length

Specifies a source IP prefix for which to dump information, and the prefix length.

Values <*ipv4-prefix*>/32 | <*ipv6-prefix*>/128

ipv4-prefix — a.b.c.d

ipv4-prefix-length — 0 to 32

ipv6-prefix — x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x — 0 to FFFF (hexadecimal)

d — 0 to 255 (decimal)

ipv6-prefix-length — 0 to 128

statistics

Displays global statistics for BFD-on-LSP sessions terminated by LSP tail-ends.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of tail information.

Output Example

```
A:bkvm33>tools>dump>test-oam>lsp-bfd# tail

-------------------------------------------------------------------------------
Number of Matched Tail Cache Sessions : 3
-------------------------------------------------------------------------------

   VrId             : 1
   Fec Type         : ldp_ipv4(1)
   Prefix           : 1.1.1.1/32
   SenderIp         : 9.9.9.9
   Discriminator    : remoteBfdDisc 21 localBfdDisc 2
   Bootstrap-echo-rx: rcvd 2017/01/27 18:57:00.00 UTC
                      handle 37 seqNum 2 rc 3 rsc 1
   Last echo-req-rx : rcvd 2017/01/27 18:58:05.00 UTC
                      handle 37 seqNum 3 rc 3 rsc 1

   VrId             : 1
   Fec Type         : ldp_ipv6(2)
   Prefix           : 3ffe::a14:1111/128
   SenderIp         : 3ffe::a14:9999
   Discriminator    : remoteBfdDisc 21 localBfdDisc 2
   Bootstrap-echo-rx: rcvd 2017/01/27 18:56:55.00 UTC
                      handle 36 seqNum 2 rc 3 rsc 1
   Last echo-req-rx : rcvd 2017/01/27 18:58:00.00 UTC
                      handle 36 seqNum 3 rc 3 rsc 1

   VrId             : 1
   Fec Type         : rsvp_ipv4(3)
   LspId            : 59396
   TunnelId         : 2
   SenderIp         : 9.9.9.9
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
TunnEndIp        : 1.1.1.1
ExtTunnId        : 9.9.9.9
Discriminator    : remoteBfdDisc: 22 localBfdDisc: 3
Bootstrap-echo-rx: rcvd 2017/01/27 18:57:23.00 UTC
                   handle 38 seqNum 2 rc 3 rsc 1
Last echo-req-rx : rcvd 2017/01/27 19:20:28.00 UTC
                   handle 38 seqNum 25 rc 3 rsc 1
```

27.4 targ-peer

targ-peer

Syntax

targ-peer [*ip-address*] [**detail**]

targ-peer [**detail**] *family*

targ-peer resource-failures [*family*]

Context

[Tree] (show>router>ldp targ-peer)

Full Context

show router ldp targ-peer

Description

This command displays configuration information for the targeted LDP peers.

Parameters

ip-address

Specifies the IP address of a targeted LDP peer for which to display information.

Values

ipv4-address -a.b.c.d	
ipv6-address:	x:x:x:x:x:x:x:x
	x:x:x:x:x:x:d.d.d.d
	x: [0 to FFFF]H
	d: [0 to 255]D

detail

Displays detailed configuration information.

family

Specifies a peer family for which to display information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values ipv4 or ipv6

resource-failures

Displays resource failure information for targeted LDP peers.

Platforms

All

Output

The following outputs are examples of LDP targeted peer information, and Table 661: Output fields: LDP targeted peer describes the output fields.

Output Example

```
*A:Dut-A# show router ldp targ-peer
===============================================================================
LDP IPv4 Targeted Peers
===============================================================================
Peer                                    Adm/    Hello Hold  KA   KA    Auto
                                        Opr     Fctr  Time  Fctr Time  Created
-------------------------------------------------------------------------------
No Matching Entries Found
===============================================================================
===============================================================================
LDP IPv6 Targeted Peers
===============================================================================
Peer                                    Adm/    Hello Hold  KA   KA    Auto
                                        Opr     Fctr  Time  Fctr Time  Created
-------------------------------------------------------------------------------
3ffe::a0a:203                       Up/Up   3     15    3    30    no

-------------------------------------------------------------------------------
No. of IPv6 Targeted Peers: 1
===============================================================================
```

Output Example

```
show router ldp  targ-peer 10.20.1.2 detail
===============================================================================
LDP IPv4 Targeted Peers
===============================================================================
-------------------------------------------------------------------------------
10.20.1.2
-------------------------------------------------------------------------------
Admin State        : Up              Oper State           : Up
Last Oper Chg      : 0d 00:08:11
Hold Time          : 15              Hello Factor         : 3
Oper Hold Time     : 15
Hello Reduction    : Disabled        Hello Reduction Fctr : 3
Keepalive Timeout  : 30              Keepalive Factor     : 3
Active Adjacencies : 1               Last Modified        : Never
Auto Created       : Yes
Creator            : autotx          Template Name        : N/A
Tunneling          : Enabled
Lsp Name           : None
Mcast-Tunneling    : Disabled
Lsp Name           : None
Local LSR          : None            32-BitLocalLsr       : Disabled
BFD Status         : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
No. of IPv4 Targeted Peers: 1
===============================================================================
```

The following table describes the LDP targeted peer output fields.

Table 661: Output fields: LDP targeted peer

Label	Description
Peer	The IP address of the peer.
Adm	Up — The LDP is administratively enabled. Down — The LDP is administratively disabled.
Opr	Up — The LDP is operationally enabled. Down — The LDP is operationally disabled.
Hello Fctr	The value by which the hello timeout should be divided to give the hello time, for example, the time interval (in s), between LDP hello messages. LDP uses hello messages to discover neighbors and to detect loss of connectivity with its neighbors.
Hold Time	The hello time or hold time. The time interval (in seconds) that LDP waits before declaring a neighbor to be down. Hello timeout is local to the system and is sent in the hello messages to a neighbor.
KA Fctr	The value by which the keepalive timeout is divided to calculate the keepalive time, for example, the time interval (in seconds) between LDP keepalive messages. LDP keepalive messages are sent to keep the LDP session from timing out when no other LDP traffic is being sent between the neighbors.
KA Time	The time interval (in seconds) that LDP waits before tearing down a session. If no LDP messages are exchanged during this time interval, the LDP session is torn down. Generally, the value is configured to be 3 times the keepalive time (the time interval between successive LDP keepalive messages).
Active Adjacencies	The number of active adjacencies (established sessions) associated with the LDP instance.
Auth	Enabled — Authentication using MD5 message-based digest protocol is enabled. Disabled — No authentication is used.
Passive Mode	The mode used to set up LDP sessions. This value is only applicable to targeted sessions and not to LDP interfaces. True — LDP responds only when it gets a connect request from a peer and will not attempt to actively connect to its neighbors. False — LDP actively tries to connect to its peers.
Auto Created	Specifies that a targeted peer was automatically created through service manager. For an LDP interface, this value is always false.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Creator	autorx — The autorx is the creator. autotx — The autotx is the creator.
No. of Peers	The total number of LDP peers.
Tunneling	Enabled — Tunneling is enabled. Disabled — No tunneling is used.
LSP	The LSP name.

27.5 targ-peer-template

targ-peer-template

Syntax

targ-peer-template [*peer-template*] [**community** *community*]

Context

[Tree] (show>router>ldp targ-peer-template)

Full Context

show router ldp targ-peer-template

Description

This command displays the configured parameters of a targeted peer-template.

Parameters

peer-template

Specifies a targeted peer template on this virtual router that participates in the LDP protocol up to 32 characters.

community

The string defining the LDP community assigned to the session. Allowed values are any string up to 32 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains spaces, use double quotes to delimit the start and end of the string.

Platforms

All

Output

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:SRU4>config>router>ldp>egr-stats>fec-pfx# show router ldp targ-peer-template
===============================================================================
LDP Peer Template
===============================================================================
-------------------------------------------------------------------------------
Peer Template "toSR4"
-------------------------------------------------------------------------------
Created at         : 01/26/18 22:25:19  Last Modified      : 01/26/18 22:25:19
Admin State        : Up                 Index              : 5
Hold Time          : 15                 Hello Factor       : 3
Hello Reduction    : Enabled            Hello Reduction Fa*: 3
Keepalive Timeout  : 15                 Keepalive Factor   : 3
Tunneling          : Enabled
Local LSR          : None
Local-LSR ID adver*: Enabled
Community          : RED
BFD Status         : Enabled
-------------------------------------------------------------------------------
```

27.6 targ-peer-template-map

targ-peer-template-map

Syntax

targ-peer-template-map [*template-name*]

targ-peer-template-map [*template-name*] **peers**

Context

[Tree] (show>router>ldp targ-peer-template-map)

Full Context

show router ldp targ-peer-template-map

Description

This command displays targeted peer template mappings to prefix policy.

Parameters

template-name

Specifies the template name, up to 32 characters.

Platforms

All

Output

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:SR1-A# /show router ldp targ-peer-template-map
===============================================================================
LDP Peer Template Map
===============================================================================
-------------------------------------------------------------------------------
Peer Template templ1
-------------------------------------------------------------------------------
Peer Policy 1           : policy1
-------------------------------------------------------------------------------
Peer Template templ2
-------------------------------------------------------------------------------
Peer Policy 1           : policy1
Peer Policy 2           : policy2
Peer Policy 3           : policy3
-------------------------------------------------------------------------------
Peer Template templ3
-------------------------------------------------------------------------------
Peer Policy 1           : policy2
===============================================================================


*A:SR1-A# /show router ldp targ-peer-template-map tldp-peers
===============================================================================
LDP Peer Template Map TLDP Peers
===============================================================================
-------------------------------------------------------------------------------
Peer Template templ1
-------------------------------------------------------------------------------
10.0.10.1                               10.0.10.2
10.0.10.3                               10.0.10.4
10.0.10.5                               10.0.10.6
10.0.10.7                               10.0.10.8
10.0.10.9                               10.0.10.10
10.0.10.11                              10.0.10.12
10.0.10.13                              10.0.10.14
10.0.10.15                              10.0.10.16
10.0.10.17                              10.0.10.18
10.0.10.19                              10.0.10.20
10.0.10.21                              10.0.10.22
10.0.10.23                              10.0.10.24
10.0.10.25                              10.0.10.26
10.0.10.27                              10.0.10.28
10.0.10.29                              10.0.10.30
10.0.10.31                              10.0.10.32
10.0.10.33                              10.0.10.34
10.0.10.35                              10.0.10.36
10.0.10.37                              10.0.10.38
10.0.10.39                              10.0.10.40
10.0.10.41                              10.0.10.42
10.0.10.43                              10.0.10.44
10.0.10.45                              10.0.10.46
10.0.10.47                              10.0.10.48
10.0.10.49                              10.0.10.50
-------------------------------------------------------------------------------
Peer Template templ3
-------------------------------------------------------------------------------
10.1.3.5                                10.1.3.6
10.1.3.7                                10.1.3.8
10.1.3.9                                10.1.3.10
10.1.3.11                               10.1.3.12
10.1.3.13                               10.1.3.14
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.7 targeted-auto-rx

targeted-auto-rx

Syntax

targeted-auto-rx hold-time *seconds*

Context

[Tree] (clear>router>ldp targeted-auto-rx)

Full Context

clear router ldp targeted-auto-rx

Description

This command clears unneeded automatic T-LDP sessions on all applicable nodes. The operator must run this command during a specific time window on all nodes on which **auto-rx** is configured. The operator must also ensure that the configured **hold-time** value should be longer than the hello-timer value plus the time required to run the **clear** command on all applicable nodes. The configured **hold-time** value must be a non-zero value.

When the hold timer for this command is in progress, the operator can display the remaining timeout value by using the **tools dump router ldp timers** command.

This **clear** command is not synchronized to the standby CPM. Consequently, if the operator configures this command with a large **hold-time** value and a CPM switchover occurs during this time, the operator must reconfigure this **clear** command on the newly active CPM.

Parameters

hold-time

Specifies the time window during which this command must be run on all applicable nodes.

seconds

Specifies the hold timer value in seconds.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.8 tcp

tcp

Syntax

tcp sessions

tcp settings

tcp statistics

Context

[Tree] (tools>dump>system>cpm-http-redirect tcp)

Full Context

tools dump system cpm-http-redirect tcp

Description

This command displays the system level TCP session state information of the **cpm-http-redirect optimized-mode** for currently opened sessions. Specifically, the following are displayed:

- New: Syn received and Syn-Ack not sent
- SYN: Syn-Ack sent and waiting for Ack
- ESTABLISHED: Ack received and waiting for data
- FIN: FIN sent and waiting for Fin-Ack
- Delete: Sum of all currently open connections at this time, representing the connections to be deleted
- HTTP Response dropped: communication error; the redirect failed to be sent to the TCP layer

All current sessions are counted both in the state where they belong, such as 'New', 'Syn', 'Established', 'Fin', and in the sum 'Delete' count.

Parameters

sessions

Specifies system level TCP session state information of the **cpm-http-redirect** in **optimized-mode**.

settings

Specifies system level TCP session settings of the **cpm-http-redirect** in **optimized-mode**. These settings can be further controlled using **tools perform** commands.

statistics

Specifies system level TCP statistics of the **cpm-http-redirect optimized-mode** for all sessions.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of the sessions information.

Output Example

```
A# tools dump system cpm-http-redirect tcp sessions
===============================================================================
CPM HTTP Redirect TCP session information
===============================================================================
TCP sessions in new state                              : 0
TCP sessions in state SYN                              : 0
TCP sessions in state ESTABLISHED                      : 0
TCP sessions in state FIN                              : 0
TCP sessions in delete state                           : 0

===============================================================================
```

The following output is an example of the settings information.

Output Example

```
Dut-A# tools dump system cpm-http-redirect tcp settings
    data-retransmissions 1
    data-timeout 20
    established-timeout 100
    fin-ack-retransmissions 1
    fin-ack-timeout 15
    max-connections 500
    max-connections-per-host 20
    max-hosts 500
    syn-ack-retransmissions 1
    syn-ack-timeout 20
```

The following output is an example of the statistics information.

Output Example

```
A# tools dump system cpm-http-redirect tcp statistics
===============================================================================
CPM HTTP Redirect TCP statistics (only nonzero values shown)
===============================================================================
Packets forwarded                                      : 25
TCP segments received                                  : 8
Not a TCP segment                                      : 17
Packets offered to redirect                            : 2
SYN received                                           : 2
FIN,ACK received                                       : 2
ACK received                                           : 4
Valid TCP packets received                             : 8
Received packets                                       : 25
Received packets with a connection                     : 8
Connection creations                                   : 2
Connection deletions                                   : 2
SYN processed                                          : 2
SYN,ACK processed                                      : 2
SYN,ACK with data processed                            : 2
FIN,ACK processed                                      : 2
FIN,ACK with wrong sequence number                     : 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

27.9 tcp-optimizer

tcp-optimizer

Syntax

tcp-optimizer *tcp-optimizer-name* [**isa** *mda-id*]

Context

[Tree] (show>app-assure>group tcp-optimizer)

Full Context

show application-assurance group tcp-optimizer

Description

This command displays the TCP optimizer information.

Parameters

tcp-optimizer-name

Specifies the name of the TCP validation policy, up to 32 characters.

mda-id

Specifies the slot number of an adapter card, in the format *slot/mda*.

Platforms

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

Output

The following output is an example of an AA group TCP optimizer policy, and Table 662: Output fields: AA group TCP optimizer policy and ISA MDA describes the output fields.

Output Example

```
A:node-2# show application-assurance group 1 tcp-optimizer "TO1"
===============================================================================
Application Assurance Group 1 tcp-optimizer "TO1"
===============================================================================
Description            : tcp-optimizer TO1
TCP Stack              : tcp-westwood
Initial CWND Size      : 9 MSS
Initial SS Thresh      : 48751 KB
DACK Timeout           : 200 ms
Session Filter Ref     : Yes
Network RTT Threshold  : None
High CPU backoff       : Yes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Cumulative Session Statistics
  Active Sessions      : 0
  Optimized Sessions   : 0
  Unoptimized Sessions : 0
  Abandoned Sessions   : 0

-------------------------------------------------------------------------------
Session Statistics                          Abandoned              Unoptimized
-------------------------------------------------------------------------------
Unsupported Packet                                0                        0
Packet Error                                      0                        0
Inactivity                                        0                        0
No Buffers                                      N/A                        0
Existing Session                                N/A                        0
Low Network RTT                                 N/A                        0
Policy                                            0                      N/A
Resource Exhaustion                               0                        0
Other                                             0                        0

-------------------------------------------------------------------------------
Traffic Statistics                        Sub-to-net               Net-to-sub
-------------------------------------------------------------------------------
Octets Received                                   0                        0
Packets Received                                  0                        0

Octets Transmitted                                0                        0
  Retransmitted                                   0                        0
Packets Transmitted                               0                        0
  Retransmitted                                   0                        0
===============================================================================
```

The following output is an example of an AA group TCP optimizer ISA MDA, and Table 662: Output fields: AA group TCP optimizer policy and ISA MDA describes the output fields.

Output Example

```
A:node-2# show application-assurance group 1 tcp-optimizer "TO1" isa 1/1
===============================================================================
Application Assurance Group 1 tcp-optimizer "TO1" ISA 1/1
===============================================================================
Description           : (Not Specified)
TCP Stack             : tcp-westwood
Initial CWND Size     : 8 MSS
Initial SS Thresh     : 1000000 KB
DACK Timeout          : None
Session Filter Ref    : No
Network RTT Threshold : None
Buffer Utilization    : 0 of 6786 buffers
Cumulative Session Statistics
Active Sessions      : 0
Optimized Sessions   : 0
Unoptimized Sessions : 0
Abandoned Sessions   : 0
-------------------------------------------------------------------------------
Session Statistics                    Abandoned              Unoptimized
-------------------------------------------------------------------------------
Unsupported Packet                            0                            0
Packet Error                                  0                            0
Inactivity                                    0                            0
No Buffers                                  N/A                            0
Existing Session                            N/A                            0
Low Network RTT                             N/A                            0
Resource Exhaustion                           0                            0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Other                                          0                             0
-------------------------------------------------------------------------------
Traffic Statistics                    Sub-to-net                Net-to-sub
-------------------------------------------------------------------------------
Octets Received                                0                             0
Packets Received                               0                             0
Octets Transmitted                             0                             0
Retransmitted                                  0                             0
Packets Transmitted                            0                             0
Retransmitted                                  0                             0
===============================================================================
```

Table 662: Output fields: AA group TCP optimizer policy and ISA MDA

Label	Description
Description	The description of the TCPO
TCP Stack	The stack of the TCP
Initial CWND Size	The initial congestion window size
Initial SS Thresh	The initial Slow Start threshold
DACK Timeout	The delayed acknowledgment timeout
Session Filter Ref	The session filter reference
Network RTT Threshold	The network Round Trip Time threshold
High CPU backoff	The configuration of the **configure application-assurance group tcp-optimizer high-cpu-backoff** command.
Buffer Utilization	The number of the buffers used
Session Filter Ref	The name of session filter that contains a reference to this TCPO policy
Cumulative Session Statistics	The summary of total stats related to TCPO
Active Sessions	The number of TCP sessions currently being optimized
Optimized Sessions	The number of TCP sessions that were optimized
Unoptimized Sessions	The number of TCP sessions that were not optimized due to various reasons (for example, unsupported options)
Abandoned Sessions	The number of TCP sessions that TCPO was started and later stopped before the session was terminated
Unsupported Packet	The number of TCP sessions that contained unsupported packets such as Fragmented SYN, a SYN that contains data, IPv6 extension headers, unsupported TCP options (fast-open and MP-TCP)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Packet Error	The number of TCP sessions that had packet errors
Inactivity	The number of TCP sessions that timed out due to inactivity
Existing Sessions	The number of TCP sessions that were not optimized since AA did not see the initial TCP handshake
No Buffers	The number of TCP packets that were not optimized due to lack of buffers
Low Network RTT	The number of TCP packets that were not optimized due to low network RTT
Resource Exhaustion	The number of TCP sessions that were either abandoned or not optimized because of resource exhaustion
Other	The number of TCP packets that were not optimized due other reasons such as Simultaneous open (both sides send a SYN), Ack-number mismatch in the SYN/ACK, additional traffic following the SYN, before the SYN/ACK, configuration change between SYN and SYN/ACK, received a RST after sending the SYN
Octets Received	The number of TCP octets /bytes received by TCPO policy
Packets Received	The number of TCP packets received by TCPO policy
Octets Transmitted	The number of TCP octets /bytes received by TCPO policy
Retransmitted	The number of TCP octets /bytes transmitted by TCPO policy
Packets Transmitted	The number of TCP packets transmitted by TCPO policy
Retransmitted	The number of TCP packets retransmitted by TCPO policy

27.10 tcp-performance

tcp-performance

Syntax

tcp-performance fields

Context

[Tree] (show>app-assure>cflowd tcp-performance)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show application-assurance cflowd tcp-performance

Description

This command displays the fields in the AA cflowd TCP performance template.

Platforms

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

Output

The following output is an example of AA cflowd TCP performance template fields, and Table 663: Output fields: TCP performance template describes the output fields.

Output Example

```
show application-assurance cflowd tcp-performance fields

===============================================================================
Fields for Application Assurance cflowd tcp-performance template
===============================================================================
Name                            ID     Len Mode  Dy Description
-------------------------------------------------------------------------------
aaApp                           32770  32  MRVL  *  AA Application
aaAppGrp                        32771  32  MRVL  *  AA Application Group
aaChargingGrp                   32888  32  MRVL  *  AA Charging Group
aaProt                          32769  32  MRVL  *  AA Protocol
aaSubTetheringState             32896  1   MRVL  *  AA subscriber tethering
                                                    state
aaSubType                       32780  1   MRVL  .  AA Subscriber Type
anlCongestionState              32874  1   MRVL  *  access network location
                                                    congestion state
anlTopology                     32873  16  MRVL  *  access network location
                                                    topology
anlType                         32872  1   MRVL  *  access network location
                                                    type
apn                             32876  33  MRV-  *  access point name
apnExtended                     32928  64  MRV-  *  extended access point name
bsid                            32883  12  MRV-  *  base station id
cellId                          32886  4   MRV-  *  cell id
chargeId                        32877  4   MRV-  *  charging group id
chargingChar                    32901  2   MRV-  *  3GPP charging
                                                    characteristic
customerId                      32902  4   M---  *  Customer identifier
destinationIPv4Address          12     4   MRVL  .  Destination IPv4 address
destinationIPv6Address          28     16  MRVL  .  Destination IPv6 address
destinationTransportPort        11     2   MRVL  .  Destination transport port
deviceId                        32865  2   MRVL  *  device ID
deviceMfgId                     32866  2   MRVL  *  device manufacturer ID
deviceOsId                      32867  2   MRVL  *  device operating system ID
deviceOsVer1                    32869  1   MRVL  *  device operating system
                                                    version number 1
deviceOsVer2                    32870  1   MRVL  *  device operating system
                                                    version number 2
deviceOsVer3                    32871  1   MRVL  *  device operating system
                                                    version number 3
droppedOctetTotalCount          134    8   MRVL  .  Dropped octet total count
droppedPacketTotalCount         135    8   MRVL  .  Dropped packet total count
flowAttr_abr_service            32890  1   MRVL  *  flow attribute: abr
                                                    service
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
flowAttr_audio                   32891  1   MRVL  *  flow attribute: audio
flowAttr_download                32893  1   MRVL  *  flow attribute: download
flowAttr_encrypted               32892  1   MRVL  *  flow attribute: encrypted
flowAttr_esni                    32907  1   MRVL  *  flow attribute: encrypted
                                                     SNI
flowAttr_realtime_communication  32895  1   MRVL  *  flow attribute: real time
                                                     communication
flowAttr_upload                  32894  1   MRVL  *  flow attribute: upload
flowAttr_video                   32889  1   MRVL  *  flow attribute: video
flowDirection                    61     1   MRVL  .  Flow direction
flowDurationMilliseconds         161    4   MRVL  *  Flow duration milliseconds
flowStartSeconds                 150    4   MRVL  *  Flow start seconds
hostName                         32864  64  MRVL  *  host name
hostNameExtended                 32920  101 MRVL  *  host name extended
imei                             32897  8   MRV-  *  International Mobile
                                                     Equipment Identity
imei-aes-128                     32916  32  MRV-  *  imei AES-128 encrypted
imei-aes-256                     32919  32  MRV-  *  imei AES-256 encrypted
imei-sha-1                       32910  20  MRV-  *  imei SHA-1 hashed
imei-sha-256                     32913  32  MRV-  *  imei SHA-256 hashed
imsi                             32879  8   MRV-  *  international mobile
                                                     subscriber identity
imsi-aes-128                     32915  16  MRV-  *  imsi AES-128 encrypted
imsi-aes-256                     32918  16  MRV-  *  imsi AES-256 encrypted
imsi-sha-1                       32909  20  MRV-  *  imsi SHA-1 hashed
imsi-sha-256                     32912  32  MRV-  *  imsi SHA-256 hashed
interfaceName                    82     32  MRVL  .  Interface name
ipFamily                         32868  1   MRVL  *  IP Family
ipTTL                            192    1   MRVL  *  IP packet time to live
mcc                              32899  2   MRV-  *  Mobile country code
mnc                              32878  2   MRV-  *  mobile network code
msisdn                           32880  8   MRV-  *  mobile station
                                                     international subscriber
                                                     directory number
msisdn-aes-128                   32914  16  MRV-  *  msisdn AES-128 encrypted
msisdn-aes-256                   32917  16  MRV-  *  msisdn AES-256 encrypted
msisdn-sha-1                     32908  20  MRV-  *  msisdn SHA-1 hashed
msisdn-sha-256                   32911  32  MRV-  *  msisdn SHA-256 hashed
observationPointId               138    4   MRVL  .  Observation point Id
octetTotalCount                  85     8   MRVL  .  Octet total count
packetTotalCount                 86     8   MRVL  .  Packet total count
pgw-ggsnAddr                     32882  16  MRV-  *  public data network
                                                     gateway
plmnid                           32903  4   MRV-  *  Public land mobile
                                                     network identifier
postIpPrecedence                 257    1   MRVL  *  Post IP precedence
pra-id                           32940  4   M---  *  presence reporting area ID
protocolIdentifier               4      1   MRVL  .  Protocol Identifier
ratType                          32884  2   MRV-  *  radio access technology
                                                     type
regionId                         32885  2   MRV-  *  region id
roamingStatus                    32898  1   M---  *  Roaming status
sessionDirection                 32781  1   MRVL  .  Session Direction
sgw-sgsnAddr                     32881  16  M---  *  serving gateway
sourceIPv4Address                8      4   MRVL  .  Source IPv4 address
sourceIPv6Address                27     16  MRVL  .  Source IPv6 address
sourceTransportPort              7      2   MRVL  .  Source transport port
tcpDelayAvg                      32775  4   MRVL  .  TCP Delay - average
tcpDelayMax                      32774  4   MRVL  .  TCP Delay - max
tcpDelayMin                      32773  4   MRVL  .  TCP Delay - min
tcpDelaySampleCnt                32777  4   MRVL  .  TCP Delay Samples Count
tcpDelayVariance                 32776  8   MRVL  .  TCP Delay - variance
tcpRetransmittedBytes            32778  8   MRVL  .  TCP Retransmitted Bytes
tcpRetransmittedPackets          32779  8   MRVL  .  TCP Retransmitted Packets
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
tcpSessionEstDelay               32772  4   MRVL  .  TCP Session Establishment
                                                     Delay
timeZone                         32887  2   M---  *  time zone
uli                              32900  18  MRV-  *  User location information
wireless-device-os-id            32941  1   MRV-  *  wireless device operating
                                                     system ID
wireless-device-type-id          32942  1   MRV-  *  wireless device type ID
-------------------------------------------------------------------------------
Legend :
  Mode (aa-sub-scale mode)   M mobile-gateway
                             R residential
                             V vpn
                             L lightweight-internet
  Dy (dynamic field)         . always included in this record type
                             * can be dynamically included in this record type
===============================================================================
```

Table 663: Output fields: TCP performance template

Label	Description
Name	Displays the name of the template field.
ID	Displays the ID of the template field.
Len	Displays the string length of the template field.
Mode	Displays the mode: • M — mobile gateway • R — residential • V — VPN • L — lightweight Internet
Dy	Displays whether the field is dynamic: • . — always included in this record type • * — can be dynamically included in this record type
Description	Displays the description of the template field.

27.11 tcp-session-parameters

tcp-session-parameters

Syntax

tcp-session-parameters

tcp-session-parameters [*family*]

tcp-session-parameters [**keychain** *keychain*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tcp-session-parameters [*transport-peer-ip-address*]

Context

[Tree] (show>router>ldp tcp-session-parameters)

Full Context

show router ldp tcp-session-parameters

Description

This command displays information about the TCP transport session of an LDP peer.

Parameters

family

Specifies the family type.

Values ipv4, ipv6

keychain *keychain*

Specifies the authentication keychain name up to 32 characters in length.

transport-peer-ip-address

Specifies the source of the transport address.

Values <transport-peer-ip*> : ipv4-address - a.b.c.d ipv6-address - x:x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:x:d.d.d.d x - [0 to FFFF]H d - [0 to 255]D

Platforms

All

Output

Output Example

```
*A:Dut-A# show router ldp tcp-session-parameters
===============================================================================
LDP IPv4 TCP Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer Transport: 10.20.1.2
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
-------------------------------------------------------------------------------
Peer Transport: 10.20.1.3
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
===============================================================================
No. of IPv4 Peers: 2
===============================================================================
===============================================================================
LDP IPv6 TCP Session Parameters
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
-------------------------------------------------------------------------------
Peer Transport: 3ffe::a14:102
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
-------------------------------------------------------------------------------
Peer Transport: 3ffe::a14:103
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
===============================================================================
No. of IPv6 Peers: 2
===============================================================================

*A:Dut-A# show router ldp tcp-session-parameters ipv4
===============================================================================
LDP IPv4 TCP Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer Transport: 10.20.1.2
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
-------------------------------------------------------------------------------
Peer Transport: 10.20.1.3
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
===============================================================================
No. of IPv4 Peers: 2
===============================================================================

*A:Dut-A# show router ldp tcp-session-parameters ipv6
===============================================================================
LDP IPv6 TCP Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer Transport: 3ffe::a14:102
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
-------------------------------------------------------------------------------
Peer Transport: 3ffe::a14:103
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
===============================================================================
No. of IPv6 Peers: 2
===============================================================================

*A:Dut-A# show router ldp tcp-session-parameters keychain "LdpAuth"
===============================================================================
LDP IPv4 TCP Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer Transport: 10.20.1.2
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
Auth key chain     : LdpAuth           Min-TTL            : 0
-------------------------------------------------------------------------------
Peer Transport: 10.20.1.3
-------------------------------------------------------------------------------
Authentication Key : Disabled          Path MTU Discovery : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Auth key chain     : LdpAuth            Min-TTL            : 0
===============================================================================
No. of IPv4 Peers: 2
===============================================================================
===============================================================================
LDP IPv6 TCP Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer Transport: 3ffe::a14:102
-------------------------------------------------------------------------------
Authentication Key : Disabled           Path MTU Discovery : Disabled
Auth key chain     : LdpAuth            Min-TTL            : 0
-------------------------------------------------------------------------------
Peer Transport: 3ffe::a14:103
-------------------------------------------------------------------------------
Authentication Key : Disabled           Path MTU Discovery : Disabled
Auth key chain     : LdpAuth            Min-TTL            : 0
===============================================================================
No. of IPv6 Peers: 2
===============================================================================
*A:Dut-A# show router ldp tcp-session-parameters
  - tcp-session-parameters [family]
  - tcp-session-parameters [keychain <keychain>]
  - tcp-session-parameters [<transport-peer-ip-address>]

 <transport-peer-ip*> : ipv4-address   - a.b.c.d
                        ipv6-address   - x:x:x:x:x:x:x:x   (eight 16-bit
                                         pieces)
                                         x:x:x:x:x:x:d.d.d.d
                                         x - [0..FFFF]H
                                         d - [0..255]D
 <family>             : ipv4 | ipv6
 <keychain>           : auth-keychain name [32 char max]

*A:Dut-A# show router ldp tcp-session-parameters 3ffe::a14:102
===============================================================================
LDP IPv6 TCP Session Parameters
===============================================================================
-------------------------------------------------------------------------------
Peer Transport: 3ffe::a14:102
-------------------------------------------------------------------------------
Authentication Key : Disabled           Path MTU Discovery : Disabled
Auth key chain     : LdpAuth            Min-TTL            : 0
===============================================================================
No. of IPv6 Peers: 1
===============================================================================
*A:Dut-A#
```

27.12 tcp-validate

tcp-validate

Syntax

tcp-validate *tcp-validate-name* [**isa** *mda-id*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>app-assure>group tcp-validate)

Full Context

show application-assurance group tcp-validate

Description

This command displays TCP validation policy information.

When the *mda-id* parameter is included, only TCP validation policy information for the specified adapter card is displayed.

Parameters

tcp-validate-name

Specifies the name of the TCP validation policy. 32 characters maximum.

mda-id

Specifies the slot number of an adapter card, in the format *slot*/*mda*.

Platforms

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

Output

The following output is an example of TCP validation policy information.

Output Example

```
A:NOK# show application-assurance group 1 tcp-validate "test" isa 1/1
===============================================================================
Application Assurance Group 1 tcp-validate "test"
===============================================================================
Description      : (Not Specified)
Event log        : (Not Specified)
Strict Validation: Yes
AQP referenced   : No
-------------------------------------------------------------------------------
Decision Statistics                        sub-to-net              net-to-sub
-------------------------------------------------------------------------------
Total
-------------------------------------------------------------------------------
Allowed
  Octets                                             0                       0
  Packets                                            0                       0
Dropped
  Octets                                             0                       0
  Packets                                            0                       0
Dropped Reason
-------------------------------------------------------------------------------
Bad Flags
  Octets                                             0                       0
  Packets                                            0                       0
Bad Options
  Octets                                             0                       0
  Packets                                            0                       0
Bad Sequence Number
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Octets                                    0                    0
  Packets                                   0                    0
Bad Acknowledgment Number
  Octets                                    0                    0
  Packets                                   0                    0
No Establishment
    Octets                                  0                    0
  Packets                                   0                    0
SYN After Conn Establishment
  Octets                                    0                    0
  Packets                                   0                    0
Asymmetric Traffic
  Octets                                    0                    0
  Packets                                   0                    0
Traffic After Reset (RST)
  Octets                                    0                    0
  Packets                                   0                    0
Fragmented
  Octets                                    0                    0
  Packets                                   0                    0
```

27.13 te-database

te-database

Syntax

te-database [**adv-router** *adv-router*] [**neighbor** *neighbor*] [**detail**]

Context

[Tree] (tools>dump>router te-database)

Full Context

tools dump router te-database

Description

Commands in this context dump the traffic engineering database.

Parameters

adv-router

Dumps the attributes of a specified traffic engineering database advertising router.

Values ip-address, isis-system-id

neighbor

Dumps the neighbor of a traffic engineering database advertising router.

Values ip-address, isis-system-id

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

detail

Specifies additional detailed traffic engineering database information.

Platforms

All

Output

The following output is an example of traffic engineering database information.

Output Example

```
*A:Dut-F#  tools dump router te-database
===============================================================================
Rtr: 0020.0200.2002  Addr: 2.2.2.2         TE ABR                ISIS/0/L1
Rtr: 0030.0300.3003  Addr: 3.3.3.3           ABR                 ISIS/0/L1
AdvRtr: 0020.0200.2002  Nghb: 0030.0300.3003                     ISIS/0/L1
  LocIp/Id 10.0.0.9       /0                TE R Status: OK
AdvRtr: 0030.0300.3003  Nghb: 0020.0200.2002                     ISIS/0/L1
  LocIp/Id 10.0.0.10      /0                TE R Status: OK
===============================================================================
Rtr: 0020.0200.2002  Addr: 2.2.2.2         TE ABR                ISIS/0/L2
Rtr: 0030.0300.3003  Addr: 3.3.3.3           ABR                 ISIS/0/L2
AdvRtr: 0020.0200.2002  Nghb: 0030.0300.3003                     ISIS/0/L2
  LocIp/Id 10.0.0.9       /0                TE R Status: OK
AdvRtr: 0030.0300.3003  Nghb: 0020.0200.2002                     ISIS/0/L2
  LocIp/Id 10.0.0.10      /0                TE R Status: OK
===============================================================================
```

27.14 te-lspinfo

te-lspinfo

Syntax

te-lspinfo [**endpoint** *ip-address*] [**sender** *ip-address*] [**lspid** *lsp-id*] [**detail**] [**p2p** | **p2p-tid** *tunnel-id*]

te-lspinfo [**endpoint** *ip-address*] [**sender** *ip-address*] [**lspid** *lsp-id*] [**detail**] [**p2mp** | **p2mp-tid** *tunnel-id*] { [**phops**] [**nhops**] [**s2l** *ip-address*] }}

Context

[Tree] (tools>dump>router>mpls te-lspinfo)

Full Context

tools dump router mpls te-lspinfo

Description

This command displays TE LSP information for MPLS.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of MPLS TE LSP information.

Output Example

```
B:Dut-R# tools dump router mpls te-lspinfo
Key P2P: Session(10.10.3.2, 201, 10.3.3.3) Sender(10.3.3.3, 2) PHOP(10.10.3.1),
Flags
0x0

Key P2P: Session(10.10.3.1, 1035, 10.4.4.4) Sender(10.4.4.4, 22) PHOP(10.10.11.2),
Flags
0x0

Key P2MP: Session(0.0.0.0, 1, 10.4.4.4) Sender(10.4.4.4, 52226) PHOP(0.0.0.0) Flags
0x10
  S2L [1] Key: endPoint to 10.2.2.2   subGroupId - 1 subGroupOrigId - 10.4.4.4
  S2L [2] Key: endPoint to 10.10.2.2  subGroupId - 3 subGroupOrigId - 10.4.4.4
  S2L [3] Key: endPoint to 10.10.13.2 subGroupId - 4 subGroupOrigId - 10.4.4.4

Key P2MP: Session(0.0.0.0, 2, 10.4.4.4) Sender(10.4.4.4, 51714) PHOP(0.0.0.0) Flags
0x10
  S2L [1] Key: endPoint to 10.2.2.2   subGroupId - 1 subGroupOrigId - 10.4.4.4
  S2L [2] Key: endPoint to 10.10.2.2  subGroupId - 3 subGroupOrigId - 10.4.4.4
  S2L [3] Key: endPoint to 10.10.13.2 subGroupId - 4 subGroupOrigId - 10.4.4.4

Key P2MP: Session(0.0.0.0, 3, 10.4.4.4) Sender(10.4.4.4, 53250) PHOP(0.0.0.0) Flags
0x10

*A:Dut-T# tools dump router mpls te-lspinfo p2mp-tid 102 nhops

  Key P2MP: Session(0.0.0.0, 102, 10.4.4.4) Sender(10.4.4.4, 3074) PHOP(0.0.0.0)
Flags
0x10
  ------------------------------------------------------------------------
        List of NEXT HOPS
  ------------------------------------------------------------------------

  NextHop [1] =>
  Key: Nhop - isFrr 0, outIf 0, NextHop 0.0.0.0 label - 128843  global Instance 0 is
Leaf node
        ------------------------------------------------------------------------
        Primary NHLFE => outLabel - 0 and NextHop - 0.0.0.0, outIf 0 (0)
                Port(NONE) NhIdx 0, ProtNhIdx 0, NumS2L 1
                ProtectInstance - 0, ProtectGroup 0
        POP
        No Backup NHLFEs for this Ltn entry
  Mid List :    3428 numS2Ls - 1 (Primary MID),

  NextHop [2] =>
  Key: Nhop - isFrr 0, outIf 3, NextHop 10.10.13.2 label - 128806  global Instance -
48747
        ------------------------------------------------------------------------
        Primary NHLFE => outLabel - 128806 and NextHop - 10.10.13.2, outIf 3 (126)
                Port(9/1/1) NhIdx 4322, ProtNhIdx 2275, NumS2L 1
                ProtectInstance - 1, ProtectGroup 126
        SWAP
        Backup NHLFE => outLabel - 130223 and NextHop - 10.10.3.2, outIf 5 (124)
                Port(9/2/3) outPushLabel 128806, NhIdx 5469, ProtNhIdx 0, NumS2L 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Mid List :    3428 numS2Ls - 1 (Primary MID),

  NextHop [3] =>
  Key: Nhop - isFrr 0, outIf 4, NextHop 10.10.2.2 label - 128836  global Instance -
48974
        ------------------------------------------------------------------------
        Primary NHLFE => outLabel - 128836 and NextHop - 10.10.2.2, outIf 4 (125)
                Port(lag-1) NhIdx 4292, ProtNhIdx 2245, NumS2L 2
                ProtectInstance - 1, ProtectGroup 125
        SWAP
        Backup NHLFE => outLabel - 130223 and NextHop - 10.10.3.2, outIf 5 (124)
                Port(9/2/3) outPushLabel 128836, NhIdx 5659, ProtNhIdx 0, NumS2L 2
  Mid List :    3428 numS2Ls - 1 (Primary MID),   3471 numS2Ls - 1 (Backup MID),

  S2L [1] Key: endPoint to 10.2.2.2   subGroupId - 1 subGroupOrigId - 10.4.4.4
  S2L [2] Key: endPoint to 10.3.3.3   subGroupId - 2 subGroupOrigId - 10.4.4.4
  S2L [3] Key: endPoint to 10.10.2.2  subGroupId - 3 subGroupOrigId - 10.4.4.4
  S2L [4] Key: endPoint to 10.10.13.2 subGroupId - 4 subGroupOrigId - 10.4.4.4

  Total TeLspInfo Count   : 1
```

27.15 telemetry

telemetry

Syntax

telemetry

Context

[Tree] (show>system telemetry)

Full Context

show system telemetry

Description

Commands in this context display telemetry information.

Platforms

All

telemetry

Syntax

telemetry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>dump>system telemetry)

Full Context

tools dump system telemetry

Description

Commands in this context dump telemetry information.

Platforms

All

27.16 template

template

Syntax

template

Context

[Tree] (show>app-assure>http-redirect template)

Full Context

show application-assurance http-redirect template

Description

This command displays http-error-redirect template information.

Platforms

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

Output

The following output is an example of the policer information.

Output Example

```
*A:cses-E11>show application-assurance http-error-redirect template
===============================================================================
Application-Assurance http-error-redirect templates
===============================================================================
ID      Description
-------------------------------------------------------------------------------
1       Template suited for Barefruit landing server.  Includes participant-id.
2       Template suited for Xerocole landing server.
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
*A:cses-E11>
```

template

Syntax

template

Context

[Tree] (show>app-assure>http-notif template)

Full Context

show application-assurance http-notification template

Description

This command displays http-notification template information.

Platforms

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

template

Syntax

template [*template-name*]

Context

[Tree] (show>router>bier template)

Full Context

show router bier template

Description

This command shows the BIER template information.

Parameters

template-name

Displays the template name, up to 64 characters.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of a BIER template. Table 664: Output fields: BIER template provides BIER template field descriptions.

Output Example

```
*A:sim-06# show router bier template "BIER-Template-1"
===============================================================================
Bier Admin State             : Up
Oper State                   : Up
===============================================================================
Templates
===============================================================================
Template Name                                                    Admin/Op*
  SD-Range
    Prefix                                Bfr* MT                #PMSI
-------------------------------------------------------------------------------
BIER-Template-1                                                  Up/Up
  0-0
    192.0.2.6                             6    ipv4-unicast      4
  1-1
    192.0.2.6                             6    ipv4-multicast    2
-------------------------------------------------------------------------------
Total number of templates    : 1
Total number of subdomains   : 2
```

Table 664: Output fields: BIER template

Label	Description
Bier Admin State	The BIER administrative state
Oper State	The BIER operational state
Template Name	The BIER template name
SD-Range	The BIER SD-Range
Prefix	The prefix
Total number of templates	The total number of templates
Total number of subdomains	The total number of subdomains

template

Syntax

template [*name*]

Context

[Tree] (show>router>route-next-hop-policy template)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router route-next-hop-policy template

Description

This command displays route next-hop policy templates.

Parameters

name

Specifies the template name, up to 32 characters.

Platforms

All

Output

The following output is an example of route next-hop policy template information.

Output Example

```
*A:Dut-C# show router route-next-hop-policy template
===============================================================================
Route next-hop templates
===============================================================================
Template                          Description
-------------------------------------------------------------------------------
"myTemplate1"                     "myNextHopPolicy1"
"myTemplate2"                     "myNextHopPolicy2"
"myTemplate3"                     "myNextHopPolicy3"
-------------------------------------------------------------------------------
Templates : 3
===============================================================================
*A:Dut-C#

*A:Dut-C# show router route-next-hop-policy template "myTemplate2"
        template "myTemplate2"
            description "myNextHopPolicy2"
            nh-type tunnel
        exit
*A:Dut-C#
```

template

Syntax

template

Context

[Tree] (show>service template)

Full Context

show service template

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display service template information.

Platforms

All

template

Syntax

template

Context

[Tree] (show>app-assure>http-err-redirect template)

Full Context

show application-assurance http-error-redirect template

Description

This command displays HTTP error redirect templates.

Platforms

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

27.17 test-event

test-event

Syntax

test-event [**custom-text** *custom-text*]

Context

[Tree] (tools>perform>log test-event)

Full Context

tools perform log test-event

Description

This command generates the tmnxTestEvent test event.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

custom-text

Specifies custom text, up to 800 characters. Embedded double quotes are not supported in the *custom-text* string. There is no special treatment for \n or \r sequences. For example, \n in the *custom-text* string is output as the backslash character (\) and "n" (the equivalent of ASCII 0x5C and 0x6e).

Platforms

All

27.18 test-oam

test-oam

Syntax

test-oam

Context

[Tree] (show test-oam)

Full Context

show test-oam

Description

Commands in this context display test oam information.

Platforms

All

test-oam

Syntax

test-oam

Context

[Tree] (clear test-oam)

Full Context

clear test-oam

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context clear test oam information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

test-oam

Syntax

test-oam

Context

[Tree] (tools>dump test-oam)

Full Context

tools dump test-oam

Description

Commands in this context dump test oam information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

test-oam

Syntax

test-oam

Context

[Tree] (tools>perform test-oam)

Full Context

tools perform test-oam

Description

Commands in this context perform test OAM functions.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

test-oam

Syntax

test-oam

Context

[Tree] (monitor test-oam)

Full Context

monitor test-oam

Description

Commands in this context display test oam information.

Platforms

All

27.19 tests

tests

Syntax

tests [**session** *session-name*] [**test-id** *test-id*] [**test-type** {**dm** | **dmm** | **lmm** | **slm** | **twamp-light**}]

Context

[Tree] (show>oam-pm tests)

Full Context

show oam-pm tests

Description

This command displays a list of OAM-PM test types and associated test IDs. The output provides an ordered list by type and ID to help locate available test IDs that may be configured within a specific type. Filters are available to refine the output to the operational need. Multiple filters can be included to further refine the output. The combination of the filters is an AND function. All filters must be true to provide tests output.

Parameters

session-name

Displays the output by session name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

test-id

Displays the output by test ID.

Values 0 to 2147483647

test-type

Keyword that displays the output by test type.

Values dm, dmm, lmm, slm, twamp-light

Platforms

All

Output

The following outputs are examples of OAM-PM test type information:

- Output example: OAM-PM tests, Table 665: Output fields: OAM-PM tests
- Output example: OAM-PM tests for a specific session, Table 665: Output fields: OAM-PM tests
- Output example: OAM-PM tests for a specific ID, Table 665: Output fields: OAM-PM tests
- Output example: OAM-PM tests for test-type TWAMP light, Table 665: Output fields: OAM-PM tests

Output example: OAM-PM tests

```
A:node-2# show oam-pm tests
===============================================================================
OAM Performance Monitoring Test Summary
===============================================================================
Test
Type    Test ID  Admin  Oper  TxE  Sess Type                          Session
-------------------------------------------------------------------------------
DM            5     Up    Up   no  proactive           mpls-dm-rsvp-PE-2-PE-1
DM            6     Up    Up   no  proactive       mpls-dm-rsvp-PE-2-PE-1-hop1
DM          100     Up    Up   no  proactive          mpls-dm-static-PE-2-PE-1
DM          101     Up    Up   no  proactive     mpls-dm-static-PE-2-PE-1-hop1
DM          200     Up    Up   no  proactive       mpls-dm-rsvp-auto-PE-2-PE-1
DMM           1     Up    Up   no  proactive            eth-port-int-PE-2-P-3
DMM           2     Up    Up   no  proactive       eth-circuit-service-epipe1
DMM           3     Up    Up   no  proactive      eth-circuit-service-epipe1-2
DMM           4     Up    Up   no  proactive         eth-circuit-service-vpls3
DMM         222     Up    Up   no  proactive      eth-circuit-service-epipe1-3
LMM           2     Up    Up   no  proactive        eth-circuit-service-epipe1
SLM           2     Up    Up   no  proactive        eth-circuit-service-epipe1
SLM           3     Up    Up   no  proactive      eth-circuit-service-epipe1-2
SLM           4     Up    Up   no  proactive         eth-circuit-service-vpls3
SLM         222     Up    Up   no  proactive      eth-circuit-service-epipe1-3
SLM         777   Down  Down   no  proactive              eth-test-nbn-ireland
TWL           1     Up    Up   no  proactive              ip-rtr-int-PE-1-PE-2
TWL           2     Up    Up  yes  proactive          ip-circuit-service-vprn2
TWL           3     Up    Up   no  proactive                ip-lpb101-RSVP-LSP
TWL           4     Up    Up   no  proactive               ip-lpb111-SR-TE-LSP
TWL         100     Up    Up   no  proactive        ip-rtr-telemetry-streaming
TWL         999     Up    Up   no  proactive                   twamp-l-directed
-------------------------------------------------------------------------------
No. of OAM-PM Tests: 22
===============================================================================
TxE=yes: detected an error on the test's most recent packet transmit attempt.
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example: OAM-PM tests for a specific session

```
A:node-2# show oam-pm tests session mpls-dm-rsvp-PE-2-PE-1
===============================================================================
OAM Performance Monitoring Test Summary
===============================================================================
Test
Type    Test ID  Admin  Oper  TxE  Sess Type                         Session
-------------------------------------------------------------------------------
DM            5     Up    Up   no  proactive           mpls-dm-rsvp-PE-2-PE-1
-------------------------------------------------------------------------------
No. of OAM-PM Tests: 1
===============================================================================
TxE=yes: detected an error on the test's most recent packet transmit attempt.
```

Output example: OAM-PM tests for a specific ID

```
A:node-2# show oam-pm tests test-id 4
===============================================================================
OAM Performance Monitoring Test Summary
===============================================================================
Test
Type    Test ID  Admin  Oper  TxE  Sess Type                         Session
-------------------------------------------------------------------------------
DMM           4     Up    Up   no  proactive         eth-circuit-service-vpls3
SLM           4     Up    Up   no  proactive         eth-circuit-service-vpls3
TWL           4     Up    Up   no  proactive               ip-lpb111-SR-TE-LSP
-------------------------------------------------------------------------------
No. of OAM-PM Tests: 3
===============================================================================
TxE=yes: detected an error on the test's most recent packet transmit attempt.
```

Output example: OAM-PM tests for test-type TWAMP light

```
A:node-2# show oam-pm tests test-type twamp-light
===============================================================================
OAM Performance Monitoring Test Summary
===============================================================================
Test
Type    Test ID  Admin  Oper  TxE  Sess Type                         Session
-------------------------------------------------------------------------------
TWL           1     Up    Up   no  proactive             ip-rtr-int-PE-1-PE-2
TWL           2     Up    Up  yes  proactive          ip-circuit-service-vprn2
TWL           3     Up    Up   no  proactive               ip-lpb101-RSVP-LSP
TWL           4     Up    Up   no  proactive              ip-lpb111-SR-TE-LSP
TWL         100     Up    Up   no  proactive        ip-rtr-telemetry-streaming
TWL         999     Up    Up   no  proactive                  twamp-l-directed
-------------------------------------------------------------------------------
No. of OAM-PM Tests: 6
===============================================================================
TxE=yes: detected an error on the test's most recent packet transmit attempt.
```

Table 665: Output fields: OAM-PM tests

Label	Description
Test Type	The OAM-PM protocol specific test: • SLM – indicates a test type of Synthetic Loss Message (SLM)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	• TWL – indicates a test type of TWAMP light
Test ID	The numerical value, between 0 to 2147583647, that is assigned to the protocol specific test The (**auto**) tag appears if the test ID was automatically assigned
Admin	The administrative state of the test: Up – the test has been enabled by configuration Down – the test was not enabled by configuration
Oper	The operational state of the test: Up – The test is administratively up and currently transmitting, attempting to transmit packets, or ready to transmit packets Down – the test is administratively down or an OAM-PM session has been configured with **session-type on-demand** and has not been enabled using the global CLI **oam oam-pm session start** command
TxE	no – no error detected yes – error detected
Sess Type	The session type: • proactive – the session is always on, with an immediate start and no stop • on-demand – the session has an immediate start and no stop, or a stop based on the offset.
Session	The name of the session, up to 32 characters

27.20 tethering

tethering

Syntax

tethering detail

Context

[Tree] (tools>dump>app-assure>group tethering)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

tools dump application-assurance group tethering

Description

This command displays AA current subscribers' tethering statistics.

Parameters

detail

Specifies detailed tethering statistics.

Platforms

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

Output

The following output is an example of tethering information.

Output Example

```
tools dump application-assurance group 1:1 tethering detail
===============================================================================
Application-Assurance tethering detail - Group 1:1
===============================================================================
          TTL            Expected       Flow Count
-------------------------------------------------------------------------------
          62             no             215
          63             yes            1501255
          126            no             7612
          127            yes            1078002
===============================================================================
```

tethering

Syntax

tethering clear-counters

Context

[Tree] (tools>perform>app-assure>group tethering)

Full Context

tools perform application-assurance group tethering

Description

This command clears the counters from the tethering statistics.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.21 threshold-crossing-alert

threshold-crossing-alert

Syntax

threshold-crossing-alert [**detail**]

Context

[Tree] (show>app-assure threshold-crossing-alert)

Full Context

show application-assurance threshold-crossing-alert

Description

This command displays information about threshold crossing alerts.

Platforms

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

Output

The following output is an example of application assurance threshold crossing alert information.

Output Example

```
show application-assurance threshold-crossing-alert
===============================================================================
Grp:Part  Type            Name                            Entry       Dir
-------------------------------------------------------------------------------
1         error-drop      N/A                             N/A         to-sub
1         error-drop      N/A                             N/A         from-sub
1         frag-drop-ooo   N/A                             N/A         to-sub
1         overload-drop   N/A                             N/A         from-sub
1         overload-drop   N/A                             N/A         to-sub
1         gtp-filter      gtpFilter                       def-action  from-sub
1         gtp-filter      gtpfilter                       max-payload from-sub
1         gtp-filter      gtpfilter                       def-action  from-sub
1         gtp-filter      red                             2           to-sub
1         gtp-filter      red                             def-action  from-sub
1         sctp-filter     blue                            ppid-range  to-sub
1         sctp-filter     red                             1           from-sub
1         sctp-filter     red                             2           to-sub
1         sctp-filter     red                             ppid-range  from-sub
1         sctp-filter     red                             def-action  to-sub
1         sctp-filter     red                             def-action  from-sub
1         session-filter  blue                            def-action  from-sub
1         session-filter  red                             1           from-sub
1         session-filter  red                             2           to-sub
1         session-filter  red                             def-action  from-sub
1         tcp-validate    green                           N/A         to-sub
2:50      error-drop      N/A                             N/A         to-sub
2:32656   error-drop      N/A                             N/A         from-sub
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
2:32656   policer         12345679801234567890123456789012 N/A         from-sub
2:32656   policer         red                              N/A         from-sub
-------------------------------------------------------------------------------
No. of TCAs: 24
===============================================================================


show application-assurance threshold-crossing-alert detail
===============================================================================
Application Assurance Threshold Crossing Alerts
===============================================================================
-------------------------------------------------------------------------------
tcp-validate "green" to-sub
-------------------------------------------------------------------------------
Group:Part     : 1                     Trigger on     : denied-traffic
High watermark : 30                    Low watermark  : 20
Last raised    : N/A                   Last cleared   : N/A
State          : cleared
```

27.22 thresholds

thresholds

Syntax

thresholds [**type** {**alarms** | **hc-alarms** | **events** | **logs**}]

Context

[Tree] (show>system thresholds)

Full Context

show system thresholds

Description

This command displays system monitoring thresholds. The Threshold Events Log table only retains the last 201 entries.

Parameters

alarms

Keyword to display the threshold alarms.

hc-alarms

Keyword to display the threshold high capacity alarms.

events

Keyword to display the threshold events.

logs

Keyword to display the threshold events log.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are an example of system threshold information, and Table 666: Output fields: system thresholds describes the output fields:

For example:

- **Output example: show system thresholds**

```
# show system thresholds
===============================================================
Threshold Alarms
===============================================================
Variable: tmnxCpmFlashUsed.1.10.1
Alarm Id         : 1        Last Value : 3192120
Rising Event Id  : 1        Threshold  : 10
Falling Event Id : 0        Threshold  : 0
Sample Interval  : 1        SampleType : absolute
Startup Alarm    : either   Owner      : TiMOS CLI

Variable: tmnxCpmFlashUsed.1.10.2
Alarm Id         : 2        Last Value : 0
Rising Event Id  : 2        Threshold  : 20
Falling Event Id : 3        Threshold  : 30
Sample Interval  : 2        SampleType : absolute
Startup Alarm    : either   Owner      : TiMOS CLI

Variable: tmnxCpmFlashPercentageUsed.1.10.1
Alarm Id         : 3        Last Value : 19
Rising Event Id  : 4        Threshold  : 30
Falling Event Id : 0        Threshold  : 0
Sample Interval  : 3        SampleType : absolute
Startup Alarm    : either   Owner      : TiMOS CLI

Variable: tmnxCpmFlashPercentageUsed.1.10.2
Alarm Id         : 4        Last Value : 0
Rising Event Id  : 5        Threshold  : 40
Falling Event Id : 6        Threshold  : 50
Sample Interval  : 4        SampleType : absolute
Startup Alarm    : either   Owner      : TiMOS CLI

===============================================================

===============================================================================
HC Threshold Alarms
===============================================================================
Variable: ifHCInOctets.35684352
Alarm Id         : 65399       Last Value : 9223372036854775807
Rising Event Id  : 60001       Threshold  : 9223372036854775807
Falling Event Id : N/A         Threshold  : N/A
Sample Interval  : 7s          SampleType : absolute
Startup Alarm    : either      Owner      : TiMOS CLI
Failed SNMP Polls: 0

Variable: ifHCInOctets.35684352
Alarm Id         : 65400       Last Value : 9223372036854775803
Rising Event Id  : N/A         Threshold  : N/A
Falling Event Id : 60002       Threshold  : 9223372036854775803
Sample Interval  : 11s         SampleType : absolute
Startup Alarm    : either      Owner      : TiMOS CLI
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Failed SNMP Polls: 0

===============================================================================

===============================================================
Threshold Events
===============================================================
Description: TiMOS CLI - cflash capacity alarm rising event
             using percentages
Event Id         : 1        Last Sent  : 07/23/2015 18:15:46
Action Type      : both     Owner      : TiMOS CLI

Description: TiMOS CLI - cflash capacity warning rising event
Event Id         : 2        Last Sent  : never
Action Type      : both     Owner      : TiMOS CLI

Description: TiMOS CLI - cflash capacity warning falling event
Event Id         : 3        Last Sent  : 07/23/2015 18:15:46
Action Type      : both     Owner      : TiMOS CLI

Description: TiMOS CLI - cflash capacity warning rising event
             using percentages
Event Id         : 4        Last Sent  : never
Action Type      : both     Owner      : TiMOS CLI

Description: TiMOS CLI - cflash capacity alarm rising event
             using percentages
Event Id         : 5        Last Sent  : never
Action Type      : both     Owner      : TiMOS CLI

Description: TiMOS CLI - cflash capacity alarm falling event
             using percentages
Event Id         : 6        Last Sent  : 07/23/2015 18:15:46
Action Type      : both     Owner      : TiMOS CLI

===============================================================
===============================================================
Threshold Events Log
===============================================================
Description      : TiMOS CLI - cflash capacity alarm rising
                   event using percentages : value=3192120,
                   >=10 : alarm-index 1, event-index 1 alarm-
                   variable OID tmnxCpmFlashUsed.1.10.1
Event Id         : 1        Time Sent  : 07/23/2015 18:15:46

Description      : TiMOS CLI - cflash capacity warning falling
                   event : value=0, <=30 : alarm-index 2, event-
                   index 3 alarm-variable OID tmnxCpmFlashUsed.
                   1.10.2
Event Id         : 3        Time Sent  : 07/23/2015 18:15:46

Description      : TiMOS CLI - cflash capacity alarm falling
                   event using percentages : value=0, <=50 :
                   alarm-index 4, event-index 6 alarm-variable
                   OID tmnxCpmFlashPercentageUsed.1.10.2
Event Id         : 6        Time Sent  : 07/23/2015 18:15:46

===============================================================
```

- **Output example: show system thresholds type alarms**

```
# show system thresholds type alarms
===============================================================
Threshold Alarms
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================
Variable: tmnxSysUpTime.0
Alarm Id         : 64399    Last Value : 8378901
Rising Event Id  : 1        Threshold  : -2147483648
Falling Event Id : 65399    Threshold  : 2147483647
Sample Interval  : 5        SampleType : absolute
Startup Alarm    : either   Owner      : TiMOS CLI

===============================================================
```

- **Output example: show system thresholds type hc-alarms**

```
# show system thresholds type hc-alarms
===============================================================================
HC Threshold Alarms
===============================================================================
Variable: tmnxSysUpTime.0
HC Alarm Id      : 65400       Last Value : 8380101
Rising Event Id  : 1           Threshold  : -5123456789
Falling Event Id : 65399       Threshold  : 5111222333
Sample Interval  : 5s          SampleType : absolute
Startup Alarm    : either      Owner      : TiMOS CLI
Failed SNMP Polls: 0

===============================================================================
```

- **Output example: show system thresholds type events**

```
# show system thresholds type events
===============================================================
Threshold Events
===============================================================
Description: 64-bit rising event 1
Event Id         : 1        Last Sent  : 09/24/2025 18:59:13
Action Type      : both     Owner      : TiMOS CLI

Description: 64-bit falling event 65399
Event Id         : 65399    Last Sent  : 09/24/2025 18:59:18
Action Type      : both     Owner      : TiMOS CLI

===============================================================
```

- **Output example: show system thresholds type logs**

```
# show system thresholds type logs
===============================================================
Threshold Events Log
===============================================================
Description      : 64-bit rising event 1 : value=8294560, >=-
                   5123456789 : hc-alarm-index 65400, event-
                   index 1, hc-alarm-variable OID tmnxSysUpTime.
                   0
Event Id         : 1        Time Sent  : 09/24/2025 18:44:58

===============================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 666: Output fields: system thresholds

Label	Description
Variable	Displays the variable OID
Alarm Id	Displays the numerical identifier for the alarm
Last Value	Displays the last threshold value
Rising Event Id	Displays the identifier of the RMON rising event
Threshold	Displays the identifier of the RMON rising threshold
Falling Event Id	Displays the identifier of the RMON falling event
Threshold	Displays the identifier of the RMON falling threshold
Sample Interval	Displays the polling interval, in seconds, over which the data is sampled and compared with the rising and falling thresholds
SampleType	Displays the method of sampling the selected variable and calculating the value to be compared against the thresholds
Startup Alarm	Displays the alarm that may be sent when this alarm is first created.
Owner	Displays the owner of this alarm.
Failed SNMP Polls	Displays the number of failed SNMP polls
Description	Displays the event cause
Event Id	Displays the identifier of the threshold event
Last Sent	Displays the date and time the alarm was sent
Action Type	log — An entry is made in the RMON-MIB log table for each event occurrence. trap — An SR OS logger event is generated. The SR OS logger utility then distributes the notification of this event to its configured log destinations, which may be CONSOLE, telnet session, memory log, cflash file, syslog, or SNMP trap destinations logs. both — Both an entry in the RMON-MIB logTable and an SR OS logger event are generated. none — No action is taken.
Owner	Displays the owner of the event

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.23 throughput

throughput

Syntax

throughput tunnel-type *tunnel-type* **system** [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

throughput tunnel-type *tunnel-type* **type** *type* **system** [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

throughput tunnel-type *tunnel-type* **isa** *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

throughput tunnel-type *tunnel-type* **type** *type* **isa** *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

throughput tunnel-type *tunnel-type* **type** *type* **isa** *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**] **esa-vm** *esa-id/vm-id*

throughput tunnel-type *tunnel-type* **tunnel-group** *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

throughput tunnel-type *tunnel-type* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] **esa-vm** *esa-id/vm-id*

throughput tunnel-type *tunnel-type* **type** *type* **tunnel-group** *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

Context

[Tree] (show>isa>stats>ip-tunnel-stats throughput)

Full Context

show isa statistics ip-tunnel-stats throughput

Description

This command displays throughput statistics for the specified tunnel types and scope.

The following scopes are supported:

- per ISA
- per tunnel group
- per system

The statistics include the following information:

- total packet per second (encapsulated and decapsulated)
- encapsulated packets per second
- decapsulated packets per second
- total bits per second (encapsulated and decapsulated) in Mibits/s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- encapsulated bits per second in Mibits/s
- decapsulated bits per second in Mibits/s

Syntax notes:

- 1 Mibits/s, equals 2^{20} bits per second
- The bits per second counter is an integer which is a rounded down value from the measured value.

The system collects stats every 10 minutes for last the 24 hour per the wall clock. A current value is also included in the output. The value is an average derived value of 10 minutes. The start time indicates the starting timestamp of measurement. The sampling duration indicates the duration of measurement.

Parameters

tunnel-type

Displays the type of tunnel.

Values gre, ip-in-ip, l2tpv3

mda

Displays the ISA ID.

Values slot/mda

tunnel-group-id

Displays the ID of the tunnel group.

Values 1 to 16

type

Displays the type of breakdown counter.

Values bidir-pps, bidir-bps, encap-pps, encap-bps, decap-pps, decap-bps

count

Displays the number historical values to be included in the output.

Values 1 to 24

minutes

Displays the number of minutes of historical values to be included in output.

Values 1 to 1440

current

Displays only the current values.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

vm-id	1 to 4

show-oid

Specifies to include the SNMP object identifier (OID) and the instance ID for the latest historical value in the output.

Platforms

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

Output

The following output is an example of the **show isa statistics throughput ip-tunnel-stats** command.

Output Example

```
show>isa>stats>ip-tunnel-stats# throughput tunnel-type gre tunnel-group 1
===============================================================================
STATISTICS FOR ISA TUNNEL GROUP 1
===============================================================================
INDEX        VALUE                     START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
ENCAPSULATED GRE TUNNEL THROUGHPUT (PKTS/SEC)
1 (CURRENT)  62                        2017/05/22 21:50:00 MIN 6 SEC 24
2            62                        2017/05/22 21:40:00 MIN 10
3            62                        2017/05/22 21:30:00 MIN 10
4            62                        2017/05/22 21:20:00 MIN 10
5            62                        2017/05/22 21:10:00 MIN 10
6            87                        2017/05/22 21:00:00 MIN 10
7            18                        2017/05/22 20:50:00 MIN 10
8            0                         2017/05/22 20:40:00 MIN 10
9            0                         2017/05/22 20:30:00 MIN 10
10           0                         2017/05/22 20:20:00 MIN 10
11           0                         2017/05/22 20:10:00 MIN 10
12           0                         2017/05/22 20:00:00 MIN 10
13           0                         2017/05/22 19:50:00 MIN 10
14           0                         2017/05/22 19:40:00 MIN 10
15           0                         2017/05/22 19:30:00 MIN 10
16           0                         2017/05/22 19:20:00 MIN 10
17           0                         2017/05/22 19:10:00 MIN 10
18           0                         2017/05/22 19:00:00 MIN 10
19           0                         2017/05/22 18:50:00 MIN 10
20           0                         2017/05/22 18:40:00 MIN 10
21           0                         2017/05/22 18:30:00 MIN 10
22           0                         2017/05/22 18:20:00 MIN 10
23           0                         2017/05/22 18:10:00 MIN 10
24           0                         2017/05/22 18:00:00 MIN 10
25           0                         2017/05/22 17:50:00 MIN 10
26           0                         2017/05/22 17:45:12 MIN 4 SEC 49
DECAPSULATED GRE TUNNEL THROUGHPUT (PKTS/SEC)
1 (CURRENT)  249                       2017/05/22 21:50:00 MIN 6 SEC 24
2            249                       2017/05/22 21:40:00 MIN 10
3            249                       2017/05/22 21:30:00 MIN 10
4            249                       2017/05/22 21:20:00 MIN 10
5            249                       2017/05/22 21:10:00 MIN 10
6            145                       2017/05/22 21:00:00 MIN 10
7            18                        2017/05/22 20:50:00 MIN 10
8            0                         2017/05/22 20:40:00 MIN 10
9            0                         2017/05/22 20:30:00 MIN 10
10           0                         2017/05/22 20:20:00 MIN 10
11           0                         2017/05/22 20:10:00 MIN 10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
12           0                          2017/05/22 20:00:00 MIN 10
13           0                          2017/05/22 19:50:00 MIN 10
14           0                          2017/05/22 19:40:00 MIN 10
15           0                          2017/05/22 19:30:00 MIN 10
16           0                          2017/05/22 19:20:00 MIN 10
17           0                          2017/05/22 19:10:00 MIN 10
18           0                          2017/05/22 19:00:00 MIN 10
19           0                          2017/05/22 18:50:00 MIN 10
20           0                          2017/05/22 18:40:00 MIN 10
21           0                          2017/05/22 18:30:00 MIN 10
22           0                          2017/05/22 18:20:00 MIN 10
23           0                          2017/05/22 18:10:00 MIN 10
24           0                          2017/05/22 18:00:00 MIN 10
25           0                          2017/05/22 17:50:00 MIN 10
26           0                          2017/05/22 17:45:12 MIN 4 SEC 49
ENCAPSULATED AND DECAPSULATED GRE TUNNEL THROUGHPUT (PKTS/SEC)
1 (CURRENT)  312                        2017/05/22 21:50:00 MIN 6 SEC 24
2            311                        2017/05/22 21:40:00 MIN 10
3            311                        2017/05/22 21:30:00 MIN 10
4            311                        2017/05/22 21:20:00 MIN 10
5            311                        2017/05/22 21:10:00 MIN 10
6            233                        2017/05/22 21:00:00 MIN 10
7            37                         2017/05/22 20:50:00 MIN 10
8            0                          2017/05/22 20:40:00 MIN 10
9            0                          2017/05/22 20:30:00 MIN 10
10           0                          2017/05/22 20:20:00 MIN 10
11           0                          2017/05/22 20:10:00 MIN 10
12           0                          2017/05/22 20:00:00 MIN 10
13           0                          2017/05/22 19:50:00 MIN 10
14           0                          2017/05/22 19:40:00 MIN 10
15           0                          2017/05/22 19:30:00 MIN 10
16           0                          2017/05/22 19:20:00 MIN 10
17           0                          2017/05/22 19:10:00 MIN 10
18           0                          2017/05/22 19:00:00 MIN 10
19           0                          2017/05/22 18:50:00 MIN 10
4            2                          2017/05/22 21:20:00 MIN 10
5            2                          2017/05/22 21:10:00 MIN 10
6            0                          2017/05/22 21:00:00 MIN 10
7            0                          2017/05/22 20:50:00 MIN 10
8            0                          2017/05/22 20:40:00 MIN 10
9            0                          2017/05/22 20:30:00 MIN 10
10           0                          2017/05/22 20:20:00 MIN 10
11           0                          2017/05/22 20:10:00 MIN 10
12           0                          2017/05/22 20:00:00 MIN 10
13           0                          2017/05/22 19:50:00 MIN 10
14           0                          2017/05/22 19:40:00 MIN 10
15           0                          2017/05/22 19:30:00 MIN 10
16           0                          2017/05/22 19:20:00 MIN 10
17           0                          2017/05/22 19:10:00 MIN 10
18           0                          2017/05/22 19:00:00 MIN 10
19           0                          2017/05/22 18:50:00 MIN 10
20           0                          2017/05/22 18:40:00 MIN 10
21           0                          2017/05/22 18:30:00 MIN 10
22           0                          2017/05/22 18:20:00 MIN 10
23           0                          2017/05/22 18:10:00 MIN 10
24           0                          2017/05/22 18:00:00 MIN 10
25           0                          2017/05/22 17:50:00 MIN 10
26           0                          2017/05/22 17:45:12 MIN 4 SEC 49
DECAPSULATED GRE TUNNEL THROUGHPUT (MIBIT/SEC)
1 (CURRENT)  2                          2017/05/22 21:50:00 MIN 6 SEC 24
2            2                          2017/05/22 21:40:00 MIN 10
3            2                          2017/05/22 21:30:00 MIN 10
4            2                          2017/05/22 21:20:00 MIN 10
5            2                          2017/05/22 21:10:00 MIN 10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
6            0                          2017/05/22 21:00:00 MIN 10
7            0                          2017/05/22 20:50:00 MIN 10
8            0                          2017/05/22 20:40:00 MIN 10
9            0                          2017/05/22 20:30:00 MIN 10
10           0                          2017/05/22 20:20:00 MIN 10
11           0                          2017/05/22 20:10:00 MIN 10
12           0                          2017/05/22 20:00:00 MIN 10
13           0                          2017/05/22 19:50:00 MIN 10
14           0                          2017/05/22 19:40:00 MIN 10
15           0                          2017/05/22 19:30:00 MIN 10
16           0                          2017/05/22 19:20:00 MIN 10
17           0                          2017/05/22 19:10:00 MIN 10
18           0                          2017/05/22 19:00:00 MIN 10
19           0                          2017/05/22 18:50:00 MIN 10
20           0                          2017/05/22 18:40:00 MIN 10
21           0                          2017/05/22 18:30:00 MIN 10
22           0                          2017/05/22 18:20:00 MIN 10
23           0                          2017/05/22 18:10:00 MIN 10
24           0                          2017/05/22 18:00:00 MIN 10
25           0                          2017/05/22 17:50:00 MIN 10
26           0                          2017/05/22 17:45:12 MIN 4 SEC 49
ENCAPSULATED AND DECAPSULATED GRE TUNNEL THROUGHPUT (MIBIT/SEC)
1 (CURRENT)  4                          2017/05/22 21:50:00 MIN 6 SEC 24
2            4                          2017/05/22 21:40:00 MIN 10
3            4                          2017/05/22 21:30:00 MIN 10
4            4                          2017/05/22 21:20:00 MIN 10
5            4                          2017/05/22 21:10:00 MIN 10

6            1                          2017/05/22 21:00:00 MIN 10
7            0                          2017/05/22 20:50:00 MIN 10
8            0                          2017/05/22 20:40:00 MIN 10
9            0                          2017/05/22 20:30:00 MIN 10
10           0                          2017/05/22 20:20:00 MIN 10
11           0                          2017/05/22 20:10:00 MIN 10
12           0                          2017/05/22 20:00:00 MIN 10
13           0                          2017/05/22 19:50:00 MIN 10
14           0                          2017/05/22 19:40:00 MIN 10
15           0                          2017/05/22 19:30:00 MIN 10
16           0                          2017/05/22 19:20:00 MIN 10
17           0                          2017/05/22 19:10:00 MIN 10
18           0                          2017/05/22 19:00:00 MIN 10
19           0                          2017/05/22 18:50:00 MIN 10
20           0                          2017/05/22 18:40:00 MIN 10
21           0                          2017/05/22 18:30:00 MIN 10
22           0                          2017/05/22 18:20:00 MIN 10
23           0                          2017/05/22 18:10:00 MIN 10
24           0                          2017/05/22 18:00:00 MIN 10
25           0                          2017/05/22 17:50:00 MIN 10
26           0                          2017/05/22 17:45:12 MIN 4 SEC 49
-------------------------------------------------------------------------------
NO. OF ENTRIES: 156
===============================================================================
```

throughput

Syntax

throughput gateway *name* [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**]

throughput [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**] **esa-vm** *esa-id/vm-id*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

throughput type *type* **gateway** *name* [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**] [**show-oid**]

throughput type *type* [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**] [**show-oid**] **esa-vm** *esa-id/vm-id*

throughput isa *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**]

throughput type *type* **isa** *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**] [**show-oid**]

throughput system [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**]

throughput type *type* **system** [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**] [**show-oid**]

throughput tunnel-group *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**]

throughput type *type* **tunnel-group** *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *min*] [**current**] [**show-oid**]

Context

[Tree] (show>isa>stats>ipsec-stats throughput)

Full Context

show isa statistics ipsec-stats throughput

Description

This command displays IPsec throughput statistics for the specified scope.

The system collects statistics every 10 minutes for the last 24 hours per wall clock. A current value is included in the output.

This command supports following the scopes:

- per system
- per ISA
- per tunnel group
- per IPsec GW

The statistics include:

- The number of bidirectional encrypted and decrypted per second
- The number of encrypted packets per second
- The number of decrypted packets per second
- The number of bidirectional (encrypted and decrypted) bits per second (in Mibits/s)
- The number of bidirectional encrypted bits per second (in Mibits/s)
- The number of bidirectional decrypted bits per second (in Mibits/s)

Syntax notes:

- 1 Mibits/s equals 2^{20} bits per second
- The bits per second counter is an integer, which is a value rounded down from the measured value.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

mda

Displays information about the specified ISA.

Values slot/mda

tunnel-group-id

Displays information about the specified tunnel group ID.

Values 1 to 16

name

Displays information about the name of the IPsec GW up to 32 characters in length.

count

Displays information about the number of historical values to be included in the output.

Values 1 to 24

min

Displays information about the number of minutes of historical values to be included in output.

Values 1 to 1440

current

Displays information about the current value.

show-oid

Displays information about include SNMP OID and instance ID for the latest historical value in the output, for a specified type of counter.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

Output

The following output is an example of the **show isa statistics ipsec-stats throughput** command.

Output Example

```
show>isa>stats>ipsec-stats# throughput tunnel-group 1
===============================================================================
STATISTICS FOR ISA TUNNEL GROUP 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
INDEX        VALUE                      START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
ENCRYPTED IPSEC TRAFFIC THROUGHPUT (PKTS/SEC)
1 (CURRENT)  99                         2017/05/23 22:00:00 MIN 7 SEC 51
2            72                         2017/05/23 21:50:00 MIN 10
3            0                          2017/05/23 21:40:00 MIN 10
4            0                          2017/05/23 21:30:00 MIN 10
5            0                          2017/05/23 21:20:00 MIN 10
6            0                          2017/05/23 21:10:00 MIN 10
7            0                          2017/05/23 21:00:00 MIN 10
8            0                          2017/05/23 20:50:00 MIN 10
9            0                          2017/05/23 20:40:00 MIN 10
10           0                          2017/05/23 20:30:00 MIN 10
11           0                          2017/05/23 20:20:00 MIN 10
12           0                          2017/05/23 20:10:00 MIN 10
13           0                          2017/05/23 20:00:00 MIN 10
14           0                          2017/05/23 19:50:00 MIN 10
15           0                          2017/05/23 19:40:00 MIN 10
16           0                          2017/05/23 19:30:00 MIN 10
17           0                          2017/05/23 19:20:00 MIN 10
18           0                          2017/05/23 19:10:00 MIN 10
19           0                          2017/05/23 19:00:00 MIN 10
20           0                          2017/05/23 18:50:00 MIN 10
21           0                          2017/05/23 18:40:00 MIN 10
22           0                          2017/05/23 18:30:00 MIN 10
23           0                          2017/05/23 18:20:00 MIN 10
24           0                          2017/05/23 18:10:00 MIN 10
25           0                          2017/05/23 18:00:00 MIN 10
26           0                          2017/05/23 17:50:48 MIN 9 SEC 12
DECRYPTED IPSEC TRAFFIC THROUGHPUT (PKTS/SEC)
1 (CURRENT)  99                         2017/05/23 22:00:00 MIN 7 SEC 51
2            72                         2017/05/23 21:50:00 MIN 10
3            0                          2017/05/23 21:40:00 MIN 10
4            0                          2017/05/23 21:30:00 MIN 10
5            0                          2017/05/23 21:20:00 MIN 10
6            0                          2017/05/23 21:10:00 MIN 10
7            0                          2017/05/23 21:00:00 MIN 10
8            0                          2017/05/23 20:50:00 MIN 10
9            0                          2017/05/23 20:40:00 MIN 10
10           0                          2017/05/23 20:30:00 MIN 10
11           0                          2017/05/23 20:20:00 MIN 10
12           0                          2017/05/23 20:10:00 MIN 10
13           0                          2017/05/23 20:00:00 MIN 10
14           0                          2017/05/23 19:50:00 MIN 10
15           0                          2017/05/23 19:40:00 MIN 10
16           0                          2017/05/23 19:30:00 MIN 10
17           0                          2017/05/23 19:20:00 MIN 10
18           0                          2017/05/23 19:10:00 MIN 10
19           0                          2017/05/23 19:00:00 MIN 10
20           0                          2017/05/23 18:50:00 MIN 10
21           0                          2017/05/23 18:40:00 MIN 10
22           0                          2017/05/23 18:30:00 MIN 10
23           0                          2017/05/23 18:20:00 MIN 10
24           0                          2017/05/23 18:10:00 MIN 10
25           0                          2017/05/23 18:00:00 MIN 10
26           0                          2017/05/23 17:50:48 MIN 9 SEC 12
ENCRYPTED AND DECRYPTED IPSEC TRAFFIC THROUGHPUT (PKTS/SEC)
1 (CURRENT)  199                        2017/05/23 22:00:00 MIN 7 SEC 51
2            145                        2017/05/23 21:50:00 MIN 10
3            0                          2017/05/23 21:40:00 MIN 10
4            0                          2017/05/23 21:30:00 MIN 10
5            0                          2017/05/23 21:20:00 MIN 10
6            0                          2017/05/23 21:10:00 MIN 10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
7            0                          2017/05/23 21:00:00 MIN 10
8            0                          2017/05/23 20:50:00 MIN 10
9            0                          2017/05/23 20:40:00 MIN 10
10           0                          2017/05/23 20:30:00 MIN 10
11           0                          2017/05/23 20:20:00 MIN 10
12           0                          2017/05/23 20:10:00 MIN 10
4            0                          2017/05/23 21:30:00 MIN 10
5            0                          2017/05/23 21:20:00 MIN 10
6            0                          2017/05/23 21:10:00 MIN 10
7            0                          2017/05/23 21:00:00 MIN 10
8            0                          2017/05/23 20:50:00 MIN 10
9            0                          2017/05/23 20:40:00 MIN 10
10           0                          2017/05/23 20:30:00 MIN 10
11           0                          2017/05/23 20:20:00 MIN 10
12           0                          2017/05/23 20:10:00 MIN 10
13           0                          2017/05/23 20:00:00 MIN 10
14           0                          2017/05/23 19:50:00 MIN 10
15           0                          2017/05/23 19:40:00 MIN 10
16           0                          2017/05/23 19:30:00 MIN 10
17           0                          2017/05/23 19:20:00 MIN 10
18           0                          2017/05/23 19:10:00 MIN 10
19           0                          2017/05/23 19:00:00 MIN 10
20           0                          2017/05/23 18:50:00 MIN 10
21           0                          2017/05/23 18:40:00 MIN 10
22           0                          2017/05/23 18:30:00 MIN 10
23           0                          2017/05/23 18:20:00 MIN 10
24           0                          2017/05/23 18:10:00 MIN 10
25           0                          2017/05/23 18:00:00 MIN 10
26           0                          2017/05/23 17:50:48 MIN 9 SEC 12
DECRYPTED IPSEC TRAFFIC THROUGHPUT (MIBIT/SEC)
1 (CURRENT)  3                          2017/05/23 22:00:00 MIN 7 SEC 51
2            2                          2017/05/23 21:50:00 MIN 10
3            0                          2017/05/23 21:40:00 MIN 10
4            0                          2017/05/23 21:30:00 MIN 10
5            0                          2017/05/23 21:20:00 MIN 10
6            0                          2017/05/23 21:10:00 MIN 10
7            0                          2017/05/23 21:00:00 MIN 10
8            0                          2017/05/23 20:50:00 MIN 10
9            0                          2017/05/23 20:40:00 MIN 10
10           0                          2017/05/23 20:30:00 MIN 10
11           0                          2017/05/23 20:20:00 MIN 10
12           0                          2017/05/23 20:10:00 MIN 10
13           0                          2017/05/23 20:00:00 MIN 10
14           0                          2017/05/23 19:50:00 MIN 10
15           0                          2017/05/23 19:40:00 MIN 10
16           0                          2017/05/23 19:30:00 MIN 10
17           0                          2017/05/23 19:20:00 MIN 10
18           0                          2017/05/23 19:10:00 MIN 10
19           0                          2017/05/23 19:00:00 MIN 10
20           0                          2017/05/23 18:50:00 MIN 10
21           0                          2017/05/23 18:40:00 MIN 10
22           0                          2017/05/23 18:30:00 MIN 10
23           0                          2017/05/23 18:20:00 MIN 10
24           0                          2017/05/23 18:10:00 MIN 10
25           0                          2017/05/23 18:00:00 MIN 10
26           0                          2017/05/23 17:50:48 MIN 9 SEC 12
ENCRYPTED AND DECRYPTED IPSEC TRAFFIC THROUGHPUT (MIBIT/SEC)
1 (CURRENT)  7                          2017/05/23 22:00:00 MIN 7 SEC 51
2            5                          2017/05/23 21:50:00 MIN 10
3            0                          2017/05/23 21:40:00 MIN 10
4            0                          2017/05/23 21:30:00 MIN 10
5            0                          2017/05/23 21:20:00 MIN 10
6            0                          2017/05/23 21:10:00 MIN 10
7            0                          2017/05/23 21:00:00 MIN 10
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
8            0                          2017/05/23 20:50:00 MIN 10
9            0                          2017/05/23 20:40:00 MIN 10
10           0                          2017/05/23 20:30:00 MIN 10
11           0                          2017/05/23 20:20:00 MIN 10
12           0                          2017/05/23 20:10:00 MIN 10
13           0                          2017/05/23 20:00:00 MIN 10
14           0                          2017/05/23 19:50:00 MIN 10
15           0                          2017/05/23 19:40:00 MIN 10
16           0                          2017/05/23 19:30:00 MIN 10
17           0                          2017/05/23 19:20:00 MIN 10
18           0                          2017/05/23 19:10:00 MIN 10
19           0                          2017/05/23 19:00:00 MIN 10
20           0                          2017/05/23 18:50:00 MIN 10
21           0                          2017/05/23 18:40:00 MIN 10
22           0                          2017/05/23 18:30:00 MIN 10
23           0                          2017/05/23 18:20:00 MIN 10
24           0                          2017/05/23 18:10:00 MIN 10
25           0                          2017/05/23 18:00:00 MIN 10
26           0                          2017/05/23 17:50:48 MIN 9 SEC 12
-------------------------------------------------------------------------------
NO. OF ENTRIES: 156
===============================================================================
show>isa>stats>ipsec-stats# throughput type bidir-bps isa 1/2 show-oid
-------------------------------------------------------------------------------
CURRENT STATISTIC INFO
-------------------------------------------------------------------------------
OID: TMNXIPSECISAHISTSTATSVALUE10.1.1.2.105.2
-------------------------------------------------------------------------------
===============================================================================
STATISTICS FOR ISA 1/2
===============================================================================
INDEX        VALUE                      START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
ENCRYPTED AND DECRYPTED IPSEC TRAFFIC THROUGHPUT (MIBIT/SEC)
1 (CURRENT)  7                          2017/05/23 22:10:00 MIN 1 SEC 9
2            7                          2017/05/23 22:00:00 MIN 10
3            5                          2017/05/23 21:50:00 MIN 10
4            0                          2017/05/23 21:40:00 MIN 10
5            0                          2017/05/23 21:30:00 MIN 10
6            0                          2017/05/23 21:20:00 MIN 10
7            0                          2017/05/23 21:10:00 MIN 10
8            0                          2017/05/23 21:00:00 MIN 10
9            0                          2017/05/23 20:50:00 MIN 10
10           0                          2017/05/23 20:40:00 MIN 10
11           0                          2017/05/23 20:30:00 MIN 10
12           0                          2017/05/23 20:20:00 MIN 10
13           0                          2017/05/23 20:10:00 MIN 10
14           0                          2017/05/23 20:00:00 MIN 10
15           0                          2017/05/23 19:50:00 MIN 10
16           0                          2017/05/23 19:40:00 MIN 10
17           0                          2017/05/23 19:30:00 MIN 10
18           0                          2017/05/23 19:20:00 MIN 10
19           0                          2017/05/23 19:10:00 MIN 10
20           0                          2017/05/23 19:00:00 MIN 10
21           0                          2017/05/23 18:50:00 MIN 10
22           0                          2017/05/23 18:40:00 MIN 10
23           0                          2017/05/23 18:30:00 MIN 10
24           0                          2017/05/23 18:20:00 MIN 10
25           0                          2017/05/23 18:10:00 MIN 10
26           0                          2017/05/23 18:00:00 MIN 10
27           0                          2017/05/23 17:50:48 MIN 9 SEC 12
-------------------------------------------------------------------------------
NO. OF ENTRIES: 27
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.24 time

time

Syntax

time

Context

[Tree] (show>system time)

Full Context

show system time

Description

This command displays the system time and zone configuration parameters.

Platforms

All

Output

The following output is an example of system time information, and Table 667: Output fields: system time describes the output fields.

Output Example

```
A:ALA-1# show system time
===============================================================================
Date & Time
===============================================================================
Current Date & Time : 2006/05/05 23:03:13    DST Active            : yes
Current Zone        : PDT                    Offset from UTC       : -7:00
-------------------------------------------------------------------------------
Non-DST Zone        : PST                    Offset from UTC       : -8:00
Zone type           : standard
-------------------------------------------------------------------------------
DST Zone            : PDT                    Offset from Non-DST   : 01:00
Starts              : first sunday in april 02:00
Ends                : last sunday in october 02:00
===============================================================================
A:ALA-1#


A:ALA-1# show system time (with no DST zone configured)
===============================================================================
Date & Time
===============================================================================
Current Date & Time : 2006/05/12 11:12:05       DST Active      :     no
Current Zone    : APA       Offset from UTC :  -8:00
-------------------------------------------------------------------------------
Non-DST Zone    : APA       Offset from UTC :  -8:00
Zone Type           : non-standard
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
No DST zone configured
===============================================================================
A:ALA-1#
```

Table 667: Output fields: system time

Label	Description
Date & Time	The system date and time using the current time zone.
DST Active	Yes — Daylight Savings Time is currently in effect. No — Daylight Savings Time is not currently in effect.
Zone	The zone names for the current zone, the non-DST zone, and the DST zone if configured.
Current Time Zone	Indicates the process currently controlling the system time. SNTP, NTP, PTP or NONE.
Zone type	Non-standard — The zone is user-defined. Standard — The zone is system defined.
Offset from UTC	The number of hours and minutes added to universal time for the zone, including the DST offset for a DST zone.
Offset from Non-DST	The number of hours (always 0 to 1) and minutes (0 to 59) added to the time at the beginning of Daylight Saving Time and subtracted at the end Daylight Saving Time.
Starts	The date and time Daylight Saving Time begins.
Ends	The date and time Daylight Saving Time ends.

time

Syntax

time

Context

[Tree] (show time)

Full Context

show time

Description

This command displays the current day, date, time and time zone.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The time is displayed either in the local time zone or in UTC depending on the setting of the root level **time-display** command for the console session.

Platforms

All

Output

The following output is an example of time information.

Output Example

```
A:ALA-49# show time
Tue Oct 31 12:17:15 GMT 2006
```

27.25 timers

timers

Syntax

timers [**session** *ip-addr*[*label-space*]]

Context

[Tree] (tools>dump>router>ldp timers)

Full Context

tools dump router ldp timers

Description

This command dumps information for LDP timers.

Platforms

All

27.26 tls

tls

Syntax

tls

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>system>security tls)

Full Context

show system security tls

Description

Commands in this context display TLS-related information.

Platforms

All

27.27 top-active-meps

top-active-meps

Syntax

top-active-meps [{**rx-sort** | **tx-sort**}] [**clear**]

Context

[Tree] (tools>dump>eth-cfm top-active-meps)

Full Context

tools dump eth-cfm top-active-meps

Description

This command displays and optionally clears the most active MEPs on the system.

Default

top-active-meps

Parameters

rx-sort

Sorts in the RX direction.

tx-sort

Sorts in the TX direction.

clear

Clears the current counters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.28 top-flows

top-flows

Syntax

top-flows *protocols* [**clear**]

Context

[Tree] (tools>dump>cflowd top-flows)

Full Context

tools dump cflowd top-flows

Description

This command displays the top 20 (highest traffic volume) flows for IPv4, IPv6 or MPLS traffic types collected since the cflowd top-flow table was last cleared or initialized.

Platforms

All

Output

The following output is an example of cflowd top flow information, and Table 668: Output fields: tools dump cflowd top flows describes the output fields.

Output Example

```
1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
Sr1# tools dump cflowd top-flows ipv4

Ingress i/f   SrcIP          Egress i/f     DstIP           Pr  TOS  Flgs  Pkts
 vRtr-ID   S-Port Msk AS     D-Port Msk AS  NextHop         Avg Pkt Size Active
-------------------------------------------------------------------------------
1000          52.52.52.1      2001          123.123.123.122 0x01 55   0x10  3748
 10201     0000   /8  50         0000 /8  40  202.120.130.2       220     3600
……


         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
Sr1# tools dump cflowd top-flows ipv6
SrcIP (up to IPv6)                      Ingress i/f  Src Port   vRtr ID     ToS
DstIP (upto IPv6)                       Egress i/f   Dst Port    Proto    Flags
   Nexthop (uptoIPv6)                     Total Pkts     Avg Pkt  Active(sec)
2001:0db8:85a3:0000:0000:8a2e:0370:7334  60005        10020        0        0x12
2001:0db8:85a3:0000:0000:8a2e:0280:1234  60325        20010        17       0x23
   2001:0db8:85a3:0000:0000:8a2e:1234:5678 1234567890     1500     13600
……

         1         2         3         4         5         6         7         8
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
12345678901234567890123456789012345678901234567890123456789012345678901234567890
Sr1# tools dump cflowd top-flows mpls
Label-1    Label-2    Label-3    Label-4    Total Pkts     Avg Pkt   Active(s)
  SrcIP (up to IPv6)                    Ingress i/f  Src Port    ToS
  DstIP (upto IPv6)                     Egress i/f   Dst Port    Proto    Flags
-------------------------------------------------------------------------------
```

Table 668: Output fields: tools dump cflowd top flows

Label	Description
Ingress	Displays the ingress interface ID
Src IP	Displays the source IP address of the flow (IPv4 or IPv6)
Egress	Displays the egress interface ID
Dest IP	Displays the destination IP address of the flow (IPv4 or IPv6)
Pr Proto	Displays the protocol type for flow
TOS	Displays the Type-of-Service/DSCP buts filed markings
Flgs	Displays the protocol flag markings
Pkts	Displays the total number of packets sampled for this flow (since stats were last cleared)
vRtr-ID	Displays the vRouter context the flow was sample in
S-Port Src Port	Displays the source protocol port number
Msk	Displays the route prefix length for route to source IP address
AS	Displays the Autonomous Systems number for the source route (the AS is either originating AS or peer AS depending on cflowd configuration)
D-Port Dst Port	Displays the destination protocol port number
Msk	Displays the route prefix length for route to destination IP address (Forwarding route)
AS	Displays the Autonomous Systems number for the destination route (the AS is either originating AS or peer AS depending on cflowd configuration)
Nexthop	Displays the next-hop address used to forward traffic associated with the flow

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Avg pkt size	Displays the average packet size of a sampled traffic associated with this flow (total number of packets sampled/total number of packets sampled)
Active	Displays the number of seconds the flow has been active

27.29 top-protocols

top-protocols

Syntax

top-protocols *protocols* [**clear**]

Context

[Tree] (tools>dump>cflowd top-protocols)

Full Context

tools dump cflowd top-protocols

Description

This command displays the summary information for the top 20 protocol traffic seen in the cflowd cache. All statistics are calculated based on the data collected since the last clearing of the cflowd stats with clear keyword for this command.

If the **clear** optional keyword is given, then the top-flows are displayed, and then this cache is cleared.

Platforms

All

Output

The following output is an example of cflowd top protocol traffic information, and Table 669: Output fields: tools dump cflowd top protocols describes the output fields.

Output Example

```
SR# tools dump cflowd top-protocols

The top 20 IPv4 protocols seen by cflowd are:
      Current Time: 08/29/2011 15:36:15
Last Cleared Time: 08/29/2011 15:35:08
Protocol ID     Total   Flows   Packets   Bytes   Packets   Duration   % Total
--------        Flows    /Sec     /Flow    /Pkt      /Sec      /Flow   Bandwidth
-------------------------------------------------------------------------------
UDP                2       0         6     100         0          6         75%
pr1                1       0         6      64         0          6         24%
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
TOTALS              3       0         6      88         0          6        100%
```

Table 669: Output fields: tools dump cflowd top protocols

Label	Description
Protocol ID	Displays the IPv4 or IPv6 protocol type; this will either print the well-known protocol name or the decimal protocol number
Total Flows	Displays the total number of flows recorded since the last clearing of cflowd statistics with this protocol type.
Flows/Sec	Displays the average number of flows detected for the associated protocol type (Total flows/number of seconds since last clear)
Packets/Flow	Displays the average number of packets per flow (Total number of packets/total flows)
Bytes/Pkts	Displays the average number of bytes per packet for the associated protocol type (Total number of bytes for the associated protocol/total number of packets seen for the associated protocol)
Packets/Sec	Displays the average number of packets seen for the associated protocol type (Number of packets/time since last clear)
Duration/Flow	Displays the average lifetime of a flow for the associated protocol type (Number of seconds since last clear/total flows)
Bandwidth Total (%)	Displays the percentage of bandwidth consumed by the associated protocol type (Total protocol bytes/total bytes of all flows)

27.30 topology

topology

Syntax

topology [**ipv4-unicast** | **ipv6-unicast** | **ipv4-multicast** | **ipv6-multicast** | **mt** *mt-id-number*] [**lfa**] [**detail**] [**flex-algo** {*flex-algo-id* | **all**}]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>isis topology)

Full Context

show router isis topology

Description

This command shows IS-IS topology information.

Parameters

ipv4-unicast

Displays IPv4 unicast parameters.

ipv6-unicast

Displays IPv6 unicast parameters.

ipv4-multicast

Displays IPv4 multicast parameters.

ipv6-multicast

Displays IPv6 multicast parameters.

mt *mt-id-number*

Displays multi-topology parameters.

Values 0, 2, 3, 4

lfa

Displays loop free alternative (LFA) information. This information corresponds to the backup next hops for IP links and nodes written in RTM by the base LFA feature.

detail

Displays detailed topology information.

flex-algo *flex-algo-id*

Displays information about the specified algorithm only based on the *flex-algo-id* filter.

Values 128 to 255

all

Displays topology information for all the flexible algorithms.

Platforms

All

Output

The following output is an example of router IS-IS topology output, and Table 670: Output fields: IS-IS topology describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-A# show router isis topology
===============================================================================
Rtr Base ISIS Instance 0 Topology Table
===============================================================================
Node                              Interface                 Nexthop
-------------------------------------------------------------------------------
IS-IS IP paths (MT-ID 0),   Level 1
-------------------------------------------------------------------------------
Dut-B.00                          ip-3FFE::A0A:101          Dut-B
Dut-B.01                          ip-3FFE::A0A:101          Dut-B
Dut-CA.00                         ip-3FFE::A0A:101          Dut-B
Dut-CA.01                         ip-3FFE::A0A:101          Dut-B
Dut-CA.02                         ip-3FFE::A0A:101          Dut-B
Dut-CA.05                         ip-3FFE::A0A:101          Dut-B
Dut-DA.00                         ip-3FFE::A0A:101          Dut-B
Dut-DA.01                         ip-3FFE::A0A:101          Dut-B
Dut-E.00                          ip-3FFE::A0A:101          Dut-B
Dut-F.00                          ies-1-3FFE::A0A:1501      Dut-F
Dut-F.01                          ies-1-3FFE::A0A:1501      Dut-F
Dut-F.02                          ies-1-3FFE::A0A:1501      Dut-F
-------------------------------------------------------------------------------
IS-IS IPv6 paths (MT-ID 2),  Level 1
-------------------------------------------------------------------------------
Dut-B.00                          ip-3FFE::A0A:101          Dut-B
Dut-B.01                          ip-3FFE::A0A:101          Dut-B
Dut-CA.00                         ip-3FFE::A0A:101          Dut-B
Dut-CA.01                         ip-3FFE::A0A:101          Dut-B
Dut-CA.02                         ip-3FFE::A0A:101          Dut-B
Dut-CA.05                         ip-3FFE::A0A:101          Dut-B
Dut-DA.00                         ip-3FFE::A0A:101          Dut-B
Dut-DA.01                         ip-3FFE::A0A:101          Dut-B
Dut-E.00                          ip-3FFE::A0A:101          Dut-B
Dut-F.00                          ies-1-3FFE::A0A:1501      Dut-F
Dut-F.01                          ies-1-3FFE::A0A:1501      Dut-F
Dut-F.02                          ies-1-3FFE::A0A:1501      Dut-F
-------------------------------------------------------------------------------
IS-IS IP paths (MT-ID 0),   Level 2
-------------------------------------------------------------------------------
Dut-B.00                          ip-3FFE::A0A:101          Dut-B
Dut-B.01                          ip-3FFE::A0A:101          Dut-B
Dut-CA.00                         ip-3FFE::A0A:101          Dut-B
Dut-CA.01                         ip-3FFE::A0A:101          Dut-B
Dut-CA.02                         ip-3FFE::A0A:101          Dut-B
Dut-CA.05                         ip-3FFE::A0A:101          Dut-B
Dut-DA.00                         ip-3FFE::A0A:101          Dut-B
Dut-DA.01                         ip-3FFE::A0A:101          Dut-B
Dut-E.00                          ip-3FFE::A0A:101          Dut-B
Dut-F.00                          ies-1-3FFE::A0A:1501      Dut-F
Dut-F.01                          ies-1-3FFE::A0A:1501      Dut-F
Dut-F.02                          ies-1-3FFE::A0A:1501      Dut-F
-------------------------------------------------------------------------------
IS-IS IPv6 paths (MT-ID 2),  Level 2
-------------------------------------------------------------------------------
Dut-B.00                          ip-3FFE::A0A:101          Dut-B
Dut-B.01                          ip-3FFE::A0A:101          Dut-B
Dut-CA.00                         ip-3FFE::A0A:101          Dut-B
Dut-CA.01                         ip-3FFE::A0A:101          Dut-B
Dut-CA.02                         ip-3FFE::A0A:101          Dut-B
Dut-CA.05                         ip-3FFE::A0A:101          Dut-B
Dut-DA.00                         ip-3FFE::A0A:101          Dut-B
Dut-DA.01                         ip-3FFE::A0A:101          Dut-B
Dut-E.00                          ip-3FFE::A0A:101          Dut-B
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Dut-F.00                            ies-1-3FFE::A0A:1501       Dut-F
Dut-F.01                            ies-1-3FFE::A0A:1501       Dut-F
Dut-F.02                            ies-1-3FFE::A0A:1501       Dut-F
===============================================================================
*A:Dut-A#
```

Output Example

```
A:Dut-A# show router isis 0 topology
===============================================================================
Rtr Base ISIS Instance 0 Topology Table
===============================================================================
Node                                Interface                  Nexthop
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
IS-IS IP paths (MT-ID 0),   Level 2
-------------------------------------------------------------------------------
Dut-B.00                            To_B                       Dut-B
Dut-C.00                            To_C                       Dut-C
===============================================================================
A:Dut-A#
A:Dut-A#
A:Dut-A# show router isis 0 topology flex-algo 128
===============================================================================
Rtr Base ISIS Instance 0 Flex-Algo 128 Topology Table
===============================================================================
Node                                Interface                  Nexthop
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
IS-IS IP paths (MT-ID 0),   Level 2
-------------------------------------------------------------------------------
Dut-B.00                            To_C                       Dut-C
Dut-C.00                            To_C                       Dut-C
===============================================================================
```

Table 670: Output fields: IS-IS topology

Label	Description
Node	Displays the IP address.
Interface	Displays the interface name.
Nexthop	Displays the nexthop IP address.
LFA Interface	Displays the LFA interface name.
LFA Nexthop	Displays the LFA nexthop IP address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.31 tp-interface

tp-interface

Syntax

tp-interface *interface-num* [**clear**]

Context

[Tree] (tools>dump>router>mpls tp-interface)

Full Context

tools dump router mpls tp-interface

Description

This command displays MPLS-TP interface information.

Parameters

interface-num

specifies the MPLS-TP interface

Values 1 to 4294967295

clear

clears statistics after reading

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of MPLS TP interface information.

Output Example

```
1-2 (1/1/3) : State Up, Cnt/Tm - Dn: 1/000 00:30:11.150, Up 1/000 00:30:15.160
  MEP: ifNum 1 (Validate: Y), ais: Y (txCnt 0)
    ais - Flags: 0x1 (R), Timers:
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.32 tp-lsp

tp-lsp

Syntax

tp-lsp [*lsp-name*] [**status** { **up** | **down**}] [**from** *ip-address* | **to** *ip-address*] [**detail**]

tp-lsp [*lsp-name*] **path** [**protecting** | **working**] [**detail**]

tp-lsp [*lsp-name*] **protection**

Context

[Tree] (show>router>mpls tp-lsp)

Full Context

show router mpls tp-lsp

Description

This command displays TP LSP information.

Parameters

lsp-name

Specifies the LSP name up to 64 characters in length. '*' is accepted as a wild card character.

path

Displays LSP path information.

protection

Displays LSP protection information.

up | down

Specifies the state of the LSP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of MPLS TP LSP information.

Output Example

```
*A:mlstp-dutA# show router mpls tp-lsp
path
protection
to <a.b.c.d>
<lsp-name>
 "lsp-32"  "lsp-33"  "lsp-34"  "lsp-35"  "lsp-36"  "lsp-37"  "lsp-38"  "lsp-39"
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 "lsp-40"  "lsp-41"
status {up | down}
from <ip-address>
detail

*A:mlstp-dutA# show router mpls tp-lsp "lsp-
"lsp-32"  "lsp-33"  "lsp-34"  "lsp-35"  "lsp-36"  "lsp-37"  "lsp-38"  "lsp-39"
"lsp-40"  "lsp-41"
*A:mlstp-dutA# show router mpls tp-lsp "lsp-32"

===============================================================================
MPLS MPLS-TP LSPs (Originating)
===============================================================================
LSP Name                          To              Tun     Protect   Adm  Opr
                                                  Id      Path
-------------------------------------------------------------------------------
lsp-32                            0.0.3.234       32      No        Up   Up
-------------------------------------------------------------------------------
LSPs : 1
===============================================================================

*A:mlstp-dutA# show router mpls tp-lsp "lsp-32" detail

===============================================================================
MPLS MPLS-TP LSPs (Originating) (Detail)
===============================================================================
-------------------------------------------------------------------------------
Type : Originating
-------------------------------------------------------------------------------
LSP Name    : lsp-32
LSP Type    : MplsTp                          LSP Tunnel ID  : 32
From Node Id: 0.0.3.233+                      To Node Id     : 0.0.3.234
Adm State   : Up                              Oper State     : Up
LSP Up Time : 0d 04:50:47                     LSP Down Time  : 0d 00:00:00
Transitions : 1                               Path Changes   : 2
DestGlobalId: 42                              DestTunnelNum  : 32

===============================================================================

*A:mlstp-dutA#  show router mpls tp-lsp path

===============================================================================
MPLS-TP LSP Path Information
===============================================================================
LSP Name      : lsp-32                          To            : 0.0.3.234
Admin State   : Up                              Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       32        32        AtoB_1          Up     Down
Protect                       2080      2080      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-33                          To            : 0.0.3.234
Admin State   : Up                              Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       33        33        AtoB_1          Up     Down
Protect                       2082      2082      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-34                          To            : 0.0.3.234
Admin State   : Up                              Oper State    : Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       34        34        AtoB_1          Up     Down
Protect                       2084      2084      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-35                            To            : 0.0.3.234
Admin State   : Up                                Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       35        35        AtoB_1          Up     Down
Protect                       2086      2086      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-36                            To            : 0.0.3.234
Admin State   : Up                                Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       36        36        AtoB_1          Up     Down
Protect                       2088      2088      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-37                            To            : 0.0.3.234
Admin State   : Up                                Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       37        37        AtoB_1          Up     Down
Protect                       2090      2090      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-38                            To            : 0.0.3.234
Admin State   : Up                                Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       38        38        AtoB_1          Up     Down
Protect                       2092      2092      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-39                            To            : 0.0.3.234
Admin State   : Up                                Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       39        39        AtoB_1          Up     Down
Protect                       2094      2094      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-40                            To            : 0.0.3.234
Admin State   : Up                                Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       40        40        AtoB_1          Up     Down
Protect                       2096      2096      AtoC_1          Up     Up
===============================================================================
LSP Name      : lsp-41                            To            : 0.0.3.234
Admin State   : Up                                Oper State    : Up
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       41        41        AtoB_1          Up     Down
Protect                       2098      2098      AtoC_1          Up     Up

*A:mlstp-dutA#  show router mpls tp-lsp "lsp-32" path working

===============================================================================
MPLS-TP LSP Working Path Information
    LSP: "lsp-32"
===============================================================================
LSP Name      : lsp-32                          To            : 0.0.3.234
Admin State   : Up                              Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Working                       32        32        AtoB_1          Up     Down
===============================================================================

*A:mlstp-dutA#  show router mpls tp-lsp "lsp-32" path protect

===============================================================================
MPLS-TP LSP Protect Path Information
    LSP: "lsp-32"
===============================================================================
LSP Name      : lsp-32                          To            : 0.0.3.234
Admin State   : Up                              Oper State    : Up

-------------------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F         Admin  Oper
-------------------------------------------------------------------------------
Protect                       2080      2080      AtoC_1          Up     Up
===============================================================================

*A:mlstp-dutA#  show router mpls tp-lsp "lsp-32" path protect detail

===============================================================================
MPLS-TP LSP Protect Path Information
    LSP: "lsp-32" (Detail)
===============================================================================
LSP Name      : lsp-32                          To            : 0.0.3.234
Admin State   : Up                              Oper State    : Up

Protect path information
-------------------------------------------------------------------------------
Path Type     : Protect                         LSP Num       : 2
Path Admin    : Up                              Path Oper     : Up
Out Interface : AtoC_1                          Next Hop Addr : n/a
In Label      : 2080                            Out Label     : 2080
Path Up Time  : 0d 04:52:17                     Path Dn Time  : 0d 00:00:00
Active Path   : Yes                             Active Time   : 0d 00:52:56

MEP information
MEP State     : Up                              BFD           : cc
OAM Templ     : privatebed-oam-template         CC Status     : inService
                                                CV Status     : unknown
Protect Templ : privatebed-protection-template  WTR Count Down: 0 seconds
RX PDU        : SF (1,1)                        TX PDU        : SF (1,1)
Defects       :
===============================================================================

*A:mlstp-dutA#  show router mpls tp-lsp "lsp-32" path working detail
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
MPLS-TP LSP Working Path Information
    LSP: "lsp-32" (Detail)
===============================================================================
LSP Name      : lsp-32                          To            : 0.0.3.234
Admin State   : Up                              Oper State    : Up

Working path information
-------------------------------------------------------------------------------
Path Type     : Working                         LSP Num       : 1
Path Admin    : Up                              Path Oper     : Up
Out Interface : AtoB_1                          Next Hop Addr : n/a
In Label      : 32                              Out Label     : 32
Path Up Time  : 18d 22:39:53                    Path Dn Time  : 0d 00:00:00
Active Path   : Yes                             Active Time   : 18d 22:34:52

MEP information
MEP State     : Up                              BFD           : cc
OAM Templ     : privatebed-oam-template         BFD Status    : inService
Ingress I/F N*: 0                               Egress I/F Num: 0
AIS State     : AIS
===============================================================================
*A:mlstp-dutA#


*A:mlstp-dutA#  show router mpls tp-lsp protection

===============================================================================
MPLS-TP LSP Protection Information
Legend: W-Working, P-Protect,
===============================================================================
LSP Name                    Admin Oper  Path    Ingr/Egr      Act. Rx PDU
                            State State   State Label         Path Tx PDU
-------------------------------------------------------------------------------
lsp-32                      Up    Up    W Down      32/32     No   SF (1,1)
                                        P Up      2080/2080   Yes  SF (1,1)
lsp-33                      Up    Up    W Down      33/33     No   SF (1,1)
                                        P Up      2082/2082   Yes  SF (1,1)
lsp-34                      Up    Up    W Down      34/34     No   SF (1,1)
                                        P Up      2084/2084   Yes  SF (1,1)
lsp-35                      Up    Up    W Down      35/35     No   SF (1,1)
                                        P Up      2086/2086   Yes  SF (1,1)
lsp-36                      Up    Up    W Down      36/36     No   SF (1,1)
                                        P Up      2088/2088   Yes  SF (1,1)
lsp-37                      Up    Up    W Down      37/37     No   SF (1,1)
                                        P Up      2090/2090   Yes  SF (1,1)
lsp-38                      Up    Up    W Down      38/38     No   SF (1,1)
                                        P Up      2092/2092   Yes  SF (1,1)
lsp-39                      Up    Up    W Down      39/39     No   SF (1,1)
                                        P Up      2094/2094   Yes  SF (1,1)
lsp-40                      Up    Up    W Down      40/40     No   SF (1,1)
                                        P Up      2096/2096   Yes  SF (1,1)
lsp-41                      Up    Up    W Down      41/41     No   SF (1,1)
                                        P Up      2098/2098   Yes  SF (1,1)
-------------------------------------------------------------------------------
No. of MPLS-TP LSPs: 10
===============================================================================
```

```
*A:Dut-B# show router mpls tp-lsp
===============================================================================
MPLS MPLS-TP LSPs (Originating)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP Name                            To              Tun     Protect   Adm  Opr
                                                    Id      Path
-------------------------------------------------------------------------------
unnumberedLSP                       0.0.0.43        1       No        Up   Up
numberedLSP                         0.0.0.43        2       No        Up   Up
numberedLSPIomSpan                  0.0.0.43        3       No        Up   Up
LSRunnumberedLSP                    0.0.0.45        4       No        Up   Up
LSRnumberedLSP                      0.0.0.45        5       No        Up   Up
statemachineLSP                     0.0.0.45        6       No        Up   Up
unnumberedLagLSP                    0.0.0.43        7       No        Up   Up
numberedLagLSP                      0.0.0.43        8       No        Up   Up
-------------------------------------------------------------------------------
LSPs : 8
===============================================================================
*A:Dut-B#
```

27.33 tp-lsp-egress-stats

tp-lsp-egress-stats

Syntax

tsp-lsp-egress-stats lsp *lsp-name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>mpls tp-lsp-egress-stats)

Full Context

monitor router mpls tp-lsp-egress-stats

Description

This command monitors MPLS TP LSP egress statistics.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

repeat

Specifies how many times the command is repeated.

Values 1 to 999

Default 10

seconds

Specifies the interval for each display, in seconds.

Values 3 to 60

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

27.34 tp-lsp-ingress-stats

tp-lsp-ingress-stats

Syntax

tsp-lsp-ingress-stats lsp *lsp-name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>mpls tp-lsp-ingress-stats)

Full Context

monitor router mpls tp-lsp-ingress-stats

Description

This command monitors MPLS TP LSP ingress statistics.

Parameters

lsp-name

Specifies the LSP name, up to 64 characters.

repeat

Specifies how many times the command is repeated.

Values 1 to 999

Default 10

seconds

Specifies the interval for each display, in seconds.

Values 3 to 60

Default 10

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

27.35 tp-tunnel

tp-tunnel

Syntax

tp-tunnel *lsp-name* [**clear**]

tp-tunnel id *tunnel-id* [**clear**]

Context

[Tree] (tools>dump>router>mpls tp-tunnel)

Full Context

tools dump router mpls tp-tunnel

Description

This command displays MPLS-TP tunnel information.

Parameters

lsp-name

specifies the LSP name, up to 64 characters

id tunnel-id

specifies the tunnel ID

Values 1 to 61440

clear

clears statistics after reading

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of MPLS TP interface information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-B# tools dump router mpls tp-tunnel "numberedLSP"
 Idx: 1-2 (Up/Up): pgId 2, paths 2, operChg 0, Active: Protect
  TunnelId: 4294967295::0.0.0.42::2-4294967295::0.0.0.43::2
  PgState: Dn, Cnt/Tm: Dn 1/000 00:25:12.760 Up:0/000 00:00:00.000
  MplsMsg: tpDn 0/000 00:00:00.000, tunDn 0/000 00:00:00.000
           wpDn 0/000 00:00:00.000, ppDn 0/000 00:00:00.000
           wpDel 0/000 00:00:00.000, ppDel 0/000 00:00:00.000
           tunUp 0/000 00:00:00.000
  Paths:
   Work (Up/Up): Lsp 1, Lbl 34/34, If 4/16 (1/1/3 : 10.10.10.2)
    Tmpl: ptc: , oam: my-oam-template (bfd: my-bfd-template)
    Bfd: Mode CC_CV state Up/Up handle 5/6
    Bfd-CC (Cnt/Tm): Dn 1/000 00:25:12.770 Up:1/000 00:25:17.680
    Bfd-CV (Cnt/Tm): Dn 0/000 00:00:00.000 Up:0/000 00:00:00.000
    DsIfNum (in/out): 5/0
    Ais: State clear (tmr N), Cnt(raw/chg) 0/0, Drop (inv/ign) 0/0
    Ais: Rx - Tm 0 sec, Global/Node/ifNum: 0/0.0.0.0/0
    State:  Admin Up (1::1::1)  port Up , if Up ,  operChg 2
   Protect (Up/Up): Lsp 2, Lbl 35/35, If 5/17 (1/1/4 : 11.11.11.2)
    Tmpl: ptc: my-protection-template, oam: my-oam-template (bfd: my-bfd-template)
    Bfd: Mode CC_CV state Up/Up handle 33/34
    Bfd-CC (Cnt/Tm): Dn 0/000 00:00:00.000 Up:0/000 00:00:00.000
    Bfd-CV (Cnt/Tm): Dn 0/000 00:00:00.000 Up:0/000 00:00:00.000
    DsIfNum (in/out): 6/0
    Ais: State clear (tmr N), Cnt(raw/chg) 0/0, Drop (inv/ign) 0/0
    Ais: Rx - Tm 0 sec, Global/Node/ifNum: 0/0.0.0.0/0
    State:  Admin Up (1::1::1)  port Up , if Up ,  operChg 0
  Psc: Rx - 3, raw 16, nok 0(), txRaw - 15, revert N
   Pdu: Rx - 0x11-20::0001 (DNR), Tx - 0x11-20::0001 (DNR)
   State: DNR LastEvt pdu (L-SFc/R-DNR)
   Tmrs: slow
   Defects: None  Now: 000 00:25:54.170
  Seq  Event   state     TxPdu       RxPdu       Dir    Act          Time
  ===  ======  ========  ==========  ==========  =====  ====  ================
  000     wDn    PF:W:L    SF (1,1)    NR (0,0)  Tx-->  Prot  000 00:25:12.760
  001     pdu    PF:W:L    SF (1,1)    NR (0,1)  Rx<--  Prot  000 00:25:12.770
  002     pdu    PF:W:L    SF (1,1)    SF (1,1)  Rx<--  Prot  000 00:25:15.680
  003     wUp       DNR   DNR (0,1)    SF (1,1)  Tx-->  Prot  000 00:25:19.860
  004     pdu       DNR   DNR (0,1)   DNR (0,1)  Rx<--  Prot  000 00:25:20.610
*A:Dut-B#
```

```
*A:Dut-B# tools dump router mpls tp-tunnel id 1
 Idx: 1-1 (Up/Up): pgId 1, paths 2, operChg 0, Active: Protect
  TunnelId: 4294967295::0.0.0.42::1-4294967295::0.0.0.43::1
  PgState: Dn, Cnt/Tm: Dn 1/000 00:25:12.760 Up:0/000 00:00:00.000
  MplsMsg: tpDn 0/000 00:00:00.000, tunDn 0/000 00:00:00.000
           wpDn 0/000 00:00:00.000, ppDn 0/000 00:00:00.000
           wpDel 0/000 00:00:00.000, ppDel 0/000 00:00:00.000
           tunUp 0/000 00:00:00.000
  Paths:
   Work (Up/Up): Lsp 1, Lbl 32/32, If 2/14 (1/1/3 : 0.0.0.0)
    Tmpl: ptc: , oam: my-oam-template (bfd: my-bfd-template)
    Bfd: Mode CC_CV state Up/Up handle 1/2
    Bfd-CC (Cnt/Tm): Dn 1/000 00:25:12.770 Up:1/000 00:25:17.680
    Bfd-CV (Cnt/Tm): Dn 0/000 00:00:00.000 Up:0/000 00:00:00.000
    DsIfNum (in/out): 1/0
    Ais: State clear (tmr N), Cnt(raw/chg) 0/0, Drop (inv/ign) 0/0
    Ais: Rx - Tm 0 sec, Global/Node/ifNum: 0/0.0.0.0/0
    State:  Admin Up (1::1::1)  port Up , if Up ,  operChg 2
   Protect (Up/Up): Lsp 2, Lbl 33/33, If 3/15 (1/1/4 : 0.0.0.0)
    Tmpl: ptc: my-protection-template, oam: my-oam-template (bfd: my-bfd-template)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
    Bfd: Mode CC_CV state Up/Up handle 47/48
    Bfd-CC (Cnt/Tm): Dn 0/000 00:00:00.000 Up:0/000 00:00:00.000
    Bfd-CV (Cnt/Tm): Dn 0/000 00:00:00.000 Up:0/000 00:00:00.000
    DsIfNum (in/out): 2/0
    Ais: State clear (tmr N), Cnt(raw/chg) 0/0, Drop (inv/ign) 0/0
    Ais: Rx - Tm 0 sec, Global/Node/ifNum: 0/0.0.0.0/0
    State:  Admin Up (1::1::1)  port Up , if Up ,  operChg 0
  Psc: Rx - 3, raw 25, nok 0(), txRaw - 24, revert N
   Pdu: Rx - 0x11-20::0001 (DNR), Tx - 0x11-20::0001 (DNR)
   State: DNR LastEvt pdu (L-SFc/R-DNR)
   Tmrs: slow
   Defects: None  Now: 000 00:26:41.160
  Seq  Event   state     TxPdu       RxPdu       Dir    Act          Time
  ===  ======  ========  ==========  ==========  =====  ====  ===============
  000     wDn    PF:W:L    SF (1,1)    NR (0,0)  Tx-->  Prot  000 00:25:12.760
  001     pdu    PF:W:L    SF (1,1)    NR (0,1)  Rx<--  Prot  000 00:25:12.770
  002     pdu    PF:W:L    SF (1,1)    SF (1,1)  Rx<--  Prot  000 00:25:15.680
  003     wUp       DNR   DNR (0,1)    SF (1,1)  Tx-->  Prot  000 00:25:19.860
  004     pdu       DNR   DNR (0,1)   DNR (0,1)  Rx<--  Prot  000 00:25:20.710
*A:Dut-B#
*A:Dut-B# tools dump router mpls tp-interface 1
1-2 (1/1/3) : State Up, Cnt/Tm - Dn: 1/000 00:25:12.770, Up 1/000 00:25:16.790
  MEP: ifNum 1 (Validate: Y), ais: Y (txCnt 0)
    ais - Flags: 0x1 (R), Timers:
```

tp-tunnel

Syntax

tp-tunnel

Context

[Tree] (tools>perform>router>mpls tp-tunnel)

Full Context

tools perform router mpls tp-tunnel

Description

Commands in this context perform Linear Protection operations on an MPLS-TP LSP.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.36 trace

trace

Syntax

trace [**name** *trace-name*]

Context

[Tree] (show>call-trace trace)

[Tree] (show>call-trace>ipoe trace)

Full Context

show call-trace trace

show call-trace ipoe trace

Description

This command displays information about all traces and associated parameters that are currently enabled on the system. Including the *trace-name* parameter limits the output to the specified trace only.

Parameters

trace-name

Specifies the name of the trace to be displayed.

Platforms

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

Output

The following output is an example of call trace information.

Output Example

```
Node# show call-trace ipoe trace
===============================================================================
Call trace trace
===============================================================================
Trace name  : default                           Type         : ipoe
SAP ID      :
IEEE address: 00:02:00:00:00:19
Maximum jobs: 1
===============================================================================
```

Table 671: Output fields: call trace IPoE trace describes call trace IPoE trace output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 671: Output fields: call trace IPoE trace

Field	Description
Trace name	The name of the trace profile
Type	The type of the call trace
SAP ID	The SAP ID of the session to match by this trace
IEEE address	The IEEE address of the session that matches this trace
Maximum jobs	The maximum number of call trace jobs that are started by this trace

trace

Syntax

trace *trace-name*

Context

[Tree] (clear>call-trace>ipoe trace)

[Tree] (clear>call-trace trace)

Full Context

clear call-trace ipoe trace

clear call-trace trace

Description

This command clears all trace jobs started by the specified trace. This command does not affect the trace command itself, and new jobs can still be executed for new sessions.

After a session is cleared, tracing for the session will not be restarted by any configured trace. Only explicitly starting a new trace with the **trace-existing-sessions** parameter can restart tracing for the session.

Parameters

trace-name

Specifies the configured name, up to 32 characters, of the trace.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.37 trace-profile

trace-profile

Syntax

trace-profile [**detail**]

trace-profile *profile-name*

Context

[Tree] (show>call-trace trace-profile)

Full Context

show call-trace trace-profile

Description

This command provides an overview of all configured profiles or details of a specific profile. If the detail option is specified the full information for all configured profiles are displayed.

Parameters

detail

Displays detailed trace profile information.

Platforms

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

Output

The following output is an example of call-trace trace-profile information.

Output Example

```
Node# show call-trace trace-profile "default"
===============================================================================
Call-trace  trace profile
===============================================================================
Profile name              : default
Description               : none
Live output               : none
Format                    : pcap
Size limit                : 10 MB
Time limit                : 86400 secs
-------------------------------------------------------------------------------
Number of profiles : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.38 traffic-capture

traffic-capture

Syntax

traffic-capture detail url *file-url*

traffic-capture status

Context

[Tree] (tools>dump>app-assure>group traffic-capture)

Full Context

tools dump application-assurance group traffic-capture

Description

This command displays application-assurance traffic-capture information.

Platforms

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

27.39 traffic-forward

traffic-forward

Syntax

traffic-forward tunnel-type *tunnel-type* [**type** *type*] **isa** *mda*

traffic-forward tunnel-type *tunnel-type* [**type** *type*] **esa-vm** *esa-id/vm-id*

Context

[Tree] (show>isa>stats>ip-tunnel-stats traffic-forward)

Full Context

show isa statistics ip-tunnel-stats traffic-forward

Description

This command displays traffic forward statistics for the specified tunnel-type on the specified ISA.

The statistics includes the following information:

- The number of bidirectional (encapsulated and decapsulated) packets

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- The number of encapsulated packets
- The number of decapsulated packets
- The number of bidirectional (encapsulated and decapsulated) kilobytes
- The number of kilobytes for encapsulated traffic
- The number of kilobytes for decapsulated traffic

In the output, 1 kilobyte equals 210 bytes.

Parameters

tunnel-type

Displays the type of the tunnel.

Values gre, ip-in-ip, l2tpv3

mda

Displays the ISA ID.

Values slot/mda

type

Displays the type of breakdown counter.

Values bidir-pkts, bidir-kbs, encap-pkts, encap-kbs, decap-pkts, decap-kbs

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

Output

The following output is an example of the **show router statistics ip-tunnel-stats traffic-forward** command.

Output Example

```
show>isa>stats>ip-tunnel-stats# traffic-forward tunnel-type gre isa 1/2
===============================================================================
STATISTICS FOR ISA 1/2
===============================================================================
INDEX        VALUE                    START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
NUMBER OF ENCAPED GRE TUNNEL PACKETS
1 (CURRENT)  367,474                  2017/05/22 17:45:12 HRS 4 MIN 45 SEC 46
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
NUMBER OF DECAPED GRE TUNNEL PACKETS
                                          [0/1874]
1 (CURRENT)  1,310,402                 2017/05/22 17:45:12 HRS 4 MIN 45 SEC 46
NUMBER OF ENCAPED AND DECAPED GRE TUNNEL PACKETS
1 (CURRENT)  1,677,876                 2017/05/22 17:45:12 HRS 4 MIN 45 SEC 46
NUMBER OF KIBIBYTES IN THE ENCAPED GRE TUNNEL PACKETS
1 (CURRENT)  1,544,351                 2017/05/22 17:45:12 HRS 4 MIN 45 SEC 46
NUMBER OF KIBIBYTES IN THE DECAPED GRE TUNNEL PACKETS
1 (CURRENT)  1,573,014                 2017/05/22 17:45:12 HRS 4 MIN 45 SEC 46
NUMBER OF KIBIBYTES IN THE ENCAPED AND DECAPED GRE TUNNEL PACKETS
1 (CURRENT)  3,117,365                 2017/05/22 17:45:12 HRS 4 MIN 45 SEC 46
-------------------------------------------------------------------------------
NO. OF ENTRIES: 6
===============================================================================
```

traffic-forward

Syntax

traffic-forward [**type** *type*] **esa-vm** *esa-id/vm-id*

traffic-forward [**type** *type*] **gateway** *name*

traffic-forward [**type** *type*] **isa** *mda*

traffic-forward [**type** *type*] **gateway** *name* **dynamic-tunnel** *ip-address:port*

traffic-forward [**type** *type*] **tunnel** *ipsec-tunnel-name*

Context

[Tree] (show>isa>stats>ipsec-stats traffic-forward)

Full Context

show isa statistics ipsec-stats traffic-forward

Description

This command displays traffic forward statistics of the specified scope.

This command supports following scopes:

- per system
- per ISA
- per tunnel group
- per IPsec GW

The statistics include:

- The number of bidirectional encrypted and decrypted packets
- The number of encrypted packets
- The number of decrypted packets per second
- The number of bidirectional (encrypted and decrypted) in kilobytes
- The number of bidirectional encrypted bits in kilobytes

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- The number of bidirectional decrypted bits in kilobytes

1 kilobyte equals 2^{10} bytes

The start time indicates the starting timestamp of the measurement. The sampling duration indicates the duration of the measurement.

Parameters

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

name

Displays information about the name of the IPsec GW up to 32 characters in length.

mda

Displays information about the specified ISA.

Values slot/mda

tunnel-group-id

Displays information about the specified tunnel group ID.

Values 1 to 16

ip-address:port

Displays information about the IP address and port of the peer for dynamic tunneling.

ipsec-tunnel-name

Specifies the name of the static LAN-to-LAN tunnel up to 32 characters in length.

Platforms

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

Output

The following output is an example of the **show isa stats ipsec-stats traffic forward isa** command.

Output Example

```
show>isa>stats>ipsec-stats# traffic-forward isa 1/2
===============================================================================
STATISTICS FOR ISA 1/2
===============================================================================
INDEX        VALUE                     START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
NUMBER OF ENCRYPTED IPSEC PACKETS
1 (CURRENT)  770,881                   2017/05/23 17:50:48 HRS 6 MIN 33 SEC 57
NUMBER OF DECRYPTED IPSEC PACKETS
1 (CURRENT)  770,881                   2017/05/23 17:50:48 HRS 6 MIN 33 SEC 57
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
NUMBER OF ENCRYPTED AND DECRYPTED IPSEC PACKETS
1 (CURRENT)  1,541,762                2017/05/23 17:50:48 HRS 6 MIN 33 SEC 57
NUMBER OF KIBIBYTES IN THE ENCRYPTED IPSEC PACKETS
1 (CURRENT)  3,785,141                2017/05/23 17:50:48 HRS 6 MIN 33 SEC 57
NUMBER OF KIBIBYTES IN THE DECRYPTED IPSEC PACKETS
1 (CURRENT)  3,785,141                2017/05/23 17:50:48 HRS 6 MIN 33 SEC 57
NUMBER OF KIBIBYTES IN THE ENCRYPTED AND DECRYPTED IPSEC PACKETS
1 (CURRENT)  7,570,282                2017/05/23 17:50:48 HRS 6 MIN 33 SEC 57
-------------------------------------------------------------------------------
NO. OF ENTRIES: 6
===============================================================================

show>isa>stats>ipsec-stats# traffic-forward gateway "rw" dynamic-tunnel 10.1.1.100:500
===============================================================================
STATISTICS FOR IPSEC REMOTE USER TUNNEL "10.1.1.100:500"
===============================================================================
INDEX        VALUE                    START TIME          SAMPLING DURATION
-------------------------------------------------------------------------------
NUMBER OF ENCRYPTED IPSEC PACKETS
1 (CURRENT)  676,774                  2017/05/23 22:36:15 HRS 1 MIN 52 SEC 49
NUMBER OF DECRYPTED IPSEC PACKETS
1 (CURRENT)  676,774                  2017/05/23 22:36:15 HRS 1 MIN 52 SEC 49
NUMBER OF ENCRYPTED AND DECRYPTED IPSEC PACKETS
1 (CURRENT)  1,353,548                2017/05/23 22:36:15 HRS 1 MIN 52 SEC 49
NUMBER OF KIBIBYTES IN THE ENCRYPTED IPSEC PACKETS
1 (CURRENT)  3,323,066                2017/05/23 22:36:15 HRS 1 MIN 52 SEC 49
NUMBER OF KIBIBYTES IN THE DECRYPTED IPSEC PACKETS
1 (CURRENT)  3,323,066                2017/05/23 22:36:15 HRS 1 MIN 52 SEC 49
NUMBER OF KIBIBYTES IN THE ENCRYPTED AND DECRYPTED IPSEC PACKETS
1 (CURRENT)  6,646,132                2017/05/23 22:36:15 HRS 1 MIN 52 SEC 49
-------------------------------------------------------------------------------
NO. OF ENTRIES: 6
===============================================================================
```

27.40 traffic-statistics

traffic-statistics

Syntax

traffic-statistics prefix *ip-prefix/ip-prefix-length*

traffic-statistics family *family*

traffic-statistics

Context

[Tree] (show>router>bgp traffic-statistics)

Full Context

show router bgp traffic-statistics

Description

This command displays BGP-LU traffic statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

prefix *ip-prefix/ip-prefix-length*

Displays statistics for the specified prefix.

Values ipv4-prefix:

- a.b.c.d

ipv4-prefix-length:

- 0 to 32

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x - [0 to FFFF]H
- d - [0 to 255]D

ipv6-prefix-length:

- 0 to 128

family *family*

Displays statistics for the specified address family.

Values label-ipv4, label-ipv6

Platforms

All

Output

The following output is an example of traffic statistics information.

Output Example

```
===============================================================================
 BGP Router ID:10.20.1.2        AS:100         Local AS:100
===============================================================================
-------------------------------------------------------------------------------
Prefix : 100.1.1.1/32
NextHop : 10.10.12.1
Ingress Label : 19105
Ingress Oper State : Unknown
Ingress packets  : 366992               Ingress Octets   : 96885888
Egress Label : 19105
Egress Oper State : Unknown
Egress packets   : 0                    Egress Octets    : 0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

traffic-statistics

Syntax

traffic-statistics prefix *ip-prefix/ip-prefix-length* **[ingress** | **egress]**

traffic-statistics family {**label-ipv4** | **label-ipv6**} **[ingress** | **egress]**

traffic-statistics [ingress | **egress]**

Context

[Tree] (clear>router>bgp traffic-statistics)

Full Context

clear router bgp traffic-statistics

Description

This command clears BGP-LU traffic statistics.

Parameters

prefix *ip-prefix/ip-prefix-length*

Clears statistics for the specified prefix.

Values ipv4-prefix:

- a.b.c.d

ipv4-prefix-length:

- 0 to 32

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x - [0 to FFFF]H
- d - [0 to 255]D

ipv6-prefix-length:

- 0 to 128

ingress

Clears statistics on ingress data-path.

egress

Clears statistics on egress data-path.

family label-ipv4 | label-ipv6

Clears statistics for the specified address family.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

traffic-statistics

Syntax

traffic-statistics prefix *ip-prefix*/*ip-prefix-length* [**interval** *seconds*] [**repeat** *repeat*] [**absolute**| **rate**]

Context

[Tree] (monitor>router>bgp traffic-statistics)

Full Context

monitor router bgp traffic-statistics

Description

This command monitors BGP traffic statistics.

Parameters

prefix *ip-prefix/ip-prefix-length*

Clears statistics for the specified prefix.

Values ipv4-prefix:

- a.b.c.d

ipv4-prefix-length:

- 0 to 32

ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x - [0 to FFFF]H
- d - [0 to 255]D

ipv6-prefix-length:

- 0 to 128

seconds

Configures the interval for each display in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

27.41 traffic-type

traffic-type

Syntax

traffic-type detail

traffic-type ip-family

traffic-type ip-protocol

traffic-type tls-family

Context

[Tree] (show>app-assure>group traffic-type)

Full Context

show application-assurance group traffic-type

Description

This command displays per traffic type statistics.

Parameters

detail

Displays detailed statistics.

ip-family

Displays IP family statistics.

ip-protocol

Displays IP protocol statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tls-family

Displays TLS family statistics.

Platforms

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

Output

The following output is an example of traffic type information.

Output Example

```
*A:Dut-C>show>app-assure>group# traffic-type ip-family
===============================================================================
Application-Assurance Traffic Type Statistics Per IP Family
===============================================================================
IP Family   Disc               Octets              Packets                Flows
-------------------------------------------------------------------------------
IPv4          0%                    0                    0                    0
IPv6          0%                    0                    0                    0
DS-Lite       0%                    0                    0                    0
6RD           0%                    0                    0                    0
Teredo        0%                    0                    0                    0
v4inv4Gtp     0%                    0                    0                    0
v4inv6Gtp     0%                    0                    0                    0
v6inv4Gtp     0%                    0                    0                    0
v6inv6Gtp     0%                    0                    0                    0
===============================================================================
```

```
*A:Dut-C>show>app-assure>group# traffic-type ip-protocol detail
-------------------------------------------------------------------------------
IP Protocol: Other   IP Family: v4inv4Gtp
Type                           Octets              Packets                Flows
-------------------------------------------------------------------------------
From subscriber:
  Admitted                          0                    0                    0
  Denied                            0                    0                    0
  Active flows                                                                0
To subscriber:
  Admitted                          0                    0                    0
  Denied                            0                    0                    0
  Active flows                                                                0
Flow counts:
  Terminated                                                                  0
  Short duration                                                              0
  Med duration                                                                0
  Long duration                                                               0
Total flow duration :  0 seconds
-------------------------------------------------------------------------------
IP Protocol: TCP   IP Family: v4inv4Gtp
Type                           Octets              Packets                Flows
-------------------------------------------------------------------------------
From subscriber:
  Admitted                          0                    0                    0
  Denied                            0                    0                    0
  Active flows                                                                0
To subscriber:
  Admitted                          0                    0                    0
  Denied                            0                    0                    0
  Active flows                                                                0
Flow counts:
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Terminated                                                                  0
  Short duration                                                              0
  Med duration                                                                0
  Long duration                                                               0
Total flow duration :  0 seconds
-------------------------------------------------------------------------------
IP Protocol: UDP   IP Family: v4inv4Gtp
Type                          Octets              Packets                Flows
-------------------------------------------------------------------------------
From subscriber:
  Admitted                         0                    0                    0
  Denied                           0                    0                    0
  Active flows                                                               0
To subscriber:
  Admitted                         0                    0                    0
  Denied                           0                    0                    0
  Active flows                                                               0
Flow counts:
  Terminated                                                                  0
  Short duration                                                              0
  Med duration                                                                0
  Long duration                                                               0
Total flow duration :  0 seconds
```

```
*A:Dut-C>show>app-assure>group# traffic-type tls-family
===============================================================================
Application-Assurance Traffic Type Statistics Per tls-family
===============================================================================
tls Variant  Disc         Octets      Packets        Flows
-------------------------------------------------------------------------------
quic           0%            0            0            0
quic esni      0%            0            0            0
quic existing  0%            0            0            0
quic unknown   0%            0            0            0
tls 1.0        0%            0            0            0
tls 1.1        0%            0            0            0
tls 1.2        0%      1475583         2205          150
tls 1.3        0%            0            0            0
tls 1.3 esni   0%       432189          459           34
tls existing   0%         1234           12            2
tls unknown    0%            0            0            0
```

27.42 transform

transform

Syntax

transform [*transform-id*]

Context

[Tree] (show>ipsec transform)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show ipsec transform

Description

This command displays information of the specified IPsec transform or lists all configured IKE transform information when the IKE transform ID is not specified.

Parameters

transform-id

Specifies an IPsec transform entry.

Values 1 to 2048

Platforms

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

Output

The following output is an example of the **show ipsec transform** command.

Output Example

```
NODE# show ipsec transform
===============================================================================
IPSEC TRANSFORMS
===============================================================================
TRANSFORMID    ESPAUTH        ESPENCRYPTION   PFS         IPSEC
               ALGORITHM      ALGORITHM       DH GROUP    LIFETIME (SEC)
-------------------------------------------------------------------------------
1              SHA256         AES128          INHERIT     INHERIT
10             SHA256         AES256          14          20000
99             SHA1           AES192          15          30000
100            SHA1           AES128          INHERIT     INHERIT
-------------------------------------------------------------------------------
NO. OF IPSEC TRANSFORMS: 4
===============================================================================
```

27.43 transit-ip-policy

transit-ip-policy

Syntax

transit-ip-policy *ip-policy-id*

transit-ip-policy summary

transit-ip-policy *ip-policy-id* **summary**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>app-assure>group transit-ip-policy)

Full Context

show application-assurance group transit-ip-policy

Description

This command displays transit IP policy information.

Parameters

ip-policy-id

Displays information for the specified IP policy.

Values 1 to 65535

summary

Displays summarized information.

Platforms

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

27.44 transit-path

transit-path

Syntax

transit-path [*path-name*] [**detail**]

Context

[Tree] (show>router>mpls>mpls-tp transit-path)

Full Context

show router mpls mpls-tp transit-path

Description

This command displays MPLS-TP tunnel information.

Parameters

path-name

Specifies the path name, up to 32 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following output is an example of MPLS OAM transit path information.

Output Example

```
A:mplstp-dutC# show router mpls mpls-tp transit-path
<path-name>
 "tp-32"   "tp-33"   "tp-34"   "tp-35"   "tp-36"   "tp-37"   "tp-38"   "tp-39"
 "tp-40"   "tp-41"
detail

A:mplstp-dutC# show router mpls mpls-tp transit-path "tp-32"
===============================================================================
MPLS-TP Transit tp-32 Path Information
===============================================================================
Path Name     : tp-32
Admin State   : Up                              Oper State    : Up

-------------------------------------------------------------------
Path        NextHop           InLabel   OutLabel  Out I/F
-------------------------------------------------------------------
FP                            2080      2081      CtoB_1
RP                            2081      2080      CtoA_1
===============================================================================
A:mplstp-dutC# show router mpls mpls-tp transit-path "tp-32" detail
===============================================================================
MPLS-TP Transit tp-32 Path Information (Detail)
===============================================================================
Path Name     : tp-32
Admin State   : Up                              Oper State    : Up
-------------------------------------------------------------------------------
Path ID configuration
Src Global ID : 42                              Dst Global ID : 42
Src Node ID   : 0.0.3.234                       Dst Node ID   : 0.0.3.233
LSP Number    : 2                               Dst Tunnel Num: 32

Forward Path configuration
In Label      : 2080                            Out Label     : 2081
Out Interface : CtoB_1                          Next Hop Addr : n/a

Reverse Path configuration
In Label      : 2081                            Out Label     : 2080
Out Interface : CtoA_1                          Next Hop Addr : n/a
===============================================================================
A:mplstp-dutC#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.45 transit-prefix-policy

transit-prefix-policy

Syntax

transit-prefix-policy *transit-prefix-policy-id*

transit-prefix-policy summary

transit-prefix-policy *transit-prefix-policy-id* **summary**

Context

[Tree] (show>app-assure>group transit-prefix-policy)

Full Context

show application-assurance group transit-prefix-policy

Description

This command displays transit prefix policy information.

Parameters

transit-prefix-policy-id

Displays information for the specified transit prefix policy.

Values 1 to 65535

summary

Displays summarized information.

Platforms

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

27.46 transport-mode

transport-mode

Syntax

transport-mode tunnel-type {**gre**} [**saved-key**] **esa-vm** *esa-id/vm-id*

transport-mode tunnel-type {**gre**} **isa** *mda* [**saved-key**]

transport-mode tunnel-type {**gre**} **tunnel-name** *tunnel-name* [**saved-key**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear>ipsec transport-mode)

Full Context

clear ipsec transport-mode

Description

This command clears transport-mode tunnels data.

Parameters

tunnel-name

Clears data associated with the specified tunnel, up to 32 characters.

mda

Clears all static tunnels terminated on the specified ISA.

saved-key

Clears the saved IKE and ESP keys for the specified tunnel.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

27.47 trap-suppress

trap-suppress

Syntax

trap-suppress *number-of-traps time-interval*

Context

[Tree] (tools>perform>router>mpls trap-suppress)

Full Context

tools perform router mpls trap-suppress

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command modifies thresholds for trap suppression. The *time-interval* parameter is used to suppress traps after a certain number of traps have been raised within the *time-interval* period of time. By executing this command, there will be no more than *number-of-traps* within *time-interval*.

Parameters

number-of-traps

Specifies to the number of traps raised within a period of time before suppression occurs.

Values 100 to 1000, in multiples of 100

time-interval

Specifies the period of time before trap-suppression can occur, depending upon the number of traps received in that period of time.

Values 1 to 300

Platforms

All

27.48 trust-anchor-profile

trust-anchor-profile

Syntax

trust-anchor-profile [*trust-anchor-profile*] **association**

trust-anchor-profile [*trust-anchor-profile*]

Context

[Tree] (show>ipsec trust-anchor-profile)

Full Context

show ipsec trust-anchor-profile

Description

This command displays trust anchor profile information.

Parameters

trust-anchor-profile

Specifies the trust anchor profile name up to 32 characters in length.

association

Displays information for which this trust anchor profile is associated.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of the **show ipsec trust-anchor-profile** command.

Output Example

```
*A:Dut-A#  show ipsec trust-anchor-profile
===============================================================
Trust Anchor Profile Information
===============================================================
Name                            CA Profiles Down
---------------------------------------------------------------
CA0wCMPv2                       0
CA1wCMPv2                       0
CA2wCMPv2                       0
CA3wCMPv2                       0
CA4wCMPv2                       0
CA5wCMPv2                       0
CA6wCMPv2                       0
CA7wCMPv2                       0
CA8wCMPv2                       0
CA9wCMPv2                       0
CA10wCMPv2                      0
===============================================================
*A:Dut-A#


*A:Dut-A# show ipsec trust-anchor-profile
===============================================================
Trust Anchor CA-profile List
===============================================================
CA Profile                      Admin/Oper State
---------------------------------------------------------------
CA6                             up/up
CMPv2                           up/up
===============================================================
*A:Dut-A#
```

trust-anchor-profile

Syntax

trust-anchor-profile [*trust-anchor-profile*]

trust-anchor-profile *trust-anchor-profile* **association**

Context

[Tree] (show>system>security>tls trust-anchor-profile)

Full Context

show system security tls trust-anchor-profile

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information about server and client profiles that are using the specified TLS trust anchor profile.

Parameters

trust-anchor-profile

Specifies the trust anchor profile, up to 32 characters maximum.

Platforms

All

Output

The following output is an example of trust anchor profile information.

Output Example

```
*A:Dut-C> show system security tls trust-anchor-profile
===============================================================================
Trust Anchor Profile Information
===============================================================================
Name                                          CA Profiles Down
-------------------------------------------------------------------------------
tap                                           0
tap-alt1                                      0
tap-alt2                                      0
tap-empty                                     0
===============================================================================


*A:Dut-C> show system security tls trust-anchor-profile "tap"
===============================================================================
CA-profile List for Trust Anchor "tap"
===============================================================================
CA Profile Name                               AdminState     OperState
-------------------------------------------------------------------------------
chainA_l1                                     up             up
revChainA_l1                                  up             up
===============================================================================
*A:Dut-C>show>tls#
```

27.49 ts-list

ts-list

Syntax

ts-list [*list-name*]

ts-list *list-name* **association**

ts-list *list-name* **local-entry** [**1 to 32**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ts-list *list-name* **remote-entry** [**1 to 32**]

ts-list *list-name* {**local** | **remote**}

Context

[Tree] (show>ipsec ts-list)

Full Context

show ipsec ts-list

Description

This command displays IPsec traffic-selector list (TS-list) information.

Entering this command without a parameter will list all configured TS-lists.

Entering this command with the **association** parameter will list all IPsec gateways that use the specified TS-list.

Entering this command with the **local** or **local-entry** parameter will list all or specified local entries of the specified TS-list.

Entering this command with the **remote** or **remote-entry** parameter will list all or specified remote entries of the specified TS-list.

Parameters

list-name

The traffic-selector list name.

association

Displays all associations of the TS-list.

local-entry [1 to 32]

The entry ID of a local entry.

remote-entry [1 to 32]

The entry ID of a remote entry.

local

Displays all local entries.

remote

Displays all remote entries.

Platforms

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

Output

The following output is an example of TS-list information.

Output Example

```
show ipsec ts-list
===============================================================================
Traffic Selector List
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
TS-List
-------------------------------------------------------------------------------
fullts
===============================================================================
*A:vsim-02-cpm# show ipsec ts-list "fullts"
===============================================================================
TS-List "fullts" Local Entries Information
===============================================================================
Entry ID           : 1
Status             : Invalid
Protocol ID        : Not Specified
Protocol Port Range: Not Specified
Prefix/Len         : 10.10.10.1/32
-------------------------------------------------------------------------------
Entry ID           : 2
Status             : Valid
Protocol ID        : tcp
Protocol Port Range: 80 - 80
Prefix/Len         : 10.10.10.2/32
-------------------------------------------------------------------------------
No. of entries: 2
===============================================================================
===============================================================================
TS-List "fullts" Remote Entries Information
===============================================================================
Entry ID           : 1
Status             : Valid
Protocol ID        : tcp
Protocol Port Range: any
Prefix/Len         : 0.0.0.0/0
-------------------------------------------------------------------------------
No. of entries: 1
===============================================================================
```

27.50 tunnel

tunnel

Syntax

tunnel [**statistics**] [**detail**] [**peer** *ip-address*] [**state** *tunnel-state*] [**remote-tunnel-id** *remote-tunnel-id*] [**group** *group-name*] [**assignment** *assignment-id*] [**local-name** *local-host-name*] [**remote-name** *remote-host-name*] [**radius-accounting-policy** *policy-name*] [**blacklist-state** *bl-state*] [**failover-state** *fo-state*] [**recovery-state** *recovery-state*] [**recovery-method** { **mcs** | **recovery-tunnel**}] [**track-srrp** *srrp-instance*] [**control-msg-behavior** *behavior*] [**transport-type** { **ip** | **udp**}]

tunnel [**statistics**] [**detail**] [**peer** *ip-address*] [**state** *tunnel-state*] [**remote-connection-id** *remote-connection-id*] [**group** *group-name*] [**assignment** *assignment-id*] [**local-name** *local-host-name*] [**remote-name** *remote-host-name*] [**radius-accounting-policy** *policy-name*] [**blacklist-state** *bl-state*] [**failover-state** *fo-state*] [**recovery-state** *recovery-state*] [**recovery-method** { **mcs** | **recovery-tunnel**}] [**track-srrp** *srrp-instance*] [**control-msg-behavior** *behavior*] [**transport-type** { **ip** | **udp**}]

tunnel tunnel-id *tunnel-id* [**statistics**] [**detail**]

tunnel connection-id *connection-id* [**statistics**] [**detail**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>router>l2tp tunnel)

Full Context

show router l2tp tunnel

Description

This command displays L2TP tunnel operational information.

Parameters

statistics

Displays L2TP tunnel statistics.

detail

Displays detailed L2TP tunnel information.

ip-address

Displays information for the specified peer IP address.

Values The following values apply to the 7750 SR:

ipv4-address	a.b.c.d (host bits must be 0)
ipv6-address	x:x:x:x:x:x:x:x[-interface]
	x:x:x:x:x:x:d.d.d.d[-interface]
	x: [0 to FFFF]H
	d: [0 to 255]D
	interface: 32 characters maximum, mandatory for link local addresses

Values The following values apply to the 7450 ESS:

ipv4-address: a.b.c.d (host bits must be 0)

tunnel-state

Displays the operational state of the L2TP session.

Values closed, closed-by-peer, draining, drained, established, established-idle, idle, wait-reply, wait-conn

remote-tunnel-id

Displays information for the specified remote tunnel ID.

group-name

Displays L2TP tunnel information for the specified tunnel group.

assignment-id

Specifies a string that distinguishes this Layer Two Tunneling Protocol tunnel.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

local-host-name

Specifies a local host name used by this system.

remote-host-name

Specifies a remote host name used by this system.

policy-name

Displays the RADIUS accounting policy.

bl-state

Displays the denylist state of the L2TP session.

fo-state

Displays the failover state of the L2TP session.

recovery-state

Displays the recovery state of the L2TP session.

recovery-method

Displays the recovery method of the L2TP session.

srrp-instance

Specifies the SRRP instance identification.

Values 0 to 4294967295

behavior

Specifies the control message behavior.

Values handle, forward-to-mcs-peer

transport-type

Specifies that IP or UDP should be used as the transport type for the L2TP session.

Values ip, udp

remote-connection-id

Displays information for the specified remote connection ID.

tunnel-id

Displays information for the specified ID of a L2TP tunnel. In L2TP version 2, it is the 16-bit tunnel ID.

Values 1 to 65535

connection-id

Specifies the identification number for a Layer Two Tunneling Protocol connection.

Values 1 to 429496729

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of L2TP tunnel operational information.

Output Example

```
*A:Dut-C# show router l2tp tunnel
===============================================================================
Conn ID                      Loc-Tu-ID Rem-Tu-ID State             Ses Active
  Group                                                           Ses Total
    Assignment
-------------------------------------------------------------------------------
143523840                    2190      17525     established       2
  isp1.group-2                                                    3
    isp1.tunnel-3
236912640                    3615      58919     closedByPeer      0
  isp1.group-2                                                    2
    isp1.tunnel-2
379387904                    5789      4233      established       1
  isp1.group-1                                                    1
    isp1.tunnel-1
658178048                    10043     33762     draining          3
  isp1.group-2                                                    3
    isp1.tunnel-2
-------------------------------------------------------------------------------
No. of tunnels: 4
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel state closed-by-peer detail
===============================================================================
L2TP Tunnel Status
===============================================================================
Connection ID : 236912640
State         : closedByPeer
IP            : 10.20.1.3
Peer IP       : 10.10.20.100
Name          : lac1.wholesaler.com
Remote Name   : lns2.retailer1.net
Assignment ID : isp1.tunnel-2
Group Name    : isp1.group-2
Error Message : Goodbye!

                                    Remote Conn ID    : 3861315584
Tunnel ID         : 3615            Remote Tunnel ID  : 58919
UDP Port          : 1701            Remote UDP Port   : 1701
Preference        : 100
Hello Interval (s): infinite
Idle TO (s)       : 60              Destruct TO (s)   : 7200
Max Retr Estab    : 5               Max Retr Not Estab: 5
Session Limit     : 1000            AVP Hiding        : never
Transport Type    : udpIp           Challenge         : never
Time Started      : 04/17/2009 18:41:03 Time Idle         : 04/17/2009 18:43:20
Time Established  : 04/17/2009 18:41:03 Time Closed       : 04/17/2009 18:43:20
Stop CCN Result   : generalReq      General Error     : noError
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel state established
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Conn ID                       Loc-Tu-ID Rem-Tu-ID State             Ses Active
  Group                                                            Ses Total
    Assignment
-------------------------------------------------------------------------------
143523840                     2190      17525     established       2
  isp1.group-2                                                     3
    isp1.tunnel-3
379387904                     5789      4233      established       1
  isp1.group-1                                                     1
    isp1.tunnel-1
-------------------------------------------------------------------------------
No. of tunnels: 2
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel tunnel-id 2190 statistics
===============================================================================
L2TP Tunnel Statistics
===============================================================================
Connection ID: 143523840
-------------------------------------------------------------------------------
              Attempts   Failed                          Active     Total
-------------------------------------------------------------------------------
Sessions      3          0                               2          3
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
              Rx                                         Tx
-------------------------------------------------------------------------------
Ctrl Packets  47                                         47
Ctrl Octets   954                                        1438
Error Packets 0                                          0
-------------------------------------------------------------------------------
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel connection-id 143523840 statistics
===============================================================================
L2TP Tunnel Statistics
===============================================================================
Connection ID: 143523840
-------------------------------------------------------------------------------
              Attempts   Failed                          Active     Total
-------------------------------------------------------------------------------
Sessions      3          0                               2          3
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
              Rx                                         Tx
-------------------------------------------------------------------------------
Ctrl Packets  48                                         48
Ctrl Octets   974                                        1450
Error Packets 0                                          0
-------------------------------------------------------------------------------
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel remote-tunnel-id 17525 detail
===============================================================================
L2TP Tunnel Status
===============================================================================
Connection ID : 143523840
State         : established
IP            : 10.20.1.3
Peer IP       : 10.10.20.101
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Name          : lac1.wholesaler.com
Remote Name   : lns3.retailer1.net
Assignment ID : isp1.tunnel-3
Group Name    : isp1.group-2
Error Message : N/A

                                      Remote Conn ID    : 1148518400
Tunnel ID         : 2190              Remote Tunnel ID  : 17525
UDP Port          : 1701              Remote UDP Port   : 1701
Preference        : 100
Hello Interval (s): 300
Idle TO (s)       : 0                 Destruct TO (s)   : 7200
Max Retr Estab    : 5                 Max Retr Not Estab: 5
Session Limit     : 1000              AVP Hiding        : never
Transport Type    : udpIp             Challenge         : never
Time Started      : 04/17/2009 18:41:14 Time Idle       : N/A
Time Established  : 04/17/2009 18:41:14 Time Closed     : N/A
Stop CCN Result   : noError           General Error     : noError
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel remote-connection-id 1148518400 statistics
===============================================================================
L2TP Tunnel Statistics
===============================================================================
Connection ID: 143523840
-------------------------------------------------------------------------------
              Attempts   Failed                          Active     Total
-------------------------------------------------------------------------------
Sessions      3          0                               2          3
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
              Rx                                         Tx
-------------------------------------------------------------------------------
Ctrl Packets  50                                         50
Ctrl Octets   1014                                       1474
Error Packets 0                                          0
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel peer 10.10.20.100 state closed-by-peer detail
===============================================================================
L2TP Tunnel Status
===============================================================================
Connection ID : 236912640
State         : closedByPeer
IP            : 10.20.1.3
Peer IP       : 10.10.20.100
Name          : lac1.wholesaler.com
Remote Name   : lns2.retailer1.net
Assignment ID : isp1.tunnel-2
Group Name    : isp1.group-2
Error Message : Goodbye!

                                      Remote Conn ID    : 3861315584
Tunnel ID         : 3615              Remote Tunnel ID  : 58919
UDP Port          : 1701              Remote UDP Port   : 1701
Preference        : 100
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Hello Interval (s): infinite
Idle TO (s)       : 60                 Destruct TO (s)   : 7200
Max Retr Estab    : 5                  Max Retr Not Estab: 5
Session Limit     : 1000               AVP Hiding        : never
Transport Type    : udpIp              Challenge         : never
Time Started      : 04/17/2009 18:41:03 Time Idle         : 04/17/2009 18:43:20
Time Established  : 04/17/2009 18:41:03 Time Closed       : 04/17/2009 18:43:20
Stop CCN Result   : generalReq         General Error     : noError
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel group isp1.group-2
===============================================================================
Conn ID                      Loc-Tu-ID Rem-Tu-ID State             Ses Active
  Group                                                           Ses Total
    Assignment
-------------------------------------------------------------------------------
143523840                    2190      17525     established       2
  isp1.group-2                                                    3
    isp1.tunnel-3
236912640                    3615      58919     closedByPeer      0
  isp1.group-2                                                    2
    isp1.tunnel-2
658178048                    10043     33762     draining          3
  isp1.group-2                                                    3
    isp1.tunnel-2
-------------------------------------------------------------------------------
No. of tunnels: 3
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel assignment-id isp1.tunnel-3 state established statistics
===============================================================================
L2TP Tunnel Statistics
===============================================================================
Connection ID: 143523840
-------------------------------------------------------------------------------
             Attempts   Failed                           Active     Total
-------------------------------------------------------------------------------
Sessions     3          0                                2          3
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
             Rx                                          Tx
-------------------------------------------------------------------------------
Ctrl Packets  66                                         66
Ctrl Octets   1310                                       1690
Error Packets 0                                          0
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
*A:Dut-C#


*A:Dut-C# show router l2tp tunnel local-name lac1.wholesaler.com remote-
name lns2.retailer1.net state draining
===============================================================================
Conn ID                      Loc-Tu-ID Rem-Tu-ID State             Ses Active
  Group                                                           Ses Total
    Assignment
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
658178048                     10043     33762     draining           3
  isp1.group-2                                                       3
    isp1.tunnel-2
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
*A:Dut-C#


*A:Fden-Dut2-BSA2# show router l2tp tunnel connection-id 600375296 statistics
===============================================================================
L2TP Tunnel Statistics
===============================================================================

Connection ID: 600375296

-------------------------------------------------------------------------------
             Attempts   Failed                          Active     Total
-------------------------------------------------------------------------------
Sessions     1          0                               1          1
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
                Rx                                        Tx
-------------------------------------------------------------------------------
Ctrl Packets    6                                         6
Ctrl Octets     553                                       292
Error Packets   0                                         0
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
             Accepted   Duplicate                       Out-Of-Wnd
-------------------------------------------------------------------------------
Fsm Messages 4          0                               0
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
             Unsent Max Unsent Cur                      Ack Max    Ack Cur
-------------------------------------------------------------------------------
Q Length     1          0                               1          0
-------------------------------------------------------------------------------

Window Size Cur                                         : 4
acceptedMsgType
  StartControlConnectionRequest                         : 1
  StartControlConnectionConnected                       : 1
  IncomingCallRequest                                   : 1
  IncomingCallConnected                                 : 1
  ZeroLengthBody                                        : 3
originalTransmittedMsgType
  StartControlConnectionReply                           : 1
  Hello                                                 : 2
  IncomingCallReply                                     : 1
  ZeroLengthBody                                        : 3

last cleared time                                       : N/A
===============================================================================
```

On LAC (primary node after switchover)

```
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
L2TP Tunnel Status
===============================================================================

Connection ID: 11206656
State        : established
IP           : 10.124.0.9
UDP          : 1701
Peer IP      : 10.124.0.3
Peer UDP     : 1701
Tx dst-IP    : 10.124.0.3
Tx dst-UDP   : 1701
Rx src-IP    : 10.124.0.3
Rx src-UDP   : 1701
Name         : mc-lac
Remote Name  : mc-lns
Assignment ID: t1
Group Name   : mc-lac
Acct. Policy : l2tp-base
Error Message: N/A

                                       Remote Conn ID    : 429260800
Tunnel ID         : 171                Remote Tunnel ID  : 6550
Preference        : 50                 Receive Window    : 64
Hello Interval (s): infinite
Idle TO (s)       : infinite           Destruct TO (s)   : 60
Max Retr Estab    : 5                  Max Retr Not Estab: 5
Session Limit     : 32767              AVP Hiding        : never
Transport Type    : udpIp              Challenge         : never
Time Started      : 02/19/2015 13:00:36 Time Idle         : N/A
Time Established  : 02/19/2015 13:00:36 Time Closed       : N/A
Stop CCN Result   : noError            General Error     : noError
Blacklist-state   : not-blacklisted
Set Dont Fragment : true

Failover
State             : recoverable
Recovery Conn ID  : N/A
Recovery state    : not-applicable
Recovered Conn ID : N/A
Recovery method   : mcs
Track SRRP        : 124
Ctrl msg behavior : handle
-------------------------------------------------------------------------------

No. of tunnels: 1
===============================================================================
```

On LAC (secondary node after switchover)

```
show router l2tp tunnel detail
===============================================================================
L2TP Tunnel Status
===============================================================================

Connection ID: 11206656
State        : draining
IP           : 10.124.0.9
UDP          : 1701
Peer IP      : 10.124.0.3
Peer UDP     : 1701
Tx dst-IP    : 10.124.0.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Tx dst-UDP   : 1701
Rx src-IP    : 10.124.0.3
Rx src-UDP   : 1701
Name         : mc-lac
Remote Name  : mc-lns
Assignment ID: t1
Group Name   : mc-lac
Acct. Policy : l2tp-base
Error Message: N/A

                                       Remote Conn ID    : 429260800
Tunnel ID         : 171                Remote Tunnel ID  : 6550
Preference        : 50                 Receive Window    : 64
Hello Interval (s): infinite
Idle TO (s)       : infinite           Destruct TO (s)   : 60
Max Retr Estab    : 5                  Max Retr Not Estab: 5
Session Limit     : 32767              AVP Hiding        : never
Transport Type    : udpIp              Challenge         : never
Time Started      : 02/19/2015 13:00:36 Time Idle         : N/A
Time Established  : 02/19/2015 13:00:36 Time Closed       : N/A
Stop CCN Result   : noError            General Error     : noError
Blacklist-state   : not-blacklisted
Set Dont Fragment : true

Failover
State             : recoverable
Recovery Conn ID  : N/A
Recovery state    : not-applicable
Recovered Conn ID : N/A
Recovery method   : mcs
Track SRRP        : 124
Ctrl msg behavior : forward-to-mcs-peer
-------------------------------------------------------------------------------

No. of tunnels: 1
===============================================================================
```

On LNS after switchover

```
show router l2tp tunnel detail
===============================================================================
L2TP Tunnel Status
===============================================================================

Connection ID: 429260800
State        : established
IP           : 10.124.0.3
UDP          : 1701
Peer IP      : 10.124.0.9
Peer UDP     : 1701
Tx dst-IP    : 10.124.0.9
Tx dst-UDP   : 1701
Rx src-IP    : 10.124.0.9
Rx src-UDP   : 1701
Name         : mc-lns
Remote Name  : mc-lac
Assignment ID: t1
Group Name   : mc-lns
Acct. Policy : N/A
Error Message: N/A

                                       Remote Conn ID    : 11206656
Tunnel ID         : 6550               Remote Tunnel ID  : 171
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Preference        : 50                  Receive Window    : 64
Hello Interval (s): 300
Idle TO (s)       : infinite            Destruct TO (s)   : 60
Max Retr Estab    : 5                   Max Retr Not Estab: 5
Session Limit     : 32767               AVP Hiding        : never
Transport Type    : udpIp               Challenge         : never
Time Started      : 02/19/2015 13:00:36 Time Idle         : N/A
Time Established  : 02/19/2015 13:00:36 Time Closed       : N/A
Stop CCN Result   : noError             General Error     : noError
Blacklist-state   : not-blacklisted
Set Dont Fragment : true

Failover
State             : not-recoverable
Recovery Conn ID  : N/A
Recovery state    : not-applicable
Recovered Conn ID : N/A
Recovery method   : mcs
Track SRRP        : (Not specified)
Ctrl msg behavior : handle
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
```

On LAC (primary node after switchover; 7536640 is the recovered tunnel, 1865089024 is the recovery tunnel)

```
===============================================================================
L2TP Tunnel Status
===============================================================================
Connection ID: 7536640
State        : established
IP           : 10.124.0.9
UDP          : 1701
Peer IP      : 10.124.0.3
Peer UDP     : 1701
Tx dst-IP    : 10.124.0.3
Tx dst-UDP   : 1701
Rx src-IP    : 10.124.0.3
Rx src-UDP   : 1701
Name         : mc-lac
Remote Name  : mc-lns
Assignment ID: t1
Group Name   : mc-lac
Acct. Policy : l2tp-base
Error Message: N/A

                                    Remote Conn ID    : 433324032
Tunnel ID         : 115             Remote Tunnel ID  : 6612
Preference        : 50              Receive Window    : 64
Hello Interval (s): infinite
Idle TO (s)       : infinite        Destruct TO (s)   : 60
Max Retr Estab    : 5               Max Retr Not Estab: 5
Session Limit     : 32767           AVP Hiding        : never
Transport Type    : udpIp           Challenge         : never
Time Started      : 02/19/2015 13:07:53 Time Idle     : N/A
Time Established  : 02/19/2015 13:07:53 Time Closed   : N/A
Stop CCN Result   : noError         General Error     : noError
Blacklist-state   : not-blacklisted
Set Dont Fragment : true

Failover
State             : recoverable
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Recovery Conn ID  : 1865089024
Recovery state    : not-applicable
Recovered Conn ID : N/A
Recovery method   : recovery-tunnel
Track SRRP        : 124
Ctrl msg behavior : handle
-------------------------------------------------------------------------------

Connection ID: 1865089024
State        : closed
IP           : 10.124.0.9
UDP          : 1701
Peer IP      : 10.124.0.3
Peer UDP     : 1701
Tx dst-IP    : 10.124.0.3
Tx dst-UDP   : 1701
Rx src-IP    : 10.124.0.3
Rx src-UDP   : 1701
Name         : mc-lac
Remote Name  : mc-lns
Assignment ID: t1
Group Name   : mc-lac
Acct. Policy : l2tp-base
Error Message: N/A

                                    Remote Conn ID    : 1169424384
Tunnel ID         : 28459           Remote Tunnel ID  : 17844
Preference        : 50              Receive Window    : 64
Hello Interval (s): infinite
Idle TO (s)       : 60              Destruct TO (s)   : 60
Max Retr Estab    : 5               Max Retr Not Estab: 5
Session Limit     : 32767           AVP Hiding        : never
Transport Type    : udpIp           Challenge         : never
Time Started      : 02/19/2015 13:12:05 Time Idle         : N/A
Time Established  : 02/19/2015 13:12:05 Time Closed       : 02/19/2015
13:12:05
Stop CCN Result   : generalReq      General Error     : noError
Blacklist-state   : not-blacklisted
Set Dont Fragment : true

Failover
State             : not-applicable
Recovery Conn ID  : N/A
Recovery state    : recovery-tunnel
Recovered Conn ID : 7536640
Recovery method   : default
Track SRRP        : 124
Ctrl msg behavior : handle
-------------------------------------------------------------------------------
No. of tunnels: 2
===============================================================================
```

On LAC (secondary node after switchover)

```
===============================================================================
L2TP Tunnel Status
===============================================================================

Connection ID: 7536640
State        : draining
IP           : 10.124.0.9
UDP          : 1701
Peer IP      : 10.124.0.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Peer UDP     : 1701
Tx dst-IP    : 10.124.0.3
Tx dst-UDP   : 1701
Rx src-IP    : 10.124.0.3
Rx src-UDP   : 1701
Name         : mc-lac
Remote Name  : mc-lns
Assignment ID: t1
Group Name   : mc-lac
Acct. Policy : l2tp-base
Error Message: N/A

                                     Remote Conn ID    : 433324032
Tunnel ID         : 115              Remote Tunnel ID  : 6612
Preference        : 50               Receive Window    : 64
Hello Interval (s): infinite
Idle TO (s)       : infinite         Destruct TO (s)   : 60
Max Retr Estab    : 5                Max Retr Not Estab: 5
Session Limit     : 32767            AVP Hiding        : never
Transport Type    : udpIp            Challenge         : never
Time Started      : 02/19/2015 13:07:53 Time Idle        : N/A
Time Established  : 02/19/2015 13:07:53 Time Closed      : N/A
Stop CCN Result   : noError          General Error     : noError
Blacklist-state   : not-blacklisted
Set Dont Fragment : true

Failover
State             : recoverable
Recovery Conn ID  : N/A
Recovery state    : not-applicable
Recovered Conn ID : N/A
Recovery method   : recovery-tunnel
Track SRRP        : 124
Ctrl msg behavior : forward-to-mcs-peer
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
```

On LNS after switchover (433324032 is the recovered tunnel, 1169424384 is the recovery tunnel)

```
===============================================================================
L2TP Tunnel Status
===============================================================================

Connection ID: 433324032
State        : established
IP           : 10.124.0.3
UDP          : 1701
Peer IP      : 10.124.0.9
Peer UDP     : 1701
Tx dst-IP    : 10.124.0.9
Tx dst-UDP   : 1701
Rx src-IP    : 10.124.0.9
Rx src-UDP   : 1701
Name         : mc-lns
Remote Name  : mc-lac
Assignment ID: t1
Group Name   : mc-lns
Acct. Policy : N/A
Error Message: N/A

                                     Remote Conn ID    : 7536640
Tunnel ID         : 6612             Remote Tunnel ID  : 115
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Preference        : 50                  Receive Window    : 64
Hello Interval (s): 300
Idle TO (s)       : infinite            Destruct TO (s)   : 60
Max Retr Estab    : 5                   Max Retr Not Estab: 5
Session Limit     : 32767               AVP Hiding        : never
Transport Type    : udpIp               Challenge         : never
Time Started      : 02/19/2015 13:07:53 Time Idle         : N/A
Time Established  : 02/19/2015 13:07:53 Time Closed       : N/A
Stop CCN Result   : noError             General Error     : noError
Blacklist-state   : not-blacklisted
Set Dont Fragment : true

Failover
State             : not-recoverable
Recovery Conn ID  : 1169424384
Recovery state    : not-applicable
Recovered Conn ID : N/A
Recovery method   : recovery-tunnel
Track SRRP        : (Not specified)
Ctrl msg behavior : handle
-------------------------------------------------------------------------------

Connection ID: 1169424384
State        : closed
IP           : 10.124.0.3
UDP          : 1701
Peer IP      : 10.124.0.9
Peer UDP     : 1701
Tx dst-IP    : 10.124.0.9
Tx dst-UDP   : 1701
Rx src-IP    : 10.124.0.9
Rx src-UDP   : 1701
Name         : mc-lns
Remote Name  : mc-lac
Assignment ID: t1
Group Name   : mc-lns
Acct. Policy : N/A
Error Message: N/A

                                    Remote Conn ID    : 1865089024
Tunnel ID         : 17844           Remote Tunnel ID  : 28459
Preference        : 50              Receive Window    : 64
Hello Interval (s): infinite
Idle TO (s)       : 60              Destruct TO (s)   : 60
Max Retr Estab    : 5               Max Retr Not Estab: 5
Session Limit     : 32767           AVP Hiding        : never
Transport Type    : udpIp           Challenge         : never
Time Started      : 02/19/2015 13:12:05 Time Idle         : N/A
Time Established  : 02/19/2015 13:12:05 Time Closed       : 02/19/2015
13:12:05
Stop CCN Result   : generalReq      General Error     : noError
Blacklist-state   : not-blacklisted
Set Dont Fragment : true

Failover
State             : not-applicable
Recovery Conn ID  : N/A
Recovery state    : recovery-tunnel
Recovered Conn ID : 433324032
Recovery method   : default
Track SRRP        : (Not specified)
Ctrl msg behavior : handle
-------------------------------------------------------------------------------
No. of tunnels: 2
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

tunnel

Syntax

tunnel *tunnel-name*

Context

[Tree] (clear>router>l2tp>group tunnel)

Full Context

clear router l2tp group tunnel

Description

This command clears L2TP tunnel data.

Parameters

tunnel-name

Clears L2TP tunnel data associated with the specified tunnel, up to 32 characters.

Platforms

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

tunnel

Syntax

tunnel *connection-id*

Context

[Tree] (clear>router>l2tp tunnel)

Full Context

clear router l2tp tunnel

Description

This command clears L2TP data.

Parameters

connection-id

Specifies the L2TP tunnel connection ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 4294967295

Platforms

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

tunnel

Syntax

tunnel *tunnel-name*

Context

[Tree] (tools>perform>router>l2tp>group tunnel)

[Tree] (tools>perform>router>l2tp tunnel)

Full Context

tools perform router l2tp group tunnel

tools perform router l2tp tunnel

Description

Commands in this context configure performance tools for a specified L2TP tunnel.

Parameters

tunnel-name

Specifies the L2TP tunnel name, up to 32 characters.

Platforms

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

tunnel

Syntax

tunnel *ipsec-tunnel-name*

tunnel

tunnel count

tunnel state *state*

Context

[Tree] (show>ipsec tunnel)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show ipsec tunnel

Description

This command displays IPsec tunnel information.

Parameters

ipsec-tunnel-name

Specifies the name of the tunnel up to 32 characters.

state

Specifies one of up, down, or limited

Platforms

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

tunnel

Syntax

tunnel *ipsec-tunnel-name* [**temp-mtu**]

tunnel esa-vm *esa-id/vm-id* [**saved-key**]

tunnel isa *mda* [**saved-key**]

tunnel *ipsec-tunnel-name* [**saved-key**]

tunnel *ipsec-tunnel-name* [**stats**] [**saved-key**]

Context

[Tree] (clear>ipsec tunnel)

Full Context

clear ipsec tunnel

Description

This command clears static IPsec tunnel states.

Parameters

ipsec-tunnel-name

Specifies the name of the IPsec tunnel, up to 32 characters. If the **stats**, **saved-key** or **temp-mdu** parameters are not specified, the IPsec tunnel is cleared.

saved-key

Clears the saved IKE and ESP keys for the specified tunnel.

temp-mtu

Clears the temporary MTU from MTU propagation for the specified tunnel.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

stats

Clears the statistics counter for the specified tunnel.

mda

Clears all static tunnels terminated on the specified ISA.

esa-vm

Displays the ID of the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16
	vm-id	1 to 4

Platforms

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

tunnel

Syntax

tunnel [**type** {**rx** | **tx**}] [**prefix** *ip-address*] [**tunnel-id** *tunnel-id*]

tunnel [**prefix** *ip-address*] [**tunnel-id** *tunnel-id*] **leaf**

Context

[Tree] (show>router>bier tunnel)

Full Context

show router bier tunnel

Description

This command shows the BIER tunnel table used for MVPN.

Parameters

type

Keyword used to specify receive or transmit.

ip-address

Specifies a prefix in IP address format.

tunnel-id

Specifies a tunnel identifier.

Values 0 to 4294967295

leaf

Keyword used to specify the display of tunnel leafs.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following outputs are examples of BIER tunnel table information, and Table 672: Output fields: BIER tunnel describes the output fields

- Output Example (show router BIER tunnel prefix)
- Output Example (show router BIER tunnel)
- Output Example (show router BIER tunnel leaf)

Output Example (show router BIER tunnel prefix)

```
*A:Dut-A# show router bier tunnel prefix 10.20.1.3
===============================================================================
BIER Tunnels
===============================================================================
Tunnel-id           Type                Oper                No. Of Leaves
BFR Prefx           Bfr-ID              Mpls Label          Sub-domain
-------------------------------------------------------------------------------
73941               rx                  In service          0
10.20.1.3           767                 1048475             4
73942               rx                  In service          0
10.20.1.3           767                 1048473             1
73943               rx                  In service          0
10.20.1.3           767                 1048573             1
73944               rx                  In service          0
10.20.1.3           3                   1048474             0
73945               rx                  In service          0
10.20.1.3           3                   1048471             3
73946               rx                  In service          0
10.20.1.3           767                 1048470             4
73947               rx                  In service          0
10.20.1.3           3                   1048574             0
73948               rx                  In service          0
10.20.1.3           1593                1048472             2
73949               rx                  In service          0
10.20.1.3           3                   1048477             3
73950               rx                  In service          0
10.20.1.3           1593                1048480             2
73951               rx                  In service          0
10.20.1.3           767                 1048476             4

73952               rx                  In service          0
10.20.1.3           3                   1048478             3
73955               rx                  In service          0
10.20.1.3           1593                1048481             2
73956               rx                  In service          0
10.20.1.3           767                 1048485             1
73957               rx                  In service          0
10.20.1.3           3                   1048490             0
===============================================================================
BIER Tunnel entries : 15
===============================================================================
```

Output Example (show router BIER tunnel)

```
# show router bier tunnel
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
BIER Tunnels
===============================================================================
Tunnel-id           Type      Oper              SvcId         No. Of Leaves
BFR Prefix          Bfr-ID    Mpls Label        Next-Proto    Sub-domain
-------------------------------------------------------------------------------
73728               tx        out of service    1             1
10.20.1.3           3         78432             1             0

73730               rx        In service        1             0
10.20.1.2           2         78432             1             0

73734               tx        In service        2             1
10.20.1.3           3         78433             2             0

73736               rx        In service        2             0
10.20.1.2           2         78433             2             0

===============================================================================
BIER Tunnel entries : 4
===============================================================================
```

Output Example (show router BIER tunnel leaf)

```
# show router bier tunnel tunnel-id 73728 leaf

===============================================================================
BIER Tunnel Leaf
===============================================================================
MTTM Index          : 73728              Mvpn Id            : 2
Oper State          : In service         Next-Protocol      : 1

BIER Tunnel PTA
Prefix              : 10.20.1.3          BFR Id             : 3
Sub Domain          : 0                  Mpls Label         : 78432

Leaf Prefix         : 10.20.1.1          Leaf BFR Id        : 1
===============================================================================
Total No. of Leaves : 1
===============================================================================
```

Table 672: Output fields: BIER tunnel

Label	Description
Tunnel-id	The tunnel ID allocated for this tunnel
Type	The tunnel type, indicated if it is a terminating tunnel or an originating one
Oper	The operational status of the tunnel
SvcId	The service ID
No. of Leaves	The number of leaves associated with the tunnel if the tunnel type is tx or BFIR. This field represents the number of leafs associated with it. If the tunnel type is rx or BFER, this field is zero.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
BFR Prefix	The BFR prefix associated with the root of the tunnel
Bfr-ID	The BFR ID associated with the root of the tunnel
Mpls Label	If the tunnel type is tx or BFIR, this field represents the egress VPRN label allocated. If the tunnel type is rx or BFER, this field represents the ingress VPRN label allocated by the root.
Next-Proto	The next protocol value
Sub-domain	The sub-domain associated with the root of the tunnel

tunnel

Syntax

tunnel [**tunnel-id tunnel-id**] [**type** { **rx** | **tx**}]

tunnel [**tunnel-id tunnel-id**] **leaf** [**root-addr** *root-addr*] [**tree-id** *tree-id*]

Context

[Tree] (show>router>p2mp-sr-tree tunnel)

Full Context

show router p2mp-sr-tree tunnel

Description

This command displays details about the P2MP tunnel.

Parameters

tunnel-id

Specifies a tunnel identifier.

Values 0 to 4294967295

type

Specifies a tunnel type.

Values rx, tx

root-addr

Displays the root address.

Values a.b.c.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tree-id

Specifies a tree identifier.

Values 0 to 4294967295

leaf

Specifies that the tunnel leafs are displayed.

Platforms

All

Output

The following output is an example of a P2MP SR tree tunnel table. Table 673: Output fields: P2MP SR tree tunnel provides the P2MP SR tree tunnel table descriptions.

Output Example

```
A:swsim100>file cf3:\ # show router p2mp-sr-tree tunnel
===============================================================================
Replication Segments
===============================================================================
Tunnel-Id                       TreeId    Type      Oper          Num Leaves
RootAddr                                                        SvcId
-------------------------------------------------------------------------------
73729                           9000      tx        inService     1
100.0.0.100                                                     70
73730                           9000      rx        inService     0
100.0.0.103                                                     70
-------------------------------------------------------------------------------
Total P2MP-SR-TUNNELS Tunnels : 2
===============================================================================
```

Table 673: Output fields: P2MP SR tree tunnel

Label	Description
Tunnel-Id	The tunnel ID allocated for this tunnel
Type	The tunnel type, indicated if it is a terminating tunnel or an originating one
Oper	The operational status of the tunnel
Num Leaves	The number of leaves associated with the tunnel
TreeId	The tree ID associated with the root of the tunnel
RootAddr	The address associated with the root of the tunnel
SvcId	The service identifier

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tunnel

Syntax

tunnel [**in-label** *in-label*]

Context

[Tree] (tools>dump>router>sr tunnel)

Full Context

tools dump router segment-routing tunnel

Description

This command displays segment routing tunnel information.

Parameters

in-label

Specifies the filter to match against the ingress label.

Values 0 to 4294967295

Platforms

All

Output

The following outputs are examples of segment routing tunnel operational information, and the following table describes the output fields.

Output Example

```
*A:Dut-F#  tools dump router segment-routing tunnel
===============================================================================
Legend: (B) - Backup Next-hop for Fast Re-Route
        (D) - Duplicate
===============================================================================
-------------------------------------------------------------------------------+
Prefix                                                                         |
Sid-Type        Fwd-Type       In-Label  Prot-
Inst                                          |
                Next Hop(s)                                 Out-Label(s) Interface/Tunnel-
ID |
-------------------------------------------------------------------------------+
10.0.33.3
 Node           Orig/Transit   70000     OSPF-0
                10.0.36.3                                   40000       DUTF_TO
_DUTC.1.0
              (B)10.0.26.2                                  30998       DUTF_TO
_DUTB.1.0
10.0.44.4
 Node           Orig/Transit   70001     OSPF-0
                10.0.26.2                                   30001       DUTF_TO
_DUTB.1.0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
              (B)10.0.56.5                                      60001       DUTF_TO
_DUTE.1.0
10.0.55.5
 Node            Orig/Transit   70002     OSPF-0
                 10.0.56.5                                      60002       DUTF_TO
_DUTE.1.0
              (B)10.0.26.2                                      30995       DUTF_TO
_DUTB.1.0

 Node            Terminating    70003     OSPF-0
 10.0.11.1
 Node            Orig/Transit   70004     OSPF-0
                 10.0.26.2                                      30004       DUTF_TO
_DUTB.1.0
              (B)10.0.36.3                                      40004       DUTF_TO
_DUTC.1.0
10.0.22.2
 Node            Orig/Transit   70005     OSPF-0
                 10.0.26.2                                      30005       DUTF_TO
_DUTB.1.0
              (B)10.0.36.3                                      40004       DUTF_TO
_DUTC.1.0
                                                                20005
 10.20.1.3
 Node            Orig/Transit   70006     OSPF-0
                 10.0.36.3                                      40006       DUTF_TO
_DUTC.1.0
              (B)10.0.26.2                                      30004       DUTF_TO
_DUTB.1.0
                                                                20006
 10.20.1.4
 Node            Orig/Transit   70007     OSPF-0
                 10.0.26.2                                      30007       DUTF_TO
_DUTB.1.0
              (B)10.0.56.5                                      60007       DUTF_TO
_DUTE.1.0
10.20.1.5
 Node            Orig/Transit   70008     OSPF-0
                 10.0.56.5                                      60008       DUTF_TO
_DUTE.1.0
              (B)10.0.26.2                                      30001       DUTF_TO
_DUTB.1.0
                                                                50008

 Node            Terminating    70009     OSPF-0
 10.20.1.1
 Node            Orig/Transit   70010     OSPF-0
                 10.0.26.2                                      30010       DUTF_TO
_DUTB.1.0
              (B)10.0.36.3                                      40010       DUTF_TO
_DUTC.1.0
10.20.1.2
 Node            Orig/Transit   70011     OSPF-0
                 10.0.26.2                                      30011       DUTF_TO
_DUTB.1.0
              (B)10.0.56.5                                      60001       DUTF_TO
_DUTE.1.0
                                                                50011

 Backup Node     Transit        70994     OSPF-0
                 10.0.56.5                                      60994       DUTF_TO
_DUTE.1.0

 Backup Node     Transit        70995     OSPF-0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                10.0.26.2                                       30995       DUTF_TO
_DUTB.1.0

 Backup Node    Transit        70996    OSPF-0
                10.0.26.2                                       30005       DUTF_TO
_DUTB.1.0

 Backup Node    Transit        70998    OSPF-0
                10.0.26.2                                       30998       DUTF_TO
_DUTB.1.0

 Backup Node    Transit        70999    OSPF-0
                10.0.36.3                                       40999       DUTF_TO
_DUTC.1.0

 Adjacency      Transit        262140   OSPF-0
                10.0.26.2                                       3           DUTF_TO
_DUTB.1.0
             (B)10.0.36.3                                       40004       DUTF_TO
_DUTC.1.0
                                                                20005

 Adjacency      Transit        262141   OSPF-0
                10.0.56.5                                       3           DUTF_TO
_DUTE.1.0

 Adjacency      Transit        262142   OSPF-0
                10.0.36.3                                       3           DUTF_TO
_DUTC.1.0

 Adjacency      Transit        262143   OSPF-0
                10.0.26.2                                       3           DUTF_TO
_DUTB.1.0
             (B)10.0.56.5                                       60001       DUTF_TO
_DUTE.1.0
                                                                50011
*A:Dut-F#


*A:Dut-A# tools dump router segment-routing tunnel
===============================================================================
Legend: (B) - Backup Next-hop for Fast Re-Route
(D)  Duplicate
===============================================================================
-------------------------------------------------------------------------------
 Prefix                                                                       |
 Sid-Type       Fwd-Type       In-Label  Prot-Inst                            |
                Next Hop(s)                                 Out-Label(s) Interface/
                                                                      Tunnel-ID |
-------------------------------------------------------------------------------

 Adjacency      Transit        262136   ISIS-0
                10.10.2.3                                       3           ip-
10.10.2.1

 Adjacency      Transit        262137   ISIS-0
                10.10.2.3                                       3           ip-
10.10.2.1

 Adjacency      Transit        262138   ISIS-0
                10.10.1.2                                       3           ip-
10.10.1.1

 Adjacency      Transit        262139   ISIS-0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                10.10.1.2                                           3           ip-
10.10.1.1

 Node           Terminating    474387    ISIS-0
 10.20.1.2
 Node           Orig/Transit   474388    ISIS-0
                10.10.1.2                                           474388      ip-
10.10.1.1
 10.20.1.3
 Node           Orig/Transit   474389    ISIS-0
                10.10.2.3                                           474389      ip-
10.10.2.1
 10.20.1.4
 Node           Orig/Transit   475287    ISIS-0
                10.10.1.2                                           475287      ip-
10.10.1.1
 10.20.1.5
 Node           Orig/Transit   475288    ISIS-0
                10.10.2.3                                           475288      ip-
10.10.2.1
 10.20.1.6
 Node           Orig/Transit   475289    ISIS-0
                10.10.1.2                                           475289      ip-
10.10.1.1
*A:Dut-A#
```

```
*A:Dut-C# tools dump router segment-routing tunnel
===============================================================================
Legend: (B) - Backup Next-hop for Fast Re-Route
        (D) -
 Duplicate
===============================================================================
-------------------------------------------------------------------------------
 Prefix
             |
 Sid-Type       Fwd-Type       In-Label  Prot-
Inst                                    |
                Next Hop(s)                                         Out-
Label(s) Interface/Tunnel-ID |
-------------------------------------------------------------------------------

 Adjacency      Transit        262129    ISIS-0
                10.10.12.2                                          3           ip-
10.10.12.3
             (B)10.10.3.2                                           3           ip-
10.10.3.3

 Adjacency      Transit        262130    ISIS-0
                10.10.12.2                                          3           ip-
10.10.12.3
             (B)10.10.3.2                                           3           ip-
10.10.3.3

 Adjacency      Transit        262133    ISIS-0
                10.10.5.5                                           3           ip-
10.10.5.3
             (B)10.10.12.2                                          474389      ip-
10.10.12.3
                                                                    474390

 Adjacency      Transit        262134    ISIS-0
                10.10.5.5                                           3           ip-
10.10.5.3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
              (B)10.10.12.2                                       474389      ip-
10.10.12.3
                                                                  474390

 Adjacency       Transit        262135    ISIS-0
                 10.10.3.2                                        3           ip-
10.10.3.3
              (B)10.10.12.2                                       3           ip-
10.10.12.3

 Adjacency       Transit        262136    ISIS-0
                 10.10.3.2                                        3           ip-
10.10.3.3
              (B)10.10.12.2                                       3           ip-
10.10.12.3

 Adjacency       Transit        262137    ISIS-0
                 10.10.2.1                                        3           ip-
10.10.2.3

 Adjacency       Transit        262138    ISIS-0
                 10.10.2.1                                        3           ip-
10.10.2.3
 10.20.1.4
 Node            Orig/Transit   474389    ISIS-0
                 10.10.12.2                                       474389      ip-
10.10.12.3
              (B)10.10.5.5                                        474389      ip-
10.10.5.3
 10.20.1.5
 Node            Orig/Transit   474390    ISIS-0
                 10.10.5.5                                        474390      ip-
10.10.5.3
              (B)10.10.12.2                                       474389      ip-
10.10.12.3
                                                                  474390
 10.20.1.6
 Node            Orig/Transit   474391    ISIS-0
                 10.10.5.5                                        474391      ip-
10.10.5.3
              (B)10.10.12.2                                       474391      ip-
10.10.12.3
 10.20.1.2
 Node            Orig/Transit   474392    ISIS-0
                 10.10.12.2                                       474392      ip-
10.10.12.3
              (B)10.10.3.2                                        474392      ip-
10.10.3.3

 Node            Terminating    474393    ISIS-0
*A:Dut-C#
```

```
*A:Dut-C# tools dump router segment-routing tunnel
===============================================================================
Legend: (B) - Backup Next-hop for Fast Re-Route
        (D)  Duplicate
===============================================================================
-------------------------------------------------------------------------------
 Prefix                                                                       |
 Sid-Type        Fwd-Type       In-Label  Prot-Inst
           Next Hop(s)                           Out-Label(s) Interface/Tunnel-ID |
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Adjacency       Transit        262129    ISIS-0
                 10.10.12.2                                    3           ip-
10.10.12.3
              (B)10.10.3.2                                     3           ip-
10.10.3.3

 Adjacency       Transit        262130    ISIS-0
                 10.10.12.2                                    3           ip-
10.10.12.3
              (B)10.10.3.2                                     3           ip-
10.10.3.3

 Adjacency       Transit        262133    ISIS-0
                 10.10.5.5                                     3           ip-
10.10.5.3
              (B)10.10.12.2                                    474389      ip-
10.10.12.3
                                                               474390
 Adjacency       Transit        262134    ISIS-0
                 10.10.5.5                                     3           ip-
10.10.5.3
              (B)10.10.12.2                                    474389      ip-
10.10.12.3
                                                               474390
 Adjacency       Transit        262135    ISIS-0
                 10.10.3.2                                     3           ip-
10.10.3.3
              (B)10.10.12.2                                    3           ip-
10.10.12.3

 Adjacency       Transit        262136    ISIS-0
                 10.10.3.2                                     3           ip-
10.10.3.3
              (B)10.10.12.2                                    3           ip-
10.10.12.3

 Adjacency       Transit        262137    ISIS-0
                 10.10.2.1                                     3           ip-
10.10.2.3

 Adjacency       Transit        262138    ISIS-0
                 10.10.2.1                                     3           ip-
10.10.2.3
 10.20.1.4
 Node            Orig/Transit   474389    ISIS-0
                 10.10.12.2                                    474389      ip-
10.10.12.3
              (B)10.10.5.5                                     474389      ip-
10.10.5.3
 10.20.1.5
 Node            Orig/Transit   474390    ISIS-0
                 10.10.5.5                                     474390      ip-
10.10.5.3
              (B)10.10.12.2                                    474389      ip-
10.10.12.3
                                                               474390
 10.20.1.6
 Node            Orig/Transit   474391    ISIS-0
                 10.10.5.5                                     474391      ip-
10.10.5.3
              (B)10.10.12.2                                    474391      ip-
10.10.12.3
 10.20.1.2
 Node            Orig/Transit   474392    ISIS-0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                10.10.12.2                                          474392      ip-
10.10.12.3
             (B)10.10.3.2                                           474392      ip-
10.10.3.3

 Node            Terminating    474393    ISIS-0
*A:Dut-C#
```

```
*A:Dut-C>config$ /tools dump router segment-routing tunnel
===============================================================================Legend: (B)
 - Backup Next-hop for Fast Re-Route
(D) - Duplicate
label stack is ordered from top-most to bottom-most
===============================================================================
-------------------------------------------------------------------------------+
Prefix
  |
Sid-Type        Fwd-Type       In-Label  Prot-Inst(algoId)
  |
                Next Hop(s)                                         Out-Label(s) Interface/Tunnel-
ID |
-------------------------------------------------------------------------------+
1.1.1.1
 Node            Orig/Transit   20601     ISIS-0
                 1.1.3.1                                            20601       toA
1.1.1.2
 Node            Orig/Transit   20602     ISIS-0
                 1.2.3.2                                            20602       toB
1.1.1.3
 Node            Terminating    20603     ISIS-0
 1.1.1.4
 Node            Orig/Transit   20604     ISIS-0
                 1.2.3.2                                            20604       toB
1.1.1.5
 Node            Orig/Transit   20605     ISIS-0
                 1.3.5.5                                            20605       toE
1.1.1.6
 Node            Orig/Transit   20606     ISIS-0
                 1.3.5.5                                            20606       toE
1.1.1.1
 Node            Orig/Transit   20611     ISIS-0 (128)
                 1.1.3.1                                            20611       toA
1.1.1.3
 Node            Terminating    20613     ISIS-0 (128)
1.1.1.4
 Node            Orig/Transit   20614     ISIS-0 (128)
                 1.2.3.2                                            20614       toB
1.1.1.5
 Node            Orig/Transit   20615     ISIS-0 (128)
                 1.3.5.5                                            20615       toE
1.1.1.6
 Node            Orig/Transit   20616     ISIS-0 (128)
                 1.3.5.5                                            20616       toE
1.1.1.1
 Node            Orig/Transit   20621     ISIS-0 (129)
                 1.1.3.1                                            20621       toA
1.1.1.3
 Node            Terminating    20623     ISIS-0 (129)
1.1.1.4
 Node            Orig/Transit   20624     ISIS-0 (129)
                 1.2.3.2                                            20624       toB
1.1.1.5
 Node            Orig/Transit   20625     ISIS-0 (129)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                1.3.5.5                                          20625       toE
1.1.1.6
 Node           Orig/Transit   20626     ISIS-0 (129)
                1.3.5.5                                          20626       toE
1.1.1.1
 Node           Orig/Transit   20631     ISIS-0 (130)
                1.1.3.1                                          20631       toA
1.1.1.3
 Node           Terminating    20633     ISIS-0 (130)
1.1.1.4
 Node           Orig/Transit   20634     ISIS-0 (130)
                1.2.3.2                                          20634       toB
1.1.1.5
 Node           Orig/Transit   20635     ISIS-0 (130)
                1.3.5.5                                          20635       toE
1.1.1.6
 Node           Orig/Transit   20636     ISIS-0 (130)
                1.3.5.5                                          20636       toE
1.1.1.1
 Node           Orig/Transit   20641     ISIS-0 (131)
               1.1.3.1                                          20641       toA
1.1.1.3
 Node           Terminating    20643     ISIS-0 (131)
1.1.1.4
 Node           Orig/Transit   20644     ISIS-0 (131)
                1.2.3.2                                          20644       toB
1.1.1.5
 Node           Orig/Transit   20645     ISIS-0 (131)
                1.3.5.5                                          20645       toE
1.1.1.6
 Node           Orig/Transit   20646     ISIS-0 (131)
                1.3.5.5                                          20646       toE
1.1.1.1
 Node           Orig/Transit   20651     ISIS-0 (132)
                1.1.3.1                                          20651       toA
1.1.1.3
 Node           Terminating    20653     ISIS-0 (132)
1.1.1.4
 Node           Orig/Transit   20654     ISIS-0 (132)
                1.2.3.2                                          20654       toB
1.1.1.5
 Node           Orig/Transit   20655     ISIS-0 (132)
                1.3.5.5                                          20655       toE
1.1.1.6
 Node           Orig/Transit   20656     ISIS-0 (132)
                1.3.5.5                                          20656       toE
3ffe::101:101
 Node           Orig/Transit   20801     ISIS-0
 fe80::ce0f:1ff:fe01:2                          20801       toA
3ffe::101:102
 Node           Orig/Transit   20802     ISIS-0
                fe80::ce14:1ff:fe01:3                            20802       toB
3ffe::101:103
 Node           Terminating    20803     ISIS-0
 3ffe::101:104
 Node           Orig/Transit   20804     ISIS-0
                fe80::ce14:1ff:fe01:3                            20804       toB
3ffe::101:105
 Node           Orig/Transit   20805     ISIS-0
                fe80::ce2c:1ff:fe01:1                            20805       toE
3ffe::101:106
 Node           Orig/Transit   20806     ISIS-0
                fe80::ce2c:1ff:fe01:1                            20806       toE
3ffe::101:101
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Node            Orig/Transit   20811     ISIS-0 (128)
                 fe80::ce0f:1ff:fe01:2                          20811       toA
3ffe::101:103
 Node            Terminating    20813     ISIS-0 (128)
3ffe::101:104
 Node            Orig/Transit   20814     ISIS-0 (128)
                 fe80::ce14:1ff:fe01:3                          20814       toB
3ffe::101:105
 Node            Orig/Transit   20815     ISIS-0 (128)
                 fe80::ce2c:1ff:fe01:1                          20815       toE
3ffe::101:106
 Node            Orig/Transit   20816     ISIS-0 (128)
                 fe80::ce2c:1ff:fe01:1                          20816       toE
3ffe::101:101
 Node            Orig/Transit   20821     ISIS-0 (129)
                 fe80::ce0f:1ff:fe01:2                          20821       toA
3ffe::101:103
 Node            Terminating    20823     ISIS-0 (129)
3ffe::101:104
 Node            Orig/Transit   20824     ISIS-0 (129)
                 fe80::ce14:1ff:fe01:3                          20824       toB
3ffe::101:105
 Node            Orig/Transit   20825     ISIS-0 (129)
                 fe80::ce2c:1ff:fe01:1                          20825       toE
3ffe::101:106
 Node            Orig/Transit   20826     ISIS-0 (129)
                 fe80::ce2c:1ff:fe01:1                          20826       toE
3ffe::101:101
 Node            Orig/Transit   20831     ISIS-0 (130)
                 fe80::ce0f:1ff:fe01:2                          20831       toA
3ffe::101:103
 Node            Terminating    20833     ISIS-0 (130)
3ffe::101:104
 Node            Orig/Transit   20834     ISIS-0 (130)
                 fe80::ce14:1ff:fe01:3                          20834       toB
3ffe::101:105
 Node            Orig/Transit   20835     ISIS-0 (130)
                 fe80::ce2c:1ff:fe01:1                          20835       toE
3ffe::101:106
 Node            Orig/Transit   20836     ISIS-0 (130)
                 fe80::ce2c:1ff:fe01:1                          20836       toE
3ffe::101:101
 Node            Orig/Transit   20841     ISIS-0 (131)
                 fe80::ce0f:1ff:fe01:2                          20841       toA
3ffe::101:103
 Node            Terminating    20843     ISIS-0 (131)
3ffe::101:104
 Node            Orig/Transit   20844     ISIS-0 (131)
                 fe80::ce14:1ff:fe01:3                          20844       toB
3ffe::101:105
 Node            Orig/Transit   20845     ISIS-0 (131)
                 fe80::ce2c:1ff:fe01:1                          20845       toE
3ffe::101:106
 Node            Orig/Transit   20846     ISIS-0 (131)
                 fe80::ce2c:1ff:fe01:1                          20846       toE
3ffe::101:101
 Node            Orig/Transit   20851     ISIS-0 (132)
                 fe80::ce0f:1ff:fe01:2                          20851       toA
3ffe::101:103
 Node            Terminating    20853     ISIS-0 (132)
3ffe::101:104
 Node            Orig/Transit   20854     ISIS-0 (132)
                 fe80::ce14:1ff:fe01:3                          20854       toB
3ffe::101:105
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
 Node            Orig/Transit   20855     ISIS-0 (132)
                 fe80::ce2c:1ff:fe01:1                          20855       toE
3ffe::101:106
 Node            Orig/Transit   20856     ISIS-0 (132)
                 fe80::ce2c:1ff:fe01:1                          20856       toE
fe80::ce0f:1ff:fe01:2-"toA"
 Adjacency       Transit        524276    ISIS-0
                 fe80::ce0f:1ff:fe01:2                          3           toA
1.1.3.1
 Adjacency       Transit        524277    ISIS-0
                 1.1.3.1                                        3           toA
fe80::ce2c:1ff:fe01:1-"toE"
 Adjacency       Transit        524278    ISIS-0
                 fe80::ce2c:1ff:fe01:1                          3           toE
1.3.5.5
 Adjacency       Transit        524279    ISIS-0
                 1.3.5.5                                        3           toE
fe80::ce14:1ff:fe01:3-"toB"
 Adjacency       Transit        524280    ISIS-0
                 fe80::ce14:1ff:fe01:3                          3           toB
1.2.3.2
 Adjacency       Transit        524281    ISIS-0
                 1.2.3.2                                        3           toB
-------------------------------------------------------------------------------+
No. of Entries: 68
-------------------------------------------------------------------------------+
*A:Dut-C>config>router>isis$
```

Output Example for Egress Peer Engineering

```
A:Dut-C# /tools dump router segment-routing tunnel
===============================================================================
Legend: (B) - Backup Next-hop for Fast Re-Route
(D) - Duplicate
label stack is ordered from top-most to bottom-most
===============================================================================
-------------------------------------------------------------------------------+
Prefix |
Sid-Type Fwd-Type In-Label Prot-Inst(algoId) |
Next Hop(s) Out-Label(s) |
Interface/ |
Tunnel-ID |
-------------------------------------------------------------------------------+
10.20.1.1
Node Orig/Transit 524282 BGP-EPE-0
10.11.13.1 3 to_A_1
10.12.13.1 3 to_A_2
10.12.13.1
Adjacency Transit 524283 BGP-EPE-0
10.12.13.1 3 to_A_2
10.11.13.1
Adjacency Transit 524284 BGP-EPE-0
10.11.13.1 3 to_A_1
-------------------------------------------------------------------------------+
No. of Entries: 3
-------------------------------------------------------------------------------+
A:Dut-C#
```

Output Example for Single Loopback SID

```
*A:Dut-C# tools dump router segment-routing tunnel
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================================
====
Legend: (B) - Backup Next-hop for Fast Re-Route
        (D) - Duplicate
label stack is ordered from top-most to bottom-most
===============================================================================================
====
-----------------------------------------------------------------------------------------------
---+
 Prefix
   |
 Sid-Type        Fwd-Type       In-Label  Prot-Inst(algoId)
   |
                 Next Hop(s)                                     Out-Label(s) Interface/Tunnel-
ID |
-----------------------------------------------------------------------------------------------
---+
 1.1.1.3
 Node            Terminating    20003     IGP-Shared
 1.1.1.5
 Node            Orig/Transit   20005     ISIS-0
                 10.10.10.2                                      20005       To_1/1/1(E)
 10.10.10.2
 Adjacency       Transit        524287    ISIS-0
                 10.10.10.2                                      3           To_1/1/1(E)
-----------------------------------------------------------------------------------------------
---+
No. of Entries: 3
-----------------------------------------------------------------------------------------------
---+
*A:Dut-C#
```

Table 674: Output fields: tunnel group

Label	Description
ISA Group	The ISA group ID
Admin State	The administrative state of the tunnel group
Oper state	The operational state of the tunnel group
Responder-Only	The tunnel setup under the specified tunnel group
Non-Active Members	The non-active ESA and ESA VM
Required Active Qty	The number of the required active members
Active Members	The active ESA and ESA VM
Reassembly (msecs)	The time of reassembly
ISA Chassis	The number of ISA chassis
Oper Flags	The operational status flag of the tunnel
Grp IPsec Tnls	The number of group IPsec tunnels
Grp IPsec Max Tnls	The maximum number of group IPsec tunnels

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Grp IP Tunnels	The number of group IP tunnels
Grp IP Max Tunnels	The maximum number of group IP tunnels
ISA Scale Mode	The number of tunnels on each ISA of the tunnel group
Statistics Collection	Specifies whether statistics collection is enabled
CPU Usage	Specifies whether the CPU usage of all the processes and protocols is enabled
Gw Traffic Forward	Specifies whether the traffic forwarded on the GW is enabled
IGP-Shared	Identifies a local node as a shared SID and is programmed in an ILM as such. An ILM can only be programmed once and has a single owner. When a node SID is shared, a local duplicate may exist between instances and the ISIS, OSPF, and OSPF3 protocols.

tunnel

Syntax

tunnel [{*ip-address* | *ipv6-address*}] [**detail**]

tunnel [{*ip-address* | *ipv6-address*}] **egress-stats**

Context

[Tree] (show>router>rib-api tunnel)

Full Context

show router rib-api tunnel

Description

This command displays RIB-API tunnel information.

Parameters

ip-address

Specifies the IPv4 address of the RIB-API tunnel up to 64 characters.

ipv6-address

Specifies the IPv6 address of the RIB-API tunnel up to 64 characters.

detail

Displays detailed RIB-API tunnel information.

egress-stats

Displays egress statistics of all instances for the specified RIB-API tunnel.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of RIB-API tunnel information.

Output Example

```
show router rib-api tunnel 10.20.1.5 egress-stats
===============================================================================
Tunnel (Detail)
===============================================================================
Tunnel         : 10.20.1.5              Rib-Api Pref   : 16
Client Ip      : 172.21.38.76           Client Tag     : 1
Active         : Y                      EgrStatsState  : Up
 Next-hop Group   : 1
  Primary nexthop : 10.10.5.5
   StatsOperState : Up
   Aggr Pkts: 11000                    Aggr Octets: 11550000
  Backup nexthop  : 10.10.11.4
   StatsOperState : Up
   Aggr Pkts: 11000                    Aggr Octets: 11550000
 Next-hop Group   : 2
  Primary nexthop : 10.10.5.5
   StatsOperState : Up
   Aggr Pkts: 11000                    Aggr Octets: 11550000
  Backup nexthop  : 10.10.11.4
   StatsOperState : Up
   Aggr Pkts: 11000                    Aggr Octets: 11550000
Total Aggr        :
   Aggr Pkts: 44000                    Aggr Octets: 46200000
-------------------------------------------------------------------------------
===============================================================================
```

tunnel

Syntax

tunnel {*ip-address* | *ipv6-address*} **preference** *preference* **client-tag** *client-tag* **egress-stats**

Context

[Tree] (clear>router>rib-api tunnel)

Full Context

clear router rib-api tunnel

Description

Clears the egress statistics of the specified RIB-API tunnel.

Parameters

ip-address

Specifies the IPv4 address of the RIB-API tunnel up to 64 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ipv6-address

Specifies the IPv6 address of the RIB-API tunnel up to 64 characters.

preference

Specifies the preference of the specified RIB-API entry.

Values 0 to 4294967295

client-tag

Specifies the client tag of the specified RIB-API entry.

Values 0 to 4294967295

egress

Specifies to clear the egress statistics.

Platforms

All

tunnel

Syntax

tunnel {*ip-address* | *ipv6-address*}

Context

[Tree] (tools>dump>router>rib-api tunnel)

Full Context

tools dump router rib-api tunnel

Description

This command configures the dump tools for RIB-API tunnel.

Parameters

ip-address

Specifies the IPv4 address of the RIB-API tunnel, up to 64 characters.

ipv6-address

Specifies the IPv6 address of the RIB-API tunnel, up to 64 characters.

Platforms

All

Output

The following output is an example of RIB-API tunnel route information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
*A:Dut-A>tools>dump>router>rib-api# tunnel 10.21.1.3
 Db Mgr flags 0x80 ilmStatsFailCnt 0
-------------------------------------------------------------------------------
 dbOwner RIB-API routeOwner 50 rsvdBlkId 3 flags 0x3 numPolicies 1 numInstalled 1
-------------------------------------------------------------------------------
 EndPt DB 10.21.1.3
 dbFlags 0xa PathCount 1 srTunnelId 1015813
 PROGRAMMED
 Path bitmap 0
 SR Retry time left : 0 SR retrycount : 0
 Best Db Path owner 1 path name vrId:1, dbOwner:1, Client Tag:4 endPoint 10.21.1.3 color 0
 preference 182 Last Modified 02/07/2020 23:44:42 Up Time 0d 02:13:47
 Preference 182 flags 0x4246 Status FWDPLCY_ERR_NA SR status SR_ERR_OK
 TTM Preference 102 metric 103
 PrimResolved NH's 1 BkupResolved NH's 1
 NHGroup 4
 flags 0x3bf9 : weight 0 normalized weight 0
 Revert timer 65535 Time left 0 NumOfReverts 0
 Hold timer 0 Time left 0
DIRECT NH:  PRIM PGMED:  PRIM RESOLVED:  BKUP RESOLVED:  BKUP PGMED:
 primaryNH 1.1.2.2 egrStatsIdx 0x20001 Status FWDPLCY_NHERR_NA
 Label Stack:30044 0
 Nexthop 1 1.1.2.2 outIf 3 globalIfIndex 11 globaIfInNHgrp 11
 PG ID 0
 PG ID 7
 backupNH 1.1.2.22 egrStatsIdx 0x20002 Status FWDPLCY_NHERR_NA
 Label stack:30244 0
 Nexthop 1 1.1.2.22 outIf 3 globalIfIndex 11 globaIfInNHgrp 11
 PG ID 0
 PG ID 8
 -------------------------------------------------------------------------
*A:Dut-A>tools>dump>router>rib-api#
```

tunnel

Syntax

tunnel *gre-tunnel-name* **stats**

tunnel *gre-tunnel-name* **temp-mtu**

Context

[Tree] (clear>ip tunnel)

Full Context

clear ip tunnel

Description

This command clears IP tunnel statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

gre-tunnel-name

Specifies the GRE tunnel name, up to 32 characters.

stats

Clears the statistics counter for the specified tunnel.

temp-mtu

Clears temporary MTU values from the MTU propagation for the specified tunnel.

Platforms

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

tunnel

Syntax

tunnel {*ip-address* | *ipv6-address*} **preference** *preference* **client-tag** *client-tag* **egress-stats** [**interval** *seconds*] [**repeat** *repeat*] [{**absolute** | **rate**}]

Context

[Tree] (monitor>router>rib-api tunnel)

Full Context

monitor router rib-api tunnel

Description

This command monitors the egress statistics of the specified RIB-API tunnel.

Parameters

ip-address

Specifies the IPv4 address of the RIB-API tunnel up to 64 characters.

ipv6-address

Specifies the IPv6 address of the RIB-API tunnel up to 64 characters.

preference

Specifies the preference of the specified RIB-API entry.

Values 0 to 4294967295

client-tag

Specifies the client tag of the specified RIB-API entry.

Values 0 to 4294967295

egress-stats

Specifies to monitor the egress statistics of the specified RIB-API tunnel.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

seconds

Configures the interval for each display in seconds.

Values 3 to 60

repeat

Configures how many times the command is repeated.

Values 1 to 999

absolute

Displays the absolute statistics of the specified RIB-API tunnel.

rate

Displays the rate-per-second statistics of the specified RIB-API tunnel.

Platforms

All

tunnel

Syntax

tunnel *name* [**destinations** | **sessions**]

Context

[Tree] (show>system>grpc-tunnel tunnel)

Full Context

show system grpc-tunnel tunnel

Description

This command displays gRPC tunnel information.

Parameters

name

Specifies the gRPC tunnel name, up to 32 characters.

destinations

Specifies to display gRPC tunnel destinations.

sessions

Specifies to display gRPC tunnel sessions.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of system gRPC tunnel tunnel information.

Table 676: Output fields: system gRPC tunnel name describes system gRPC tunnel tunnel output fields.

Output example

```
*A:dut-c# show system grpc-tunnel tunnel

===============================================================================
gRPC-Tunnel tunnels
===============================================================================
Name                                                  Admin   Oper   Sessions
-------------------------------------------------------------------------------
t1                                                  Enabled     Up          0
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
Please provide output example
```

Table 675: Output fields: system gRPC tunnel tunnel

Label	Description
Name	Displays the name of the tunnel.
Admin	Specifies the administrative state (Enabled, Disabled).
Oper	Specifies the operational state (Up, Down, Tran).
Sessions	Displays the number of sessions of the tunnel.
No. of tunnels	Displays the number of tunnels.

Output example

```
*A:dut-c# show system grpc-tunnel tunnel "t1"

===============================================================================
gRPC-Tunnel tunnel
===============================================================================
Name                      : t1
Administrative State      : Enabled
Operational State         : Up
Oper Down Reason          :
Description               : (Not Specified)
Destination Group         : dg1
Operational Target Name   : dut-c
===============================================================================
```

Table 676: Output fields: system gRPC tunnel name

Label	Description
Name	Displays the name of the tunnel.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Administrative State	Specifies the administrative state (Enabled, Disabled).
Operational State	Specifies the operational state (Up, Down, Transition).
Oper Down Reasons	Displays the reason for the operational down state.
Description	Displays the description of the tunnel.
Destination Group	Displays the destination group of the tunnel.
Operational Target Name	Displays the operational target name of the tunnel.

tunnel

Syntax

tunnel count

tunnel *ip-tunnel-name*

tunnel state *state*

tunnel

Context

[Tree] (show>ip tunnel)

Full Context

show ip tunnel

Description

This command displays IP related tunnel information.

Parameters

ip-tunnel-name

Specifies the IP tunnel name, up to 32 characters.

state

Specifies the IP tunnel state.

Values up, down

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.51 tunnel-encryption

tunnel-encryption

Syntax

tunnel-encryption encryption-group *group-name* [**peer** *ip-address*] [**detail**] [**mka-session**]

tunnel-encryption encryption-group *group-name* [**peer** *ip-address*] [**statistics**] [**mka-session**]

tunnel-encryption [**detail**] [**mka-session**]

tunnel-encryption [**statistics**] [**mka-session**]

Context

[Tree] (show>anysec tunnel-encryption)

Full Context

show anysec tunnel-encryption

Description

Commands in this context display tunnel encryption information.

Parameters

group-name

Specifies the encryption group name, up to 32 characters.

ip-address

Specifies the IPv4 or IPv6 address.

Values

ip-address:	ipv4-address - a.b.c.d
ipv6-address :	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

detail

Keyword to specify the detailed tunnel encryption group information.

mka-session

Keyword to specify MKA session information.

statistics

Keyword to specify MKA statistical information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7750 SR-1, 7750 SR-12e, 7750 SR-s

Output

The following output is an example of the tunnel encryption information, and Table 677: Output fields: tunnel encryption describes the output fields.

Output Example

```
# show anysec tunnel-encryption detail

===============================================================================
Encryption Group: EG-1
===============================================================================
Group Admin State          : Up
CA Name                    : CA-1
Local Encryption Label     : 0
Security Termination Policy: STP-1
Policy Admin State         : Up
Policy Protocol            : sr-isis
Policy IGP Instance ID     : 11
Policy FlexAlgo ID         : 0
Local Address              : 1.1.216.100
Rx Must Be Encrypted       : No
Terminating Label          : 0

-------------------------------------------------------------------------------
Peer 1.1.216.136 configuration
-------------------------------------------------------------------------------
Peer Admin State        : Up
Peer Protocol           : sr-isis
Peer IGP Instance ID    : 11
Peer FlexAlgo ID        : 0
Peer Tunnel ID          : 0
Peer Encryption Label   : 0
Last Inconsistent Rx SCI: 0000000000000000
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
SC stats for peer 1.1.216.136
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
txSCSecyStats
-------------------------------------------------------------------------------
Tx SCI                      : 0000000000000002
Encrypted Packets           : 0
Encrypted Octets            : 0
-------------------------------------------------------------------------------

-------------------------------------------------------------------------------
rxSCSecyStats
-------------------------------------------------------------------------------
Rx SCI                      : 0000000000000000
Delay Packets               : 0
Not Valid Packets           : 0
Unchecked Packets           : 0
OK Packets                  : 0
Decrypted Octets            : 0
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 677: Output fields: tunnel encryption

Label	Description
Group Admin State	The encryption group administrative state
CA Name	The connectivity association name
Local Encryption Label	The local encyption label
Security Termination Policy	The security termination policy name
Policy Admin State	The policy administrative state
Policy Protocol	The policy protocol
Policy IGP Instance ID	The policy IGP instance ID
Policy FlexAlgo ID	The policy flexible algorithm ID
Local Address	The local IP address
Rx Must Be Encrypted	Indicates all arriving traffic must be encrypted or is discarded
Terminating Label	The terminating label
Peer <IP address> configuration	
Peer Admin State	The peer administrative state
Peer Protocol	The peer protocol
Peer IGP Instance ID	The peer IGP instance ID
Peer FlexAlgo ID	The peer Flex Algo ID
Peer Tunnel ID	The peer tunnel ID
Peer Encryption Label	The peer encryption label
Last Inconsistent Rx SCI	The last inconsistent receive SCI value
txSCSecyStats	
Tx SCI	The transmit SCI value
Encrypted Packets	The number of encrypted packets
Encrypted Octets	The number of encrypted octets
rxSCSecyStats	

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Rx SCI	The receive SCI value
Delay Packets	The number of delayed packets
Not Valid Packets	The number of invalid packets
Unchecked Packets	The number of unchecked packets
OK Packets	The number of OK packets
Decrypted Octets	The number of decrypted octets

27.52 tunnel-group

tunnel-group

Syntax

tunnel-group *tunnel-group-id* **association mda** *mda-id*

tunnel-group *tunnel-group-id* **association esa-vm** *esa-id/vm-id*

tunnel-group *tunnel-group-id* [**detail**]

tunnel-group [*tunnel-group-id*]

Context

[Tree] (show>isa tunnel-group)

Full Context

show isa tunnel-group

Description

Commands in this context display tunnel information.

Parameters

association

Keyword that displays association applicable to the specified tunnel group.

esa-vm

Displays information about the configured ESA and ESA VM.

Values

esa-vm:	*esa-id*/*vm-id*	
	esa-id	1 to 16

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

vm-id 1 to 4

mda-id

Displays information about the specified ISA.

Values slot/mda

detail

Keyword that displays detailed ESA VM information.

tunnel-group-id

Displays information about the specified tunnel group ID.

Values 1 to 16

Platforms

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

Output

The following output is an example of the tunnel group information, and Table 678: Output fields: tunnel group describes the output fields.

Output Example

```
*A:SR-12/Dut-B# show isa tunnel-group 1
===============================================================================
ISA Tunnel Groups (Multi-Active)
===============================================================================
Tunnel    Non-Active       Required     Active           Admin     Oper
GroupId   Members          Active Qty   Members          State     State
-------------------------------------------------------------------------------
1                          1            esa-1/1          Up        Up
-------------------------------------------------------------------------------
No. of ISA Tunnel Groups (Multi-Active): 1
===============================================================================
*A:SR-12/Dut-B# show isa tunnel-group 1 detail

===============================================================================
ISA Tunnel Group Information
===============================================================================
Description          : For testing ipsec scenarios in a multi-chassis setup
ISA Group            : 1
Member Pool          : DS_memberPool
Admin State          : Up                 Oper State         : Up
Responder-Only       : true
Non-Active Members   : (Not Specified)
Required Active Qty  : 4
Active Members       : esa-1/1 esa-1/2 esa-2/1 esa-2/2
Reassembly (msecs)   : 2000               ISA Chassis        : 1
Oper Flags           : (Not Specified)
Grp IPsec Tnls       : 32767              Grp IPsec Max Tnls : 32768
Grp IP Tunnels       : 0                  Grp IP Max Tunnels : 4096
ISA Scale Mode       : tunnel-limit-32k
Strict ESP Seq No Ord: Disabled
SPI Range Index      : 2
Statistics Collection
  CPU Usage          : Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Gw Traffic Forward : Enabled
Last Config Change   : 09/21/2024 11:48:15

===============================================================================
Member                        Weight      Hash Slots  Active
-------------------------------------------------------------------------------
esa-1/1                       367         4           Yes
esa-1/2                       669         7           Yes
esa-2/1                       193         2           Yes
esa-2/2                       755         8           Yes
-------------------------------------------------------------------------------
Number of Configured Entries: 4
Number of Active Entries: 4
===============================================================================
*A:SR-12/Dut-B# show isa tunnel-group 1 association esa-vm 1/1
===============================================================================
Associated IPsec Tunnels
-------------------------------------------------------------------------------
Private Svc Tunnel                          Host ISA  Oper      Delivery Svc
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Entries: 0
-------------------------------------------------------------------------------
Associated IP Tunnels
-------------------------------------------------------------------------------
Private Svc Tunnel                          Host ISA  Oper      Delivery Svc
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Number of Entries: 0
-------------------------------------------------------------------------------
Associated Remote-User IPsec Tunnels
-------------------------------------------------------------------------------
Public Svc  Address:Port                    Host ISA            Private Svc
-------------------------------------------------------------------------------
1052        42.1.1.2:500                    esa-1/1             52
1052        42.1.1.3:500                    esa-1/1             52
1052        42.1.1.4:500                    esa-1/1             52
1052        42.1.1.5:500                    esa-1/1             52
1052        42.1.1.6:500                    esa-1/1             52
1052        42.1.1.7:500                    esa-1/1             52
1052        42.1.1.8:500                    esa-1/1             52
1052        42.1.1.9:500                    esa-1/1             52
```

Table 678: Output fields: tunnel group

Label	Description
ISA Group	The ISA group ID
Admin State	The administrative state of the tunnel group
Oper state	The operational state of the tunnel group
Responder-Only	The tunnel setup under the specified tunnel group
Non-Active Members	The non-active ESA and ESA VM
Required Active Qty	The number of required active members
Active Members	The active ESA and ESA VM

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Reassembly (msecs)	The time of reassembly
ISA Chassis	The number of ISA chassis
Oper Flags	The operational status flag of the tunnel
Grp IPsec Tnls	The number of group IPsec tunnels
Grp IPsec Max Tnls	The maximum number of group IPsec tunnels
Grp IP Tunnels	The number of group IP tunnels
Grp IP Max Tunnels	The maximum number of group IP tunnels
ISA Scale Mode	The number of tunnels on each ISA of the tunnel group
SPI Range Index	The SPI range index assigned to the tunnel group
Statistics Collection	Specifies whether statistics collection is enabled
CPU Usage	Specifies whether the CPU usage of all the processes and protocols is enabled
Gw Traffic Forward	Specifies whether the traffic forwarded on the Gw is enabled
Member	The ESA VM members in the tunnel group
Weight	The weight of the ESA VM for tunnel load balancing
Hash Slots	The number of hash slots
Active	The active state of the ESA VM

27.53 tunnel-interface

tunnel-interface

Syntax

tunnel-interface

Context

[Tree] (show>router>igmp tunnel-interface)

Full Context

show router igmp tunnel-interface

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays tunnel interface information.

Platforms

All

Output

The following output is an example of IGMP tunnel interface information.

Output Example

```
*A:Dut-C# show router igmp tunnel-interface
===============================================================================
IGMP Tunnel-Interfaces
===============================================================================
LSP/LDP        Type        SenderAddr     IfIndex           AdmState  OperState
-------------------------------------------------------------------------------
1              ldp         10.20.1.3      74218             Up        Up
2              ldp         10.20.1.3      74219             Up        Up
3              ldp         10.20.1.3      74220             Up        Up
4              ldp         10.20.1.3      74221             Up        Up
5              ldp         10.20.1.3      74222             Up        Up
-------------------------------------------------------------------------------
Interfaces : 5
===============================================================================
```

tunnel-interface

Syntax

tunnel-interface [*ip-int-name* | *mt-int-name* | *int-ip-address*] [**group** [*grp-ip-address*] **source** *ip-address*] [**type** {**starstarrp** | **starg** | **sg**}] [**detail**] [*family*]

Context

[Tree] (show>router>pim tunnel-interface)

Full Context

show router pim tunnel-interface

Description

This command displays PIM tunnel interface information.

Parameters

ip-int-name

Displays information about the specified IP interface name, up to 32 characters.

mt-int-name

Displays information about the Multicast Tunnel (MT) interface for a VPRN.

Values *vprn-id*-mt-*grp-ip-address*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

int-ip-address

Displays information about the interface IPv4 or IPv6 address.

grp-ip-address

Displays information about the IP multicast group address, or 0.

ip-address

Displays information about the source or RP IPv4 or IPv6 address.

type

Displays information about the type of entry.

Values starstarrp, starg, sg

detail

Displays detailed interface information.

family

Displays family information.

Values ipv4, ipv6

Platforms

All

Output

The following output is an example of PIM tunnel interface information.

Output Example

```
*A:Dut-C# show router pim tunnel-interface
===============================================================================
PIM Interfaces ipv4
===============================================================================
Interface                       Originator Address   Adm  Opr  Transport Type
-------------------------------------------------------------------------------
mpls-if-73728                   N/A                  Up   Up   Tx-IPMSI
mpls-if-73729                   N/A                  Up   Up   Tx-IPMSI
mpls-if-73730                   N/A                  Up   Up   Tx-IPMSI
mpls-if-73735                   N/A                  Up   Up   Rx-BierInband
mpls-if-73736                   N/A                  Up   Up   Tx-BierInband
-------------------------------------------------------------------------------
Interfaces : 5
===============================================================================
```

tunnel-interface

Syntax

tunnel-interface [**protocol** *protocol*] [**senderAddr** *senderAddr*] [**rootNode** *rootNode*]

Context

[Tree] (show>router tunnel-interface)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router tunnel-interface

Description

This command displays tunnel interface information.

Parameters

protocol

Displays information about the specified protocol.

Values ldp, rsvp

senderAddr

Displays information about the IP address of the sender.

rootNode

Displays information about the root nodes.

Values Yes, No

Platforms

All

Output

The following output is an example of router tunnel interface information.

Output Example

```
*A:Dut-C# show router tunnel-interface
===============================================================================
 P2MP-RSVP P2MP-LDP Tunnel-Interfaces
===============================================================================
LSP/LDP           Type        SenderAddr          IfIndex             RootNode
-------------------------------------------------------------------------------
1                 ldp         10.20.1.2          73728               No
2                 ldp         10.20.1.2          73729               No
3                 ldp         10.20.1.2          73730               No
4                 ldp         10.20.1.2          73731               No
5                 ldp         10.20.1.2          73732               No
-------------------------------------------------------------------------------
Interfaces : 5
===============================================================================
*A:Dut-B# show router tunnel-interface
===============================================================================
 P2MP-RSVP P2MP-LDP Tunnel-Interfaces
===============================================================================
LSP/LDP           Type        SenderAddr          IfIndex             RootNode
-------------------------------------------------------------------------------
1                 ldp         10.20.1.2          73728               Yes
2                 ldp         10.20.1.2          73729               Yes
3                 ldp         10.20.1.2          73730               Yes
4                 ldp         10.20.1.2          73731               Yes
5                 ldp         10.20.1.2          73732               Yes
-------------------------------------------------------------------------------
Interfaces : 5
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

27.54 tunnel-isa

tunnel-isa

Syntax

tunnel-isa

Context

[Tree] (show>isa>stats tunnel-isa)

Full Context

show isa statistics tunnel-isa

Description

Commands in this context display tunnel ISA statistics including ISA CPU usage and memory allocation failure rates.

Platforms

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

27.55 tunnel-member-pool

tunnel-member-pool

Syntax

tunnel-member-pool [*name*]

tunnel-member-pool *name* **detail**

Context

[Tree] (show>isa tunnel-member-pool)

Full Context

show isa tunnel-member-pool

Description

This command displays a list of configured tunnel member pools.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

name

Specifies the tunnel member pool name, up to 32 characters.

detail

Keyword that displays detailed information about the specified tunnel member pool.

Platforms

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

Output

The following output is an example of tunnel member pool information, and Table 679: Output fields: tunnel member pool describes the output fields.

Output Example

```
*A:node-2>show isa tunnel-member-pool "DS_memberPool" detail
===============================================================================
ISA Tunnel Member Pool : DS_memberPool
Description            : (Not Specified)
High Availability      : tunnel-limit-32k
Associated Tunnel Grps : 1
Last Config Change     : 09/21/2024 11:48:16

===============================================================================
Member                        Weight      Hash Slots  Active In Group
-------------------------------------------------------------------------------
esa-1/1                       367         4           1
esa-1/2                       669         7           1
esa-2/1                       193         2           1
esa-2/2                       755         8           1
-------------------------------------------------------------------------------
Number of Configured Entries: 4
Number of Active Entries: 4
===============================================================================
```

Table 679: Output fields: tunnel member pool

Label	Description
ISA Tunnel Member Pool	The name of the ISA tunnel member pool
Description	The text description for the tunnel member pool
High Availability	The HA configuration of the tunnel member pool
Associated Tunnel Grps	The name of the tunnel groups this pool is associated with
Member	The ISA or ESA members associated with this tunnel member pool
Active In Group	The tunnel group that the MDA is active in
Last Config Change	The date and time of the last configuration change

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Weight	The weight of the ESA VM for tunnel load balancing
Hash Slots	The number of hash slots
Number of Configured Entries	The number of configured entries
Number of Active Entries	The number of active entries

27.56 tunnel-qos

tunnel-qos

Syntax

tunnel-qos [**detail**]

tunnel-qos remote-ip *ip-address* [**local-ip** *ip-address*] [**detail**]

Context

[Tree] (show>router>wlan-gw tunnel-qos)

Full Context

show router wlan-gw tunnel-qos

Description

This command displays tunnel-QoS resource information.

Parameters

ip-address

Specifies the IPv4 address of the access point that is the source IPv4 address in the tunnel header of received packets.

Values

ipv4-address: a.b.c.d

ipv6-address : x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

x - [0 to FFFF]H

d - [0 to 255]D

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Specifies the IPv4 address of this system that is the destination IPv4 address in the tunnel header of received packets.

Values

ipv4-address:	a.b.c.d
ipv6-address :	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

detail

Displays detailed information.

Platforms

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

Output

The following output is an example of soft GRE tunnel QoS information.

Output Example

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos
===============================================================================
Soft GRE tunnel QoS
===============================================================================
Remote IP address           : 239.0.0.2
Local IP address            : 10.1.1.1
Operational state           : active
Number of UE                : 1
Remaining hold time (s)     : N/A


*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos detail
===============================================================================
Soft GRE tunnel QoS
===============================================================================
Remote IP address           : 239.0.0.2
Local IP address            : 10.1.1.1
Operational state           : active
Number of UE                : 1
Remaining hold time (s)     : N/A
Service Access Points(SAP)
===============================================================================
Service Id         : 2147483650
SAP                : 5/1/lo-gre:1             Encap             : q-tag
Description        : Internal SAP
Admin State        : Up                       Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 03/24/2014 15:03:48
Last Mgmt Change   : 03/24/2014 15:14:00

-------------------------------------------------------------------------------
Encap Group Specifics
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Encap Group Name   : _tmnx_SHAPER_GR000       Group Type        : ISID
Qos-per-member     : TRUE
Members            :
1

-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
E. qos-policy      : 1                       Q Frame-Based Acct: Disabled
E. Sched Policy    :                         E. Agg-limit      : -1
                                             Limit Unused BW   : Disabled
-------------------------------------------------------------------------------
Encap Group Member 1 Base Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A

Forwarding Engine Stats
                        Packets                 Octets

For. InProf           : 0                       0
For. OutProf          : 0                       0
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0

-------------------------------------------------------------------------------
Encap Group Member 1 Queue Statistics
-------------------------------------------------------------------------------

                        Packets                 Octets

Egress Queue 1
For. InProf           : 0                       0
For. OutProf          : 0                       0
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0


*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos remote-ip 239.0.0.2
===============================================================================
Soft GRE tunnel QoS
===============================================================================
Remote IP address           : 239.0.0.2
Local IP address            : 10.1.1.1
Operational state           : active
Number of UE                : 1
Remaining hold time (s)     : N/A


*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos  remote-ip 239.0.0.2  local-ip 10.1.1.1
===============================================================================
Soft GRE tunnel QoS
===============================================================================
Remote IP address           : 239.0.0.2
Local IP address            : 10.1.1.1
Operational state           : active
Number of UE                : 1
Remaining hold time (s)     : N/A


*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos  remote-ip 239.0.0.2  local-ip 10.1.1.1
 detail
===============================================================================
Soft GRE tunnel QoS
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Remote IP address           : 239.0.0.2
Local IP address            : 10.1.1.1
Operational state           : active
Number of UE                : 1
Remaining hold time (s)     : N/A
Service Access Points(SAP)
===============================================================================
Service Id         : 2147483650
SAP                : 5/1/lo-gre:1             Encap             : q-tag
Description        : Internal SAP
Admin State        : Up                       Oper State        : Up
Flags              : None
Multi Svc Site     : None
Last Status Change : 03/24/2014 15:03:48
Last Mgmt Change   : 03/24/2014 15:14:00
-------------------------------------------------------------------------------
Encap Group Specifics
-------------------------------------------------------------------------------
Encap Group Name   : _tmnx_SHAPER_GR000       Group Type        : ISID
Qos-per-member     : TRUE
Members            :
1
-------------------------------------------------------------------------------
QOS
-------------------------------------------------------------------------------
E. qos-policy      : 1                        Q Frame-Based Acct: Disabled
E. Sched Policy    :                          E. Agg-limit      : -1
                                              Limit Unused BW   : Disabled
-------------------------------------------------------------------------------
Encap Group Member 1 Base Statistics
-------------------------------------------------------------------------------
Last Cleared Time     : N/A

Forwarding Engine Stats
                        Packets                 Octets

For. InProf           : 0                       0
For. OutProf          : 0                       0
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0
-------------------------------------------------------------------------------
Encap Group Member 1 Queue Statistics
-------------------------------------------------------------------------------
                        Packets                 Octets

Egress Queue 1
For. InProf           : 0                       0
For. OutProf          : 0                       0
Dro. InProf           : 0                       0
Dro. OutProf          : 0                       0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.57 tunnel-selection-blacklist

tunnel-selection-blacklist

Syntax

tunnel-selection-blacklist

Context

[Tree] (clear>router>l2tp>group tunnel-selection-blacklist)

[Tree] (clear>router>l2tp>tunnel tunnel-selection-blacklist)

[Tree] (clear>router>l2tp tunnel-selection-blacklist)

[Tree] (clear>router>l2tp>group>tunnel tunnel-selection-blacklist)

Full Context

clear router l2tp group tunnel-selection-blacklist

clear router l2tp tunnel tunnel-selection-blacklist

clear router l2tp tunnel-selection-blacklist

clear router l2tp group tunnel tunnel-selection-blacklist

Description

This command purges tunnels from the L2TP tunnel selection denylist.

Platforms

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

tunnel-selection-blacklist

Syntax

tunnel-selection-blacklist

Context

[Tree] (clear>router>l2tp>peer tunnel-selection-blacklist)

Full Context

clear router l2tp peer tunnel-selection-blacklist

Description

This command purges peers from the L2TP tunnel selection denylist.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

27.58 tunnel-setup-rate

tunnel-setup-rate

Syntax

tunnel-setup-rate gateway *name* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

tunnel-setup-rate [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] **esa-vm** *esa-id/vm-id*

tunnel-setup-rate tunnel-type *tunnel-type* **gateway** *name* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

tunnel-setup-rate isa *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

tunnel-setup-rate tunnel-type *tunnel-type* **isa** *mda* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

tunnel-setup-rate system [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

tunnel-setup-rate tunnel-type *tunnel-type* **system** [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

tunnel-setup-rate tunnel-group *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**]

tunnel-setup-rate tunnel-type *tunnel-type* **tunnel-group** *tunnel-group-id* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**]

tunnel-setup-rate tunnel-type *tunnel-type* [**history-stats-in-count** *count*] [**history-stats-in-min** *minutes*] [**current**] [**show-oid**] **esa-vm** *esa-id/vm-id*

Context

[Tree] (show>isa>stats>ipsec-stats tunnel-setup-rate)

Full Context

show isa statistics ipsec-stats tunnel-setup-rate

Description

This command displays IPsec tunnel setup rate statistics of the specified scope.

The system collects statistics every hour for the last 24 hour period per wall clock. A current value is also included in the output.

This command supports following scopes:

- per system
- per ISA

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- per tunnel group
- per IPsec GW

The statics include the following setup rates:

- static tunnel
- dynamic LAN-to-LAN tunnel
- remote access tunnel
- all types of tunnel

The start time indicates the starting timestamp of measurement. The sampling duration indicates the duration of measurement.

Parameters

name

Displays information about the name of the IPsec GW up to 32 characters in length.

mda

Displays information about the specified ISA.

Values slot/mda

tunnel-group-id

Displays information about the specified tunnel group ID.

Values 1 to 16

count

Displays information for the number of statistics intervals to be displayed (starting with the most recent).

Values 1 to 24

minutes

Displays information about the specified period covered by the statistics to be displayed (starting with the most recent).

Values 1 to 1440

type

Displays information about the specified tunnel type associated with this IPsec GW.

Values all, sl2l, dl2l, ra

current

Displays information about the current statistic value. The values of count and minutes are ignored by the system once this parameter is specified.

show-oid

Displays information about the OID of the current statistical value.

esa-vm

Displays the ID of the configured ESA and ESA VM.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values	esa-vm:	*esa-id*/*vm-id*	
		esa-id	1 to 16
		vm-id	1 to 4

Platforms

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

27.59 tunnel-table

tunnel-table

Syntax

tunnel-table summary [**ipv4** | **ipv6**]

tunnel-table [*ip-prefix*[*/mask*]] [**protocol** *protocol*] **[alternative**] [**ipv4** | **ipv6**] [**detail**] [**instance** *instance-id*]

tunnel-table mpls-tp

tunnel-table [*ip-prefix*[*/mask*]] **sdp** *sdp-id*

Context

[Tree] (show>router tunnel-table)

Full Context

show router tunnel-table

Description

This command displays tunnel table information.

Auto-bind GRE tunnels are not displayed in the **show** command output. GRE tunnels are not the same as SDP tunnels that use the GRE encapsulation type. When the **auto-bind-tunnel** command is used when configuring a VPRN service, it means the MP-BGP NH resolution is referring to a core routing instance for IP reachability. For a VPRN service this object specifies the lookup to be used by the routing instance if no SDP to the destination exists.

Parameters

summary

Displays summary tunnel table information.

ip-prefix[/mask]

Displays the specified destination IP address and mask of the table tunnel.

Values for ipv4-prefix: a.b.c.d (host bits must be 0)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

for ipv4-prefix-le: 0 to 32

for ipv6-prefix:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

for ipv6-prefix-le: 0 to 128

ipv4

Displays only tunnel table information for IPv4 addresses.

ipv6

Displays only tunnel table information for IPv6 addresses.

protocol

Displays LDP protocol information.

Values bgp, bgp-epe, fpe, isis, ldp, mpls-fwd-policy, ospf, ospf3, rib-api, rsvp, sdp, sr-policy, sr-te, srv6-isis, srv6-policy, udp

Note:
It is possible that a specific platform only supports a subset of the above protocol values.

alternative

Displays backup route details.

detail

Displays detailed information.

instance-id

Specifies the IGP instance of the tunnel table

Values For isis — 0 to 127

For ospf — 0 to 31

For ospfv3 —

- 0 to 31 (when ospfv3 is used for IPv6)
- 64 to 95 (when ospfv3 is used for IPv4)

Note:
It is possible that a specific platform only supports a subset of the above values.

mpls-tp

Displays MPLS TP tunnel table information.

sdp-id

Displays information pertaining to the specified SDP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values 1 to 17407

Platforms

All

Output

The following outputs are examples of tunnel table information, and Table 680: Output fields: tunnel table describes the output fields.

Output Example

```
*A:ALA-12>config>service# show router 3 tunnel-table
===============================================================================
Tunnel Table
===============================================================================
Destination     Owner   Encap   Tunnel  Id      Pref            NexthopMetric
-------------------------------------------------------------------------------
10.0.0.1/32     sdp     GRE     10      5       10.0.0.1        0
10.0.0.1/32     sdp     GRE     21      5       10.0.0.1        0
10.0.0.1/32     sdp     GRE     31      5       10.0.0.1        0
10.0.0.1/32     sdp     GRE     41      5       10.0.0.1        0
===============================================================================


*A:ALA-12>config>service# show router 3 tunnel-table summary
===============================================================================
Tunnel Table Summary (Router: Base)
===============================================================================
                            Active                  Available
-------------------------------------------------------------------------------
LDP                         1                       1
SDP                         1                       1
===============================================================================


*A:Dut-C# show router tunnel-table protocol  srv6-policy ipv6
===============================================================================
IPv6 Tunnel Table (Router: Base)
===============================================================================
Destination                                     Owner     Encap TunnelId  Pref
Nexthop                                         Color           Metric
-------------------------------------------------------------------------------
3ffe::a14:102/128                               srv6-pol  SRV6  917510    14
  fpe_1.a                                         10              0
-------------------------------------------------------------------------------
Flags: B = BGP or MPLS backup hop available
       L = Loop-Free Alternate (LFA) hop available
       E = Inactive best-external BGP route
       k = RIB-API or Forwarding Policy backup hop
===============================================================================


*A:Dut-C# show router tunnel-table protocol srv6-policy ipv6 detail
===============================================================================
Tunnel Table (Router: Base)
===============================================================================
Destination      : 3ffe::a14:102/128
NextHop          : fpe_1.a
NextHop Weight   : 1
Tunnel Flags     : has-color
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Age              : 00h09m47s            Color            : 10
CBF Classes      : (Not Specified)
Owner            : srv6-pol             Encap            : SRV6
Tunnel ID        : 917510               Preference       : 14
Tunnel SRV6 SID  : 2222:2:2:2:0:a::     Tunnel Metric    : 0
Tunnel MTU       :  -                   Max Label Stack  : 1
-------------------------------------------------------------------------------
Number of tunnel-table entries          : 1
Number of tunnel-table entries with LFA : 0
===============================================================================
```

Table 680: Output fields: tunnel table

Label	Description
Destination	The destination address and mask of the route
Owner	The tunnel owner
Encap	The encapsulation type of the tunnel
Tunnel ID	The tunnel (SDP) identifier
Pref	The route preference for routes learned from the configured peer or peers
Nexthop	The next hop for the destination of the route
Metric	The route metric value for the route

Output Example for SR-TE

The following outputs are examples of tunnel-table protocol detail information. Table 681: Output fields: tunnel table protocol detail describes the output fields.

```
*B:Dut-C>config>router>mpls# show router tunnel-table protocol sr-te detail

===============================================================================
Tunnel Table (Router: Base)
===============================================================================
Destination : 10.20.1.6/32
NextHop : 10.180.11.4 (524667, ospf (0))
Tunnel Flags : is-over-tunnel entropy-label-capable
Age : 00h00m55s
CBF Classes : (Not Specified)
Owner            : sr-te             Encap            : MPLS
Tunnel ID        : 655362             Preference       : 8
Tunnel Label     : 1048538            Tunnel Metric    : 2000
Tunnel MTU       : 1492               Max Label Stack  : 7
LSP Weight : 4000
-------------------------------------------------------------------------------
Destination : 10.20.1.6/32
NextHop : 10.181.11.4 (524668, ospf (0))
Tunnel Flags : is-over-tunnel entropy-label-capable
Age : 00h00m55s
CBF Classes : (Not Specified)
Owner            : sr-te             Encap            : MPLS
Tunnel ID        : 655363            Preference       : 8
Tunnel Label     : 1048537           Tunnel Metric    : 2000
Tunnel MTU       : 1492              Max Label Stack  : 7
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
LSP Weight       : 80
-------------------------------------------------------------------------------
Destination : 10.20.1.6/32
NextHop : 10.182.11.4 (524669, ospf (0))
Tunnel Flags : is-over-tunnel entropy-label-capable
Age : 00h00m54s
CBF Classes : (Not Specified)
Owner            : sr-te             Encap            : MPLS
Tunnel ID        : 655364            Preference       : 8
Tunnel Label     : 1048536           Tunnel Metric    : 2000
Tunnel MTU       : 1492              Max Label Stack  : 7
LSP Weight  : 240
-------------------------------------------------------------------------------
Destination : 10.20.1.6/32
NextHop : 10.183.11.4 (524670, ospf (0))
Tunnel Flags : is-over-tunnel entropy-label-capable
Age : 00h00m53s
CBF Classes : (Not Specified)
Owner            : sr-te             Encap            : MPLS
Tunnel ID        : 655365            Preference       : 8
Tunnel Label     : 1048535           Tunnel Metric    : 2000
Tunnel MTU       : 1492              Max Label Stack  : 7
LSP Weight  : 800
-------------------------------------------------------------------------------
Number of tunnel-table entries          : 4
Number of tunnel-table entries with LFA : 0
===============================================================================
```

Output Example for BGP EPE

```
A:Dut-C# show router tunnel-table protocol bgp-epe detail

===============================================================================
Tunnel Table (Router: Base)
===============================================================================
Destination      : 10.11.13.1/32
NextHop          : 10.11.13.1
Tunnel Flags     : is-adjacency-tunnel
Age              : 00h02m02s
CBF Classes      : (Not Specified)
Owner            : bgp-epe              Encap            : MPLS
Tunnel ID        : 524320               Preference       : 0
Tunnel Label     : 3                    Tunnel Metric    : 0
Tunnel MTU       :  -                   Max Label Stack  : 0
-------------------------------------------------------------------------------
Destination      : 10.12.13.1/32
NextHop          : 10.12.13.1
Tunnel Flags     : is-adjacency-tunnel
Age              : 00h02m02s
CBF Classes      : (Not Specified)
Owner            : bgp-epe              Encap            : MPLS
Tunnel ID        : 524321               Preference       : 0
Tunnel Label     : 3                    Tunnel Metric    : 0
Tunnel MTU       :  -                   Max Label Stack  : 0
-------------------------------------------------------------------------------
Destination      : 10.20.1.1/32
NextHop          : 10.11.13.1
Tunnel Flags     : (Not Specified)
Age              : 00h02m02s
CBF Classes      : (Not Specified)
Owner            : bgp-epe              Encap            : MPLS
Tunnel ID        : 524322               Preference       : 0
Tunnel Label     : 3                    Tunnel Metric    : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Tunnel MTU       :  -                   Max Label Stack  : 0
-------------------------------------------------------------------------------
Destination      : 10.20.1.1/32
NextHop          : 10.12.13.1
Tunnel Flags     : (Not Specified)
Age              : 00h02m02s
CBF Classes      : (Not Specified)
Owner            : bgp-epe              Encap            : MPLS
Tunnel ID        : 524322               Preference       : 0
Tunnel Label     : 3                    Tunnel Metric    : 0
Tunnel MTU       :  -                   Max Label Stack  : 0
-------------------------------------------------------------------------------
Number of tunnel-table entries          : 4
Number of tunnel-table entries with LFA : 0
===============================================================================
```

Table 681: Output fields: tunnel table protocol detail

Label	Description
Destination	The destination address and mask of the route
NextHop	The next hop for the destination of the route
Tunnel Flags	The flags set for this tunnel
Age	The tunnel age
CBF Classes	The Class-Based Forwarding (CBF) classes for the tunnel
Owner	The tunnel owner
Encap	The tunnel encapsulation type
Tunnel ID	The tunnel (SDP) identifier
Preference	The route preference for routes learned from the configured peer or peers
Tunnel Label	The tunnel label
Tunnel Metric	The route metric value for the route
Tunnel MTU	The maximum transmission unit (MTU) of the tunnel
Max Label Stack	The maximum number of labels that can be added onto an existing MPLS header
LSP Weight	The LSP weight

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.60 tunnel-template

tunnel-template

Syntax

tunnel-template [*ipsec-template-identifier*]

tunnel-template *ipsec-template-identifier* **association** [**all**]

Context

[Tree] (show>ipsec tunnel-template)

Full Context

show ipsec tunnel-template

Description

This command displays IPsec tunnel template information.

Parameters

ipsec template identifier

Displays an existing IPsec tunnel template ID.

Values 1 to 2048

Platforms

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

Output

The following output is an example of the **show ipsec tunnel-template** command.

Output Example

```
*A:ALA-48>config>ipsec# show ipsec tunnel-template 1
===============================================================================
IPsec Tunnel Template
===============================================================================
Id      Trnsfrm1  Trnsfrm2  Trnsfrm3  Trnsfrm4  ReverseRoute      ReplayWnd
-------------------------------------------------------------------------------
1       1         none      none      none      useSecurityPolicy 128
-------------------------------------------------------------------------------
Number of templates: 1
===============================================================================
*A:ALA-48>config>ipsec#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

27.61 tunnels

tunnels

Syntax

tunnels [**local-ip** *ip-address*] [**remote-ip** *ip-address*] [**isa-group** *wlan-gw-group-id*] [**member** [1 to 255]] [**summary**] [**detail**]

tunnels local-ip *ip-address* **remote-ip** *ip-address* **ue**

Context

[Tree] (show>router>wlan-gw tunnels)

Full Context

show router wlan-gw tunnels

Description

This command displays tunnel operation information.

Parameters

ip-address

Specifies the local IP address of this system that is the destination IP address in the tunnel header of received packets.

Values

ip-address:	ipv4-address - a.b.c.d
ipv6-address :	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H
	d - [0 to 255]D

ip-address

Specifies the remote IP address of the access point that is the source IP address in the tunnel header of received packets.

Values

ip-address:	ipv4-address - a.b.c.d
ipv6-address :	x:x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:x:d.d.d.d
	x - [0 to FFFF]H

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

d - [0 to 255]D

wlan-gw-group-id

Specifies the identifier of the WLAN gateway ISA group that terminates GRE for this group interface.

Values 1 to 4

member

Specifies the identifier of this WLAN gateway ISA group member.

Values 1 to 255

summary

Displays a summary of the specified parameter.

detail

Displays detailed information.

ue

Displays information for the specified User Equipment.

Platforms

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

Output

The following output is an example of WLAN-GW tunnel information.

Output Example

Note:
The remote/local IP addresses are locally generated for VLAN tunnels.

```
show router 50 wlan-gw tunnels
===============================================================================
Access Point tunnels
===============================================================================
Remote IP address           : fe80::3e8f:ffff:fe00:1901
Local IP address            : fe80::ff:fe02:202
ISA group ID                : 1
ISA group member ID         : 4
Time established            : 2015/01/07 17:42:01
Number of UE                : 1
Access Point MAC            : 00:00:00:00:00:05
AP MAC learn failed         : false
Encapsulation               : vlan
VLAN tag 1                  : 1000
VLAN tag 2                  : (None)
-------------------------------------------------------------------------------
No. of tunnels: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

tunnels

Syntax

tunnels [**router** *router-name*] [**remote-ip** *ip-address*] [**local-ip** *ip-address*] [**encapsulation** *encap* [*encap*] [**qtag1** *qtag*] [**qtag2** *qtag*] [**ap-sap** *sap-id*] [**min-num-ue** *minimum*] [**max-num-ue** *maximum*] [**ap-mac-learn-failed** { **true** | **false**}] [**get-num-results**] [**addr-family** *family*] [**ue-type** *ue-type* [*ue-type*]]

Context

[Tree] (show>subscr-mgmt>wlan-gw tunnels)

Full Context

show subscriber-mgmt wlan-gw tunnels

Description

This command displays all the WLAN-GW tunnels matching the specified criteria. Unlike the similar command in the **show>router>vprn** context, this command also includes information on tunnels containing ISA-only UEs such as migrant, DSM and l2-wholesale.

Parameters

router-name

Specifies the name or ID of the router where the tunnel terminates.

ip-address

Specifies the IPv4 or IPv6 address indicating one, or both, of the tunnel endpoint IP addresses.

encap

Specifies up to three tunnel encapsulation types, for example GRE, L2TP, or VLAN.

qtag

Specifies the Q-tags specifying the l2-ap-delimiting tags.

sap-id

Specifies the SAP-ID of the l2-ap SAP.

minimum

Specifies the minimum number of UEs on the tunnel, after applying the UE type filter.

maximum

Specifies the maximum number of UEs on the tunnel, after applying the UE type filter.

ap-mac-learn-failed true | false

Filters the results to display only tunnels that have learned the AP-MAC (**false**) or have not learned the AP-MAC (**true**).

get-num-results

Displays the total number of tunnels at the end of each tunnel record.

family

Specifies the tunnel's IP family type (IPv4 or IPv6).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ue-type

Filters up to five display based on the presence of specified UE types and is used in conjunction with **min-num-ue** and **max-num-ue**.

Values migrant, dsm, l2w, esm, or xcon

Platforms

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

Output

The following output is an example of WLAN-GW tunnels.

Output Example

```
Node# show subscriber-mgmt wlan-gw tunnels
===============================================================================
Access Point tunnels
===============================================================================
Router                       : 50
Encapsulation                : gre
Remote IP address            : 192.0.2.1
Local IP address             : 192.0.2.2
-------------------------------------------------------------------------------
First move time              : N/A
ISA group ID                 : 1
ISA member ID                : 3
Interface                    : grp-vprn_ue-2/1/2:50
Interface Service ID         : 4
AP MAC address               : 00:53:00:00:00:05
AP MAC learn failed          : false
AP SAP                       : (Unknown)
Remote UDP port              : N/A
Tag 1                        : N/A
Tag 2                        : N/A
No. of UE                    : 1
No. of migrant UE            : 0
No. of DSM UE                : 1
No. of layer-2 wholesale UE  : 0
No. of cross-connect UE      : 0
No. of ESM UE                : 0
-------------------------------------------------------------------------------
No. of Access point tunnels: 1
===============================================================================
```

27.62 twamp

twamp

Syntax

twamp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>test-oam twamp)

Full Context

show test-oam twamp

Description

Commands in this context display TWAMP information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

twamp

Syntax

twamp

Context

[Tree] (clear>test-oam twamp)

Full Context

clear test-oam twamp

Description

This command clears Two-Way Active Measurement Protocol statistics.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

twamp

Syntax

twamp

Context

[Tree] (tools>dump>test-oam twamp)

Full Context

tools dump test-oam twamp

Description

This command dumps TWAMP information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

27.63 twamp-light

twamp-light

Syntax

twamp-light

Context

[Tree] (show>test-oam>twamp twamp-light)

Full Context

show test-oam twamp twamp-light

Description

Commands in this context display TWAMP-Light information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

twamp-light

Syntax

twamp-light

Context

[Tree] (show>service>id twamp-light)

[Tree] (show>router twamp-light)

Full Context

show service id twamp-light

show router twamp-light

Description

This command displays TWAMP Light reflector information for either the Base router or a specific service.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of TWAMP Light information, and Table 682: Output fields: TWAMP light describes the output fields.

Output Example

```
show router twamp-light
-------------------------------------------------------------------------------
TWAMP-Light Reflector
-------------------------------------------------------------------------------
Admin State          : Up                     UDP Port         : 862
IPv6 UDP Checksum 0  : Allow
Description          : (Not Specified)
Up Time              : 0d 00:02:24
Test Frames Received : 0                      Test Frames Sent : 0
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
TWAMP-Light Reflector Prefixes
-------------------------------------------------------------------------------
Prefix                                    Description
-------------------------------------------------------------------------------
172.16.1.0/24
-------------------------------------------------------------------------------
No. of TWAMP-Light Reflector Prefixes: 1
-------------------------------------------------------------------------------

show service id 500 twamp-light
-------------------------------------------------------------------------------
TWAMP-Light Reflector
-------------------------------------------------------------------------------
Admin State          : Up                     UDP Port         : 862
IPv6 UDP Checksum 0  : Disallow
Description          : TWAMP Light reflector VPRN 500
Up Time              : 0d 01:47:12
Test Frames Received : 6431                   Test Frames Sent : 6431
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
TWAMP-Light Reflector Prefixes
-------------------------------------------------------------------------------
Prefix                                    Description
-------------------------------------------------------------------------------
10.2.1.1/32                               Process only 10.2.1.1 TWAMP Light
                                          Packets
172.16.1.0/24                             Process all 172.16.1.0 TWAMP
                                          Light packets
-------------------------------------------------------------------------------
No. of TWAMP-Light Reflector Prefixes: 2
-------------------------------------------------------------------------------
```

Table 682: Output fields: TWAMP light

Label	Description
TWAMP Light Reflector	
Admin State	The administrative state of the reflector Up — The server or prefix is administratively enabled (**no shutdown**) in configuration

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	Down — The server or prefix is administratively disabled (**shutdown**) in configuration
UDP Port	The UDP port that the reflector is listening on for test packets
IPv6 UDP Checksum 0	The processing of received IPv6 UDP checksum 0 packets is either allowed or disallowed
Up Time	The time since the server process was started, measured in days (d), hours, minutes, and seconds
Test Frames Received	The total number of TWAMP Light test packets received from Session-Senders on the reflector
Test Frames Sent	The total number of TWAMP Light test packets transmitted by the reflector to Session-Senders
Prefix	A list of prefixes from which the reflector allows TWAMP Light tests
Description	The configured description for the prefix

twamp-light

Syntax

twamp-light [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**] [**delay** | **loss**]

Context

[Tree] (monitor>oam-pm>session twamp-light)

Full Context

monitor oam-pm session twamp-light

Description

This command monitors the IP Two Way Active Measurement Protocol Light (TWAMP Light) statistics for the specified test's raw measurement interval.

Parameters

seconds

Specifies the time interval, in seconds.

Values 3 to 60

Default 10

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

repeat

Specifies the number of times the command is repeated.

Values 1 to 999

Default 10

absolute

Specifies that the raw statistics are displayed, without processing. No calculations are performed on the delta or rate statistics.

rate

Specifies that the rate-per-second is displayed.

Default delta

delay

Specifies the delay metrics are displayed.

Default delay

loss

Specifies the loss metrics are displayed.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

twamp-light

Syntax

twamp-light

Context

[Tree] (show>oam-pm>stats>session twamp-light)

Full Context

show oam-pm statistics session twamp-light

Description

This command selects the session's TWAMP-light test for the statistical display.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

28 u Commands

28.1 ue

ue

Syntax

ue [*ieee-address*] [**detail**]

Context

[Tree] (show>call-trace>wlan-gw ue)

Full Context

show call-trace wlan-gw ue

Description

This command gives an overview of either all traces or a specific trace on the WLAN-GW.

Parameters

ieee-address

Displays information about the MAC address of this UE.

detail

Displays detailed information about the job.

Platforms

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

Output

The following output is an example of traces of the UE being monitored.

Output Example

```
Node# show call-trace hosts
===============================================================================
Call-trace hosts
===============================================================================
 MAC address Mask-name     Status      Msgs
-------------------------------------------------------------------------------
 00:0a:95:9d:68:16 N/A                running   16
-------------------------------------------------------------------------------
Number of call-trace debug jobs: 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Node# show call-trace hosts detail
===============================================================================
Call-trace  detail
===============================================================================
MAC address                          : 00:0a:95:95:34:0a                Status : running
                  Capture format     : pcap
Nr. of captured msgs   : 4 Time limit            : 86400s
Size of captured msgs : 2620B Data limit             : 10MB
Started : NOV 12 2013, 15:28:17 UTC
Live output : N/A
-------------------------------------------------------------------------------
```

ue

Syntax

ue [**vlan** *qtag*] [**mpls-label** *label*] [**retail-svc-id** *service-id*] [**ssid** *service-set-id*] [**previous-access-point** *ip-address*] [**bd** *bridge-id*]

ue mac *ieee-address* [**bd** *bridge-id*]

Context

[Tree] (show>subscr-mgmt>wlan-gw ue)

Full Context

show subscriber-mgmt wlan-gw ue

Description

This command displays User Equipment (UE) information.

Parameters

qtag

Displays information about the VLAN Q-tag present in the traffic received from this UE.

Values 1 to 4095

label

Displays information about the MPLS label present in the traffic received from this UE.

service-id

Specifies an existing service ID. If no *svc-id* is specified then it indicates that the interface is a network interface in the Base router instance.

Values {*id* | *svc-name*}

id: 1 to 2147483647

svc-name: Specifies an existing service name, up to 64 characters (*svc-name* is an alias for input only. The *svc-name*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

gets replaced with an id automatically by SR OS in the configuration)

service-set-id

Displays information about the Service Set ID (SSID) of this UE.

ip-address

Displays information about the IP address of the previous Access Point (AP) of this UE.

bridge-id

Displays specified HLE bridge domain information of this UE.

Values 1 to 4294967295

ieee-address

Displays information about the MAC address of this UE.

Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Platforms

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

Output

The following output is an example of WLAN-GW information.

Output Example

```
System# show subscriber-mgmt wlan-gw ue
===============================================================================
User Equipments
===============================================================================
MAC address                 : 00:02:00:00:00:39
-------------------------------------------------------------------------------
VLAN Q-tag                  : 1
MPLS label                  : (Not Specified)
Tunnel router               : 50
Tunnel remote IP address    : 20C9::7:1:2
Tunnel local IP address     : 2032::1:1:7
Retail service              : N/A
SSID                        : 1
Previous Access Point IP    : (Not Specified)
IMSI                        : (Not Specified)
Last move time              : 2013/07/02 07:45:31

-------------------------------------------------------------------------------
No. of UE: 1
===============================================================================
System#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ue

Syntax

ue [**wlan-gw-group** *wlan-gw-group-id*] [**mda** *mda-id*] [**next-index** *index*] [**summary**] [**detail**] [**bd** *bridge-id*] [**ue-mac** *ieee-address*] [**ue-vlan** *vlan*] [**state-description** *state*] [**tunnel-router** *router-instance*] [**tunnel-source-ip** *ip-address*] [**tunnel-destination-ip** *ip-address*] [**tunnel-type** *tunnel-type*] [**ue-ip** *ipv4-address*] [**dhcp6-addr** *ipv6-address*] [**slaac-prefix** *ipv6-address*] [**aggregate-summary**] [**soft-quota-exhausted**]

Context

[Tree] (tools>dump>wlan-gw ue)

Full Context

tools dump wlan-gw ue

Description

This command dumps User Equipment (UE) information.

The **summary** option displays a count of UEs per ISA and the **aggregate-summary** displays a count of matched UEs over the whole WLAN-GW.

Platforms

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

Output

Use the following command to display detailed UE information.

```
tools dump wlan-gw ue detail
```

Output example

```
===============================================================================
Matched 1 session on ESA #1 VM #2
===============================================================================
Bridge Domain   : 0
UE-Mac          : 00:00:00:07:04:02     UE-vlan         : 41
UE IP Addr      : N/A
UE Timeout      : N/A
DHCPv6 Timeout  : N/A                   SLAAC Timeout   : N/A
DHCPv6 IA-NA ID : N/A                   RA Timeout      : N/A
DHCPv6 Addr     : N/A
SLAAC Prefix    : N/A
Description     : L2-user
Auth/CoA-time   : 02/27/2023 14:24:57   Retail Service  : N/A
Tunnel MDA/VM   : esa-1/2               Tunnel Router   : 2000
Shaper          : Default
Tunnel Src IP   : 10.10.2.114
Tunnel Dst IP   : 72.1.0.1
Tunnel Type     : GRE                   Tunnel Class    : Access
GRE Protocol    : 0x6558                GRE Version     : 0x0
MPLS Label      : N/A                   NGE Label       : N/A
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Anchor SAP      : esa-1/2/nat-out-ip:2049.3
Remote Type     : N/A                   Remote Service  : N/A
Remote Src IP   : N/A
Remote Dst IP   : N/A
AP-Mac          : Unknown               AP-RSSI         : Unknown
AP-SSID         : Unknown
Last-forward    : 02/27/2023 14:24:57   Last-move       : None
Session Timeout : None                  Idle Timeout    : 600 sec
Acct Update     : None                  Acct Interval   : N/A
Acct Session-Id : N/A
Acct Policy     : N/A
NAT Policy      : N/A
Redirect Policy : N/A
IP Filter       : N/A
App-profile     : N/A
L2 Service      : MyVplsServiceName
Rx Oper PIR     : N/A                   Rx Oper CIR     : N/A
Tx Oper PIR     : N/A                   Tx Oper CIR     : N/A
Rx Frames       : 1                     Rx Octets       : 290
Tx Frames       : 0                     Tx Octets       : 0
Quota Direction : N/A
Hard Octets     : N/A                   Soft Octets     : N/A
-------------------------------------------------------------------------------
===============================================================================
```

28.2 uefi-vars

uefi-vars

Syntax

uefi-vars card *cpm-slot*

uefi-vars eth-sat *sat-id*

Context

[Tree] (tools>dump>system>security>secure-boot uefi-vars)

Full Context

tools dump system security secure-boot uefi-vars

Description

This command displays the secure-boot Unified Extensible Firmware Interface (UEFI) variables.

Parameters

cpm-slot

Specifies the CPM slot.

Values A, B

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

sat-id

Specifies the Ethernet satellite ID.

Values 1 to 20

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

28.3 umh-pair-id

umh-pair-id

Syntax

umh-pair-id *pair-id* **revert-to-primary**

Context

[Tree] (tools>perform>service>id>mvpn umh-pair-id)

Full Context

tools perform service id mvpn umh-pair-id

Description

This command reverts a pair of PMSI from non-revertive standby-only mode back to primary mode.

Parameters

pair-id

Specifies the UMH pair ID.

Values 1 to 4294967295

revert-to-primary

Keyword used to revert the specified PMSI pair to primary mode.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

28.4 un-sid

un-sid

Syntax

un-sid [**mt** {**0** | **2**}] [**prefix** *ipv6-prefix*[/*prefix-length*]] [**adv-router** *system-id* | *hostname*] [**algo** *algo-id*]

Context

[Tree] (show>router>isis>srv6 un-sid)

Full Context

show router isis segment-routing-v6 un-sid

Description

This command displays IS-IS SRv6 uN SIDs.

Parameters

ipv6-prefix[/prefix-length]

Displays routes only matching the specified IP address and length.

Values *ipv6-prefix*[/*prefix*]: x:x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:x:d.d.d.d
x: [0 to FFFF]H
d: [0 to 255]D
prefix-length: 1 to 128

system-id* | *hostname

Displays information for the specific IS-IS advertising router. The host name can be up to 38 characters.

algo-id

Displays information for the specified algorithm.

Values 0 to 255

Platforms

7450 ESS, 7750 SR, 7750 SR-s, 7950 XRS, VSR

Output

Table 683: Output fields: uN SID describes the uN SID output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Use the following command to display uN SID information.

```
show router isis segment-routing-v6 un-sid
```

Output example

```
===============================================================================
Rtr Base ISIS Instance 0 SRv6 uN SID Table
===============================================================================
Prefix                              AdvRtr                        MT     Lvl/Typ
Sid                                 Behavior                      Flags  Algo
-------------------------------------------------------------------------------
110::/96                            Dut-A                         0      1/Int.
  110::/96                           End PSP                       -      128
===============================================================================
```

Table 683: Output fields: uN SID

Label	Description
Prefix	Displays the prefix
AdvRtr	Displays the advanced router information
MT	Displays the MT information
Lvl/Typ	Displays the level or type information
SID	Displays the Segment ID
Behavior	Displays the behavior information
Flags	Displays the flag information
Algo	Displays the algorithm information

28.5 uni

uni

Syntax

uni [*port-id*]

Context

[Tree] (show>elmi uni)

Full Context

show elmi uni

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information about E-LMI mode, status, number of EVCs (SAPs) configured on the port for all of the ports on the service router.

Parameters

port-id

Displays UNI information for the specified port.

Values *slot*/*mda*/*port*

Platforms

All

Output

The following output is an example of elmi uni information.

Output example: show elmi uni

```
*A:Dut-C# show elmi uni
===============================================================================
ELMI UNI-N Table
===============================================================================
Port     Mode  Status   #Evcs Uni Identifier
-------------------------------------------------------------------------------
1/1/1    None  Up       0     10/100 Ethernet TX
1/1/2    None  Up       0     port-21
1/1/3    None  Up       0     10/100 Ethernet TX
1/1/4    None  Up       0     10/100 Ethernet TX
1/1/5    Uni-N Up       2     UNI115
1/1/6    None  Up       0     10/100 Ethernet TX
1/1/7    None  Up       0     10/100 Ethernet TX
1/1/8    None  Up       0     10/100 Ethernet TX
1/1/9    None  Up       0     10/100 Ethernet TX
1/1/10   None  Up       0     10/100 Ethernet TX
1/1/11   None  Up       0     10/100 Ethernet TX
1/1/12   None  Up       0     10/100 Ethernet TX
1/1/13   None  Up       0     10/100 Ethernet TX
1/1/14   None  Up       0     10/100 Ethernet TX
1/1/15   None  Up       0     10/100 Ethernet TX
1/1/16   None  Up       0     10/100 Ethernet TX
1/1/17   None  Up       0     10/100 Ethernet TX
...
===============================================================================
*A:Dut-C#


*A:Dut-C# show elmi uni 1/1/5
===============================================================================
Uni-N Detailed Information
===============================================================================
Uni Mode      : Uni-N                  Link Status         : Up
Uni Identifier: UNI115
T391          : 10 seconds             T392                : 15 seconds
N393          : 4                      UniType             : Bundling
Rx Enq. Time  : 02/18/2010 17:11:44    Tx Status Time      : 02/18/2010 17:11:44
Rx Enq Msg    : 24                     Tx Status Msg       : 24
Rx Check Time : 02/18/2010 17:12:34   Tx Check Time       : 02/18/2010 17:12:34
Rx Inv. SeqNum: 0                     Tx Async Status Msg : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Enq Timeouts  : 0                    Discard Msg         : 0
===============================================================================
*A:Dut-C#
```

28.6 unicast

unicast

Syntax

unicast [**router** *router-instance* | **service-name** *service-name*]

Context

[Tree] (show>system>ptp unicast)

Full Context

show system ptp unicast

Description

This command displays unicast negotiation information.

Parameters

router-instance

Displays the information for the specified router instance.

Values router-name – Base

vprn-svc-id – 1 to 2147483647

service-name

Specifies the service name, up to 64 characters, that is used to identify the router instance.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

Output

The following command displays Unicast information and Table 684: Output fields: PTP unicast describes the output fields.

```
show system ptp unicast
```

```
===============================================================================
IEEE 1588/PTP Unicast Negotiation Information
===============================================================================
Router
  IP Address
                  Dir Type     Rate       Duration State    Time
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Base
  1.4.1.21
                  Tx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:14:09
1
  1.2.1.20
                  Rx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:14:19
  1.2.1.20
                  Tx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:13:25
  1.2.1.20
                  Tx  Sync     64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.2.1.20
                  Rx  DelayReq 64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.2.1.20
                  Tx  DelayRsp 64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.3.1.19
                  Rx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:13:16
  1.3.1.19
                  Rx  Sync     64 pkt/s   300      Granted  04/21/2013 19:13:21
  1.3.1.19
                  Tx  DelayReq 64 pkt/s   300      Granted  04/21/2013 19:13:21
  1.3.1.19
                  Rx  DelayRsp 64 pkt/s   300      Granted  04/21/2013 19:13:21
2
  1.1.1.21
                  Tx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:14:08
  1.1.1.21
                  Tx  Sync     64 pkt/s   300      Granted  04/21/2013 19:14:15
  1.1.1.21
                  Rx  DelayReq 64 pkt/s   300      Granted  04/21/2013 19:14:15
  1.1.1.21
                  Tx  DelayRsp 64 pkt/s   300      Granted  04/21/2013 19:14:15
-------------------------------------------------------------------------------
PTP Peers               : 4
Total Packet Rate       : 578 packets/second
===============================================================================
```

The following command displays Unicast router information and Table 684: Output fields: PTP unicast describes the output fields.

```
show system ptp router unicast
```

```
===============================================================================
IEEE 1588/PTP Unicast Negotiation Information
===============================================================================
Router
  IP Address
                  Dir Type     Rate       Duration State    Time
-------------------------------------------------------------------------------
1
  1111:2222:3333:4444:5555:70:1:4
                  Rx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:14:19
  1111:2222:3333:4444:5555:70:1:4
                  Tx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:13:25
  1.2.1.20
                  Tx  Sync     64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.2.1.20
                  Rx  DelayReq 64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.2.1.20
                  Tx  DelayRsp 64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.3.1.19
                  Rx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:13:16
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  1.3.1.19

                  Tx  DelayReq 64 pkt/s   300      Granted  04/21/2013 19:13:21
  1.3.1.19
                  Rx  DelayRsp 64 pkt/s   300      Granted  04/21/2013 19:13:21
-------------------------------------------------------------------------------
PTP Peers               : 2
Total Packet Rate       : 385 packets/second
===============================================================================
```

Table 684: Output fields: PTP unicast

Label	Description
Router	The name of the router instance
IP Address	The IP address of the PTP peer
Dir	The direction
Type	The type
Rate	The rate
Duration	The duration
State	The grant state
Time	The date and time
Input	The input packet statistics
Output	The output packet statistics

unicast

Syntax

unicast

Context

[Tree] (show>service>id>ptp unicast)

Full Context

show service id ptp unicast

Description

This command displays unicast negotiation information.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output is an example of PTP unicast information, and Table 685: Output fields: system PTP unicast describes the output fields.

Output example

```
show service id ptp unicast
```

```
===============================================================================
IEEE 1588/PTP Unicast Negotiation Information
===============================================================================
Router
  IP Address
                  Dir Type     Rate       Duration State    Time
-------------------------------------------------------------------------------
1
  1111:2222:3333:4444:5555:70:1:4
                  Rx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:14:19
  1111:2222:3333:4444:5555:70:1:4
                  Tx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:13:25
  1.2.1.20
                  Tx  Sync     64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.2.1.20
                  Rx  DelayReq 64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.2.1.20
                  Tx  DelayRsp 64 pkt/s   300      Granted  04/21/2013 19:13:30
  1.3.1.19
                  Rx  Announce 1 pkt/2 s  300      Granted  04/21/2013 19:13:16
  1.3.1.19

                  Tx  DelayReq 64 pkt/s   300      Granted  04/21/2013 19:13:21
  1.3.1.19
                  Rx  DelayRsp 64 pkt/s   300      Granted  04/21/2013 19:13:21
-------------------------------------------------------------------------------
PTP Peers               : 2
Total Packet Rate       : 385 packets/second
===============================================================================
```

Table 685: Output fields: system PTP unicast

Label	Description
Router	The name or ID of the router instance
IP Address	The IP address of the PTP peer
Dir	The direction (transmitted or received) of the unicast negotiation packet
Type	The unicast negotiation packet type
Rate	The rate of packet transmission or reception
Duration	The duration of the packet transmission or reception interval, in seconds
State	The state of the negotiation

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Time	The date and time that the negotiation state was changed
PTP Peers	The total number of PTP peers
Total Packet Rate	The total number of unicast negotiation packets transmitted and received per second

28.7 unknown-origin

unknown-origin

Syntax

unknown-origin

Context

[Tree] (show>subscr-mgmt>errors unknown-origin)

Full Context

show subscriber-mgmt errors unknown-origin

Description

This command lists errors of an unknown origin. Errors shown do have a corresponding SAP ID or a SDP ID.

Platforms

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

28.8 unreachable-route-table

unreachable-route-table

Syntax

unreachable-route-table[*ip-prefix*[/*prefix-length*]] [**ipv4** | **ipv6]** [**longer** | **exact**] [**protocol** *protocol-name*] [**instance** *instance-id*] [**all**]

Context

[Tree] (show>router unreachable-route-table)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show router unreachable-route-table

Description

This command displays the unreachable route table.

Parameters

ip-prefix[/prefix-length]

Displays routes only matching the specified IP address and length.

Values			
	ipv4-address/prefix:	ipv4-address	a.b.c.d (host bits must be 0)
	ipv4-prefix-length		0 to 32
	ipv6-address/prefix:	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
			x:x:x:x:x:x:d.d.d.d
			x [0 to FFFF]H
			d [0 to 255]D
	prefix-length		1 to 128

ipv4

Displays information for IPv4.

ipv6

Displays information for IPv6.

longer

Displays information for the longer configuration.

exact

Displays information for the exact configuration.

protocol-name

Displays information for the referenced protocol.

instance-id

Displays information for the referenced instance.

all

Displays information for all of the unreachable routes.

Platforms

All

Output

The following output is an example of unreachable route table information, and Table 686: Output fields: unreachable route table describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output example

```
A:node-2# show router unreachable-route-table

===============================================================================
IPv6 Unreachable Route Table (Router: Base)
===============================================================================
Dest Prefix
  Proto                                  Age        Pref Metric
-------------------------------------------------------------------------------
2000::6/128
 ISIS                                     00h00m38s  15   4261412865
-------------------------------------------------------------------------------
No. of Routes: 1
===============================================================================
```

Table 686: Output fields: unreachable route table

Label	Description
Dest Prefix	Displays the destination and prefix
Proto	Displays the protocol
Age	Displays the age
Pref	Displays the preference
Metric	Displays the metric
No. of Routes	Displays the number of routes

28.9 unreachable-routes

unreachable-routes

Syntax

unreachable-routes originated [**family**] [**prefix** *ip-prefix*[/*prefix-length*]]

unreachable-routes originated mt *mt-id-number* [**prefix** *ip-prefix*[*prefix-length*]]

Context

[Tree] (show>router>isis unreachable-routes)

Full Context

show router isis unreachable-routes

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the unreachable routes originated by the router. The output can be filtered using family or IP prefix criteria.

Parameters

family

Keyword to display information about unreachable IPv6 or IPv4 unicast routes.

Values ipv4-unicast | ipv6-unicast

ip-prefix/prefix-length

Displays the unreachable routes based on a specific IP prefix, or a specific IP prefix and prefix length.

Values	ipv4-address/prefix:	ipv4-address	a.b.c.d (host bits must be 0)
	ipv4-prefix-length		0 to 32
	ipv6-address/prefix:	ipv6-address	x:x:x:x:x:x:x:x (eight 16-bit pieces)
			x:x:x:x:x:x:d.d.d.d
			x [0 to FFFF]H
			d [0 to 255]D
	prefix-length		1 to 128

mt-id-number

Displays the unreachable routes based on a specific Multitopology (MT) ID number.

Values 0 | 2

Platforms

All

Output

The following output is an example of unreachable-routes information, and Table 687: Output fields: unreachable routes describes the output fields.

Output example

```
A:node-2>show>router>isis# unreachable-routes originated
===============================================================================
Rtr Base ISIS Instance 0 Unreachable Route Table (originated)
===============================================================================
Prefix                                    Algo Metric     Tag          Time
  SysID/Hostname                            MT   Lvl/Type   SpfVersion
-------------------------------------------------------------------------------
800::1/128                                0    4261412865 0            0
  CFCF.CFCF.CFCF                            2    2/Int.     0
-------------------------------------------------------------------------------
No. of Routes: 1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
```

Table 687: Output fields: unreachable routes

Label	Description
Prefix	Displays the unreachable route information for a prefix
Algo	Displays the unreachable route information for an algorithm
Metric	Displays the unreachable route information for a metric
Tag	Displays the unreachable route information for a tag
Time	Displays the current UPA lifetime counting down and is a value between 0 to 1800 seconds
SysID/Hostname	Displays the unreachable route information for a system ID or hostname
MT	Displays the unreachable route information for an MT ID
Lvl/Type	Displays the unreachable route information for a level or type
SpfVersion	Displays the unreachable route information for an SPF version
No. of Routes	Displays the number of routes

28.10 unsubscribe-from

unsubscribe-from

Syntax

unsubscribe-from log-id *log-id*

Context

[Tree] (tools>perform>log unsubscribe-from)

Full Context

tools perform log unsubscribe-from

Description

This command cancels the subscription of the current CLI session to the specified CLI log.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

log-id

Specifies the log ID from which cancellation is requested.

Values 1 to 101

Platforms

All

28.11 update-path

update-path

Syntax

update-path {**lsp** *lsp-name* **path** *current-path-name* **new-path** *new-path-name*}

Context

[Tree] (tools>perform>router>mpls update-path)

Full Context

tools perform router mpls update-path

Description

This command enables you to instruct MPLS to replace the path of a primary or secondary LSP. The primary or secondary LSP path is indirectly identified via the *current-path-name* value. The same path name cannot be used more than once in a given LSP name.

This command applies to both CSPF LSP and to a non-CSPF LSP. This command will only work when the specified *current-path-name* has the adaptive option enabled. The adaptive option can be enabled at the LSP level or the path level.

The new path must have been configured in the CLI or provided via SNMP. The CLI command for entering the path is

configure router mpls path *path-name*

The command fails if any of the following conditions exist:

- The specified *current-path-name* of this LSP does not have the adaptive option enabled.
- The specified *new-path-name* value does not correspond to a previously defined path.
- The specified *new-path-name* value exists but is being used by any path of the same LSP, including this one.

When you execute this command, MPLS performs the following procedures:

- MPLS performs a single MBB attempt to move the LSP path to the new path.
- If the MBB is successful, MPLS updates the new path

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

  - MPLS writes the corresponding NHLFE in the data path if this path is the current backup path for the primary.
  - If the current path is the active LSP path, it updates the path and writes the new NHLFE in the data path that causes traffic to switch to the new path.
- If the MBB is not successful, the path retains its current value.
- The update-path MBB has the same priority as the manual re-signal MBB.

Platforms

All

28.12 uplink

uplink

Syntax

uplink

uplink mgw-address-cache [**arec**] [**snaptr**] [**srv**]

uplink mgw-address-cache apn *apn-domain-string*

Context

[Tree] (show>router>gtp uplink)

Full Context

show router gtp uplink

Description

This command displays operational information related to the usage of GTP uplink interfaces (Gn, S2a, S2b) in this routing context.

Parameters

arec

Displays A-records.

snaptr

Displays Straightforward-NAPTR information.

srv

Displays SRV records.

apn-domain-string

Specifies the Access Point Name (APN) of this DNS cache entry.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of GTP uplink information.

Output example

```
Node# show router 10 gtp uplink mgw-address-cache
===============================================================================
Mobile Gateway address cache
===============================================================================
APN : full.dotted.apn.apn.epc.mnc010.mcc206.3gppnetwork.org
-------------------------------------------------------------------------------
Mobile Gateway address : 5.20.1.2
Time left (s) : 3587
-------------------------------------------------------------------------------
No. of cache entries: 1
No. of Mobile gateways: 1
===============================================================================
```

uplink

Syntax

uplink

uplink session imsi *imsi* **apn** *apn-string*

uplink session [**peer-address** *ip-address*] [**router** *router-instance*] [**remote-control-teid** *teid*] [**local-control-teid** *teid*] [**detail**]

uplink session imsi *imsi*

Context

[Tree] (show>subscr-mgmt>gtp uplink)

Full Context

show subscriber-mgmt gtp uplink

Description

This command displays box-wide operational information related to the GTP uplink interfaces (Gn, S2a, S2b).

Parameters

imsi

Specifies the IMSI (International Mobile Subscriber Identity) of this UE.

apn-string

Specifies the APN (Access Point Name).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

ip-address

Specifies the IP address of the Mobile Gateway (PGW or GGSN).

router-instance

Specifies the identifier of the virtual router instance where the GTP tunnel is terminated.

remote-control-teid *teid*

Specifies the remote control plane Tunnel Endpoint Identifier (TEID).

local-control-teid *teid*

Specifies the local control plane TEID.

detail

Displays detailed information.

Platforms

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

Output

The following output is an example of GTP uplink information

Output Example

```
Node# show subscriber-mgmt gtp uplink session detail
===============================================================================
GTP sessions
===============================================================================
IMSI : 206100000000041
APN : full.dotted.apn.mnc010.mcc206.gprs
-------------------------------------------------------------------------------
Mobile Gateway router : "Base"
Mobile Gateway address : 5.20.1.2
Remote control TEID : 1119232
Local control TEID : 4293918976
Bearer 5 rem TEID : 1074861061
Bearer 5 loc TEID : 4293919013
-------------------------------------------------------------------------------
No. of GTP sessions: 1
===============================================================================
```

uplink

Syntax

uplink

Context

[Tree] (clear>router>gtp uplink)

Full Context

clear router gtp uplink

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description
This command clears information related to the GTP uplink state for the routing context.

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

28.13 upnp

upnp

Syntax
upnp

Context
[Tree] (show>service upnp)

Full Context
show service upnp

Description
Commands in this context display UPnP policy parameters.

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

28.14 upnp-mappings

upnp-mappings

Syntax
upnp-mappings subscriber *sub-ident-string* **protocol** {**tcp** | **udp**} **outside-port** *port-number*

upnp-mappings subscriber *sub-ident-string*

Context
[Tree] (clear>nat upnp-mappings)

Full Context
clear nat upnp-mappings

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command removes UPnP mappings for the specified subscriber. If **protocol** and **outside-port** are not specified, all UPnP mappings for the subscriber are removed.

Parameters

subscriber *sub-ident-string*

clears mappings for the specified subscriber.

protocol {tcp | udp}

Clears the mappings for the specified protocol.

outside-port *port-number*

Clears mappings for the specified outside-port.

Platforms

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

28.15 upnp-policy

upnp-policy

Syntax

upnp-policy *policy-name*

upnp-policy *policy-name* **statistics**

upnp-policy

Context

[Tree] (show>service>upnp upnp-policy)

Full Context

show service upnp upnp-policy

Description

This commands displays upnp-policy related information.

Without any parameters the system outputs a list of configured UPnP policies.

Parameters

policy-name

The system displays the configuration of the specified policy.

statistics

The system displays statistics for the specified policy.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of this command.

Output example

```
show service upnp upnp-policy
===============================================================================
UPnP policies
===============================================================================
Policy                          Description
-------------------------------------------------------------------------------
test
-------------------------------------------------------------------------------
No. of UPnP policies: 1
===============================================================================

show service upnp upnp-policy "test"
===============================================================================
UPnP Policy test
===============================================================================
Description                 : (Not Specified)
Mapping limit               : 256
Strict mode                 : false
HTTP listening port         : 5000
Last Mgmt Change            : 01/26/2015 19:23:41
-------------------------------------------------------------------------------
Active mappings             : 2
Mapped subscribers          : 1
Associated subscribers      : 1
===============================================================================


show service upnp upnp-policy "test" statistics
===============================================================================
UPnP Policy test Statistics
===============================================================================
rx SSDP M-SEARCH                                        : 109
rx HTTP GET device description                          : 0
rx HTTP GET service description                         : 109
rx UPnP AddPortMapping                                  : 6
rx UPnP ClearPortMapping                                : 0
rx UPnP DeletePortMapping                               : 1
rx UPnP ForceTermination                                : 0
rx UPnP GetConnectionTypeInfo                           : 0
rx UPnP GetExternalAddress                              : 6
rx UPnP GetGenericPortMappingEntry                      : 43
rx UPnP GetNATRSIPStatus                                : 8
rx UPnP GetSpecificPortMappingEntry                     : 1
rx UPnP GetStatusInfo                                   : 49
rx UPnP RequestConnection                               : 0
rx UPnP SetConnectionType                               : 0
rx UPnP unsupported optional action                     : 6
rx UPnP invalid request                                 : 0
tx SSDP M-SEARCH                                        : 109
tx TCP reset                                            : 0
tx HTTP OK                                              : 109
tx UPnP OK                                              : 101
tx UPnP error                                           : 19
drop no memory                                          : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
portmapping created                                    : 4
portmapping updated                                    : 1
portmapping failed: conflict with other host           : 0
portmapping failed: conflict with pinhole              : 0
portmapping failed: hit limits                         : 0
portmapping failed: other reason                       : 0
rx HTTP (UN)SUBSCRIBE                                  :  0
tx HTTP 501 Not Implemented                            : 0
drop rate limited                                      : 0

===============================================================================
```

28.16 upnp-policy-statistics

upnp-policy-statistics

Syntax

upnp-policy-statistics *policy-name*

Context

[Tree] (clear>nat upnp-policy-statistics)

Full Context

clear nat upnp-policy-statistics

Description

This command clears UPnP policy statistics.

Parameters

policy-name

Clears UPnP policy statistics for the specified policy.

Platforms

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

28.17 uptime

uptime

Syntax

uptime

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show uptime)

Full Context

show uptime

Description

This command displays the time since the system started.

Platforms

All

Output

The following output is an example of uptime information, and Table 688: Output fields: uptime describes the output field.

Output example

```
A:ALA-1# show uptime
System Up Time         : 11 days, 18:32:02.22 (hr:min:sec)

A:ALA-1#
```

Table 688: Output fields: uptime

Label	Description
System Up Time	Displays the length of time the system has been up in days, hr:min:sec format.

28.18 url-filter

url-filter

Syntax

url-filter [*url-filter-name*]

url-filter *url-filter-name* **isa** *mda-id/esa-vm-id* [**detail**]

url-filter *url-filter-name* **web-service** [**profile** *profile-name*]

Context

[Tree] (show>app-assure>group url-filter)

Full Context

show application-assurance group url-filter

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays information about the configured url-filter policy along with some associated raw statistics. These output statistics are:

- Vlan Id: VLAN ID used by the aa interfaces
- Admin Status: Up / Down
- Oper Status: Up / Down
- Oper Flags: adminDown, no-aa-if, aa-if-down, icap-server-down
- Default Action: default policy action taken by the url-filter
- ICAP HTTP Redirect: HTTP redirect Policy
- AQP Referenced: Yes/No
- HTTP Request: Number of subscriber HTTP requests
- HTTP Errors: Impossible to send an ICAP request, this can be caused by either no TCP connection available, associated flow with a drop action due to another aqp policy, system resource exhausted
- ICAP Request: Number of ICAP request sent
- ICAP Errors: ICAP request timeout, unexpected ICAP response, internal TCP errors.
- Custom-x-header: Name of the custom-x-header, if configured. If it is not configured, the value is "Not Specified".

In addition to these counters the system counts the type of action taken by the url-filter policy (allow, block, redirect, default) as well as the type of responses received from the icap server (allow, block, redirect, late).

Parameters

url-filter-name

Specifies the name of the url-filter policy.

mda-id/esa-vm-id

Specifies the mda-id/esa-vm-id reference of the ISA card.

detail

Specifies detailed statistics related to the ISA card.

profile-name

Specifies the name of a configured profile for web service, up to 256characters.

Platforms

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

Output

The following output is an example of url-filter information, and Table 689: Output fields: web service URL filter describes the output fields.

URL filter show command output example

```
# show application-assurance group 1 url-filter "web-serv1" isa 7/2
===============================================================================
Application Assurance Group 1 URL Filter " web-serv1" ISA 7/2
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Description            : Url filter WebService
Admin Status           : Up
Oper Status            : Down
Oper Flags             : web-service-down
DNS Oper Status        : Down
DNS Oper Flags         : unreachable
HTTP Request Filtering : all
AQP Referenced         : Yes
-------------------------------------------------------------------------------
URL Stats Summary
-------------------------------------------------------------------------------
Total Requests  : 0                    Default Action  : 0
Requests Allowed: 0                    Reqs Block/Redir: 0
-------------------------------------------------------------------------------
Local Filter
-------------------------------------------------------------------------------
allow-list             : allowlist1
  Admin Status         : Up
  Oper Status          : Up
  Oper Flags           : <none>
  Number of URLs       : 1
  URL-List Lookups     : 0
    Match              : 0
    Miss               : 0

deny-list              : denylist1
  Admin Status         : Up
  Oper Status          : Up
  Oper Flags           : <none>
  Number of URLs       : 1
  Default Action       : block-all
  HTTP Redirect        : (Not Specified)
  URL-List Lookups     : 0
    Match              : 0
    Miss               : 0
    Default Action     : 0

deny-list              : denylist2
  Admin Status         : Up
  Oper Status          : Up
  Oper Flags           : <none>
  Number of URLs       : 1
  Default Action       : block-all
  HTTP Redirect        : (Not Specified)
  URL-List Lookups     : 0
    Match              : 0
    Miss               : 0
    Default Action     : 0
-------------------------------------------------------------------------------
Web Service Filter
-------------------------------------------------------------------------------
Classifier             : web-service-1
Category-set-id        : 1
default-profile        : prof1
VLAN Id                : 1
FQDN                   : nokia-api.webtitancloud.com
DNS Address            : 12.0.0.100
Default Action         : allow
HTTP Redirect          : ws
AA Interface           : to_isa_7/2
Service                : VPRN 1
SAP Id                 : 7/2/aa-svc:1
Client IP              : 10.1.1.2/31
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Web Service Filter Stats
Class Ovrd Lkup : 0                    Class Ovrd match: 0
Cache Lookup    : 0                    Cache size      : 0
Cache match     : 0                    Cache max size  : 20971520
Cache miss      : 0

URL Request     : 0                    Default Action  : 0
URL Response    : 0                    Late Response   : 0
  Allow         : 0                      Packet Discard: 0
  Block         : 0                      Octet Discard : 0
  Redirect      : 0
-------------------------------------------------------------------------------
ISA 7/2 Web Service Connection Stats
-------------------------------------------------------------------------------
Established Connections   : 0 of 0 connections
Request Rate              : 0 per second
Round Trip Time           : 0 microseconds
===============================================================================
```

Web-service URL filter show command output example

```
# show application-assurance group 1 url-filter "testFilter" web-service
-------------------------------------------------------------------------------
Web services for url-filter "testFilter"
-------------------------------------------------------------------------------
Category-set-id    : 1
-------------------------------------------------------------------------------
===============================================================================
Profile Categories
===============================================================================
Profile Name                           Blocked Categories  Allowed Categories
-------------------------------------------------------------------------------
testProfile                            1                   54
===============================================================================
```

```
# show application-assurance group 1 url-filter "testFilter" web-
service profile "testProfile"
-------------------------------------------------------------------------------
Web service profile "testProfile"
-------------------------------------------------------------------------------
Category-set-id    : 1
Description        :
-------------------------------------------------------------------------------
===============================================================================
Blocked Categories
===============================================================================
Category Id         Category Name
-------------------------------------------------------------------------------
25                  Personal Webpages
===============================================================================
===============================================================================
Allowed Categories
===============================================================================
Category Id         Category Name
-------------------------------------------------------------------------------
1                   Compromised
2                   Criminal Skills/Hacking
3                   Hate Speech
4                   Illegal Drugs
5                   Phishing/Fraud
6                   Spyware and Malicious Sites
7                   Nudity
8                   Mature
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
9                   Pornography/Sex
10                  Violence
11                  Weapons
12                  Anonymizer
13                  Computers and Technology
14                  Download Sites
15                  Translator
16                  Alcohol
17                  Health
18                  Pharmacy
19                  Tobacco
20                  Gambling
21                  Games
22                  Cars/Transportation
23                  Dating & Relationships
24                  Home/Leisure
26                  Restaurants
27                  Sports and Recreation
28                  Travel
29                  Government
30                  Military
31                  Non-profits
32                  Politics and Law
33                  Religion
34                  Education
35                  Art
36                  Entertainment and Videos
37                  Humor
38                  Music
39                  News
40                  Finance
41                  Internet Watch Foundation List
42                  Shopping
43                  Chat/IM
44                  Community Sites
45                  Social Networking
46                  Web-based Email
47                  Portal Sites
48                  Search Engines
49                  Online Ads
50                  Business/Services
51                  Job Search
52                  Real Estate
53                  Spam
54                  Miscellaneous
55                  Uncategorized
===============================================================================
```

Table 689: Output fields: web service URL filter

Label	Description
Category-set-id	The ID of the category set used for URL categorization.
Description	The description of the web-service profile.
Profile Name	The name of the web-service profile.
Blocked Categories	The blocked categories for the web-service profile.
Allowed Categories	The allowed categories for the web-service profile.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Category Id	The ID of the blocked or allowed category.
Category Name	The name of the blocked or allowed category.

28.19 url-list

url-list

Syntax

url-list *url-list-name*

Context

[Tree] (show>app-assure>group url-list)

Full Context

show application-assurance group url-list

Description

This command displays information about the configured URL list.

Parameters

url-list-name

Specifies the name of the URL list.

Platforms

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

Output

The following output are examples of show URL list information, and Table 690: Output fields: URL list describes the URL list show command output fields.

Output example

```
# show application-assurance group 1 url-list "allow-list1"
===============================================================================
Application Assurance Group 1 url-list "allow-list1"
===============================================================================
Description : Default Url-list object
Size : standard
Host Expressions : enabled
Admin Status : Up
Oper Status : Up
Oper Flags : <none>
File deployed to ISAs : Yes
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
Upgrade Statistics
-------------------------------------------------------------------------------
Last Success : 06/19/2020 02:57:06
Deployed
File Name : cf1:/expr_15000.vm.only.expr
URL Entries : 15000 (100.00% full)
URL Characters : 249390 ( 5.08% full)
URL Host Expr Entries: 15000 (100.00% full)
Blank/Comment Lines : 60519
Last Attempt : 06/19/2020 02:57:06
Result : Success
```

Table 690: Output fields: URL list

Label	Description
Description	The description of the URL list
Size	[standard | extended] Size parameter for the URL list
Host Expressions	If the host is enabled or disabled
Admin Status	[Up | down] - Administrative status of the URL list
Oper Status	[Up | down] - Operational status of the URL list
Oper Flags	[admin-down | file-does-not-exist |invalid-file-format | too-many-urls | switch-over-error]
File Deployed to ISA	[Yes | No] - This flag describes if the file located in the compact flash is the one deployed in the ISA, in the event the file is overwritten and before the admin upgrade command is used this flag will display "No".
Upgrade Statistics	
Last Success	Last time the list was successfully upgraded
File Name	File name for the last successful upgrade
URL Entries	Number of URLs loaded at the last success and percentage to full
URL Characters	Number of characters loaded at the last success and percentage to full
URL Host Expr Entries	URL host expression entries
Blank/CommentLines	Number of blank or commented out lines
Last Attempt	Last time the operator tried to upgrade the list
Result	[Success | Failure]. Result of the last upgrade
File Name	File name for the last upgrade attempt

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

28.20 usage-monitor

usage-monitor

Syntax

usage-monitor app-group [*app-group-name*] **count**

usage-monitor application [*application-name*] **count**

usage-monitor charging-group [*charging-group-name*] **count**

usage-monitor count

usage-monitor status

Context

[Tree] (show>app-assure>group>aa-sub usage-monitor)

Full Context

show application-assurance group aa-sub usage-monitor

Description

This command displays per-subscriber usage-monitoring statistics.

Parameters

app-group-name

Specifies an application group name, up to 32 characters.

application-name

Specifies an application name, up to 32 characters.

charging-group-name

Specifies a charging group name, up to 32 characters.

count

Displays counters.

status

Displays the status.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

28.21 user

user

Syntax

user [*user-name*] [**detail**]

user [*user-name*] **lockout**

Context

[Tree] (show>system>security user)

Full Context

show system security user

Description

This command displays user account information.

If no command line options are specified, summary information for all users is displayed.

Parameters

user-name

Displays information for the specified user.

Default All users

detail

Displays detailed user information to the summary output.

lockout

Displays information about any users who are currently locked out.

Platforms

All

Output

The following outputs are examples of user output information, and Table 691: Output fields: system security user describes the output fields.

Output example

```
A:node-2# show system security user

===============================================================================
Users
===============================================================================
User ID      New Access                          Password Login   Failed Local
             Pwd Permissions                     Expires  Attempt Logins Conf
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
-------------------------------------------------------------------------------
admin        n   cc -- gr -- nc sp -- sc tc       never    7       1      y
-------------------------------------------------------------------------------
Number of users : 1
Permissions: (cc) Console port CLI, (fp) FTP, (gr) gRPC, (li) LI, (nc) NETCONF,
             (sp) SCP/SFTP, (sn) SNMP, (sc) SSH CLI, (tc) Telnet CLI
===============================================================================

A:node-2# show system security user detail

===============================================================================
Users
===============================================================================
User ID      New Access                          Password Login   Failed Local
             Pwd Permissions                     Expires  Attempt Logins Conf
-------------------------------------------------------------------------------
admin        n   cc -- gr -- nc sp -- sc tc       never    7       1      y
-------------------------------------------------------------------------------
Number of users : 1
Permissions: (cc) Console port CLI, (fp) FTP, (gr) gRPC, (li) LI, (nc) NETCONF,
             (sp) SCP/SFTP, (sn) SNMP, (sc) SSH CLI, (tc) Telnet CLI
===============================================================================

===============================================================================
User Configuration Detail
===============================================================================
===============================================================================
user id            : admin
-------------------------------------------------------------------------------
console parameters
-------------------------------------------------------------------------------
new pw required    : no                cannot change pw   : no
home directory     :
restricted to home : no
save when restrict*: no
login exec file    :
profile            : administrative
locked-out         : no
-------------------------------------------------------------------------------
snmp parameters
-------------------------------------------------------------------------------
auth protocol      : hmac-sha2-512
auth key           : ffb8bb4392ccab627d903db396cd928fdde5ac8cdb78e7b6ecb39bde2c
                     3ec67c8380cd0d91dfe6f30c041d9819a34e297994c3b759e68f2db075
                     4bc408e3a001
privacy protocol   : cfb128-aes-256
privacy key        : ffb8bb4392ccab627d903db396cd928fdde5ac8cdb78e7b6ecb39bde2c
                     3ec67c
group              : moje
===============================================================================

A:node-2# show system security user lockout

===============================================================================
Currently Failed Login Attempts
===============================================================================
User ID Remaining Login attempts Remaining Lockout Time (min:sec)
-------------------------------------------------------------------------------
user123 N/A 9:56
-------------------------------------------------------------------------------
Number of users : 1
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 691: Output fields: system security user

Label	Description
User ID	The name of a system user.
Users	
New Pwd	y — The user must change their password at the next login. n — The user does not need to change their password at the next login.
Access Permissions	The user can access: cc — console port CLI fp — FTP gr — gRPC li — LI nc — NETCONF sp — SCP/SFTP sn — SNMP sc — SSH CLI tc — Telnet CLI
Password Expires	The number of days after which the user must change their password.
Login Attempts	The number of times that the user has attempted to log in, irrespective of whether the login succeeded or failed.
Failed Logins	The number of unsuccessful login attempts.
Local Conf	y — Password authentication is based on the local password database. n — Password authentication is not based on the local password database.
Number of users	The total number of listed users.
User Configuration Detail	
new pw required	yes — The user must change their password at the next login. no — The user does not need to change their password at the next login.
cannot change pw	yes — The user does not have the ability to change their password. no — The user has the ability to change their password.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
home directory	The local home directory for the user for both console and FTP access.
restricted to home	yes — The user is not allowed to navigate to a directory higher in the directory tree on the home directory device. no — The user is allowed to navigate to a directory higher in the directory tree on the home directory device.
save when restricted	Whether configuration save operations are allowed when the user is restricted to home.
login exec file	The user's login exec file which executes whenever the user successfully logs in to a console session.
profile	The security profiles associated with the user.
locked-out	Whether the user is currently locked out, and, if they are locked out, how much time remains before the user can attempt to log into the node again.
SNMP Parameters	
auth protocol	The SNMPv3 authentication protocol.
auth key	The SNMPv3 authentication key.
privacy protocol	The SNMPv3 privacy protocol.
privacy protocol	The SNMPv3 privacy key.
group	The group for which the protocols apply.
Currently Failed Login Attempts	
Remaining Login Attempts	The number of login attempts remaining before the user is locked out.
Remaining Lockout Time (min:sec)	The number of minutes and seconds remaining until the lockout expires and the user can attempt to log in again.

With the introduction of the PKI on an SR OS (SSH server) the authentication process can be done via PKI or password. The SSH client usually authenticates via PKI and password if PKI is configured on the client. In this case, the PKI takes precedence over the password in most clients.

All client authentications are logged and display in the **show>system>security>user detail**. The following table lists the rules where pass and fail attempts are logged.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 692: Pass/fail login attempts

Authentication order	Client (such as, PuTTY)	Server (such as SR OS)		CLI show system security attempts (SR OS)	
	Private key programmed	Public key configured	Password configured	Logins attempts	Failed logins
1. Public Key	Yes	Yes	N/A	Increment	
2. Password	Yes	Yes (No match between client and server. Go to password.)	Yes	Increment	
	Yes	No	Yes	Increment	
	No	N/A	Yes	Increment	
	No	N/A	No		Increment
1. Public Key (only)	Yes	Yes	N/A	Increment	
	Yes	Yes (No match between client and server. Go to password.)			Increment
	Yes		N/A		Increment
	No		N/A		Increment

28.22 users

users

Syntax

users

Context

[Tree] (show users)

Full Context

show users

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays console user login and connection information.

Platforms

All

Output

The following output is an example of user information, and Table 693: Output fields: users describes the output fields.

Output example: Console users

```
===============================================================================
Username                                        Type
    From
    Router instance
    Connection ID                               Login time
        Session ID             SSH Channel ID       Idle time
===============================================================================
                                                Console
    --
    --
    6                                                --
        6                      --                 16d 01:57:07  ---
-------------------------------------------------------------------------------
user1                                           SSHv2
    10.10.10.69
    Base
    439                                         19NOV2025 15:59:27
       #438                    0                    0d 00:00:00  ---
-------------------------------------------------------------------------------
user2                                           SSHv2
    2001:0db8:e000:7950:7750:7250:7220:1
    Base
    452                                         19NOV2025 15:59:35
        451                    0                    0d 00:00:03  ---
-------------------------------------------------------------------------------
Number of users: 2
Number of sessions: 2
'#' indicates the current active session
===============================================================================
```

Table 693: Output fields: users

Label	Description
Username	The user name
Type	The access type
From	The source IP address
Router instance	The router or VPRN instance
Connection ID	The connection ID. This number increments each time a connection to the router is initiated.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Login time	The time the user logged in
Session ID	The connection's session ID. This number is different than the connection ID for SSH multisession connections.
SSH Channel ID	The SSH multisession channel ID in the session ID
Idle time	The session idle time
Number of users	Displays the total number of users logged in
Number of sessions	Displays the total number of sessions logged in

28.23 utilization

utilization

Syntax

utilization [**detail**]

Context

[Tree] (show>chassis>power-management utilization)

Full Context

show chassis power-management utilization

Description

This command displays power management utilization.

Parameters

detail

Displays detailed breakdown of devices.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s, 7950 XRS

Output

The following output is an example of power management utilization information, and Table 694: Output fields: chassis power management utilization describes the output fields.

Output example: show chassis power-management utilization

```
*A:Dut-A# show chassis power-management utilization
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Chassis Power Utilization
================================================================================
             SUPPLY                                PEAK DEMAND
Power Capacity   : 22000.00 Watts        Fan           :   695.00 Watts (  3%)
Safety Level     : 13203.00 Watts (100%) IO Module     :  7163.09 Watts ( 33%)
Alert Level      :     0.00 Watts        CPM Module    :   392.86 Watts (  2%)
                                         Fabric Module :  1622.25 Watts (  7%)
                                         MDA Module    :  6023.07 Watts ( 27%)+
                                         CCM Module    :    50.82 Watts (  0%)
                                         Peak Util.    :  9924.02 Watts ( 45%)
                                                   CURRENT DEMAND
                                         Current Util. :  9623.01 Watts ( 44%)
================================================================================
+  Power utilization of device already included in IO Module value
================================================================================
```

Output example: show chassis power-management utilization detail

```
*A:DUT-A# show chassis power-management utilization
================================================================================
Chassis Power Zone 1 Utilization
================================================================================
             SUPPLY                                PEAK DEMAND
Power Capacity   : 24000.00 Watts        Chassis/Fan   :   635.16 Watts (  3%)
                                         IO Module     :   355.67 Watts (  1%)
                                         CPM Module    :   546.64 Watts (  2%)
                                         Fabric Module :   746.00 Watts (  3%)
                                         MDA Module    :   748.69 Watts (  3%)
                                         XIOM Module   :   476.29 Watts (  2%)
                                         Peak Util.    :  3508.45 Watts ( 15%)

Mode             :    basic              Current util. :  3356.82 Watts ( 14%)
Reserved Power   :  6000.00 Watts        Safety Level  :  2892.00 Watts ( 20%)
Util. + Reserve  :  9356.82 Watts ( 39%) Safety Alert  : +1000.00 Watts
Remaining Power  : 14643.18 Watts        Alert Level   :  3892.00 Watts ( 26%)
================================================================================
*A:DUT-A# show chassis power-management utilization detail
================================================================================
Chassis Power Zone 1 Utilization (detail)
================================================================================
             SUPPLY                                PEAK DEMAND
Power Capacity   : 24000.00 Watts        Chassis/Fan
Power Module 1/1 :  6000.00 Watts          1/1         :    86.06 Watts (  0%)
Power Module 1/2 :  6000.00 Watts          1/2         :    77.45 Watts (  0%)
Power Module 1/3 :     0.00 Watts          1/3         :    76.62 Watts (  0%)
Power Module 1/4 :     0.00 Watts          1/4         :    86.06 Watts (  0%)
Power Module 1/5 :     0.00 Watts          1/5         :    76.62 Watts (  0%)
Power Module 1/6 :     0.00 Watts          1/6         :    77.45 Watts (  0%)
Power Module 1/7 :     0.00 Watts          1/7         :    77.45 Watts (  0%)
Power Module 1/8 :     0.00 Watts          1/8         :    77.45 Watts (  0%)
Power Module 1/9 :     0.00 Watts        IO Module
Power Module 1/10:     0.00 Watts          Slot 2      :   355.67 Watts (  1%)
Power Module 2/1 :  6000.00 Watts        CPM Module
Power Module 2/2 :  6000.00 Watts          Slot A      :   276.28 Watts (  1%)
Power Module 2/3 :     0.00 Watts          Slot B      :   270.36 Watts (  1%)
Power Module 2/4 :     0.00 Watts        Fabric Module
Power Module 2/5 :     0.00 Watts          Sfm 1       :    94.78 Watts (  0%)
Power Module 2/6 :     0.00 Watts          Sfm 2       :    91.44 Watts (  0%)
Power Module 2/7 :     0.00 Watts          Sfm 3       :    92.56 Watts (  0%)
Power Module 2/8 :     0.00 Watts          Sfm 4       :    94.78 Watts (  0%)
Power Module 2/9 :     0.00 Watts          Sfm 5       :    93.67 Watts (  0%)
Power Module 2/10:     0.00 Watts          Sfm 6       :    91.44 Watts (  0%)
                                           Sfm 7       :    93.67 Watts (  0%)
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                        Sfm 8       :    93.67 Watts (  0%)
                                      MDA Module
                                        MDA 2/1     :   582.28 Watts (  2%)
                                        MDA 2/x2/1  :    72.63 Watts (  0%)
                                        MDA 2/x2/2  :    93.77 Watts (  0%)
                                      XIOM Module
                                        XIOM 2/x2   :   476.29 Watts (  2%)
                                      Peak Util.    :  3508.45 Watts ( 15%)

Mode             :    basic           Current util. :  3329.57 Watts ( 14%)
Reserved Power   :  6000.00 Watts     Safety Level  :  2892.00 Watts ( 20%)
Util. + Reserve  :  9329.57 Watts ( 39%) Safety Alert  : +1000.00 Watts
Remaining Power  : 14670.43 Watts     Alert Level   :  3892.00 Watts ( 26%)
===============================================================================
*A:DUT-A#
```

Table 694: Output fields: chassis power management utilization

Label	Description
SUPPLY	
Power Capacity	Indicates the total amount of power available to the chassis.
Safety Level	Specifies the configured Power Safety Level, which is a percentage of the worst case power consumption level.
Alert Level	Specifies the configured power level in watts, which causes the system to raise an alarm if the available power level drops below a set level.
DEMAND	
Fan	Specifies the amount of power used for the fan tray indicated.
IO Module	Specifies the amount of power used for the IO Module indicated.
CPM Module	Specifies the amount of power used for the CPM indicated.
Fabric Module	Specifies the amount of power used for the SFM indicated.
MDA Module	Specifies the amount of power used for the line card indicated.
Current Util.	Specifies the total amount of power used for all system elements.
Peak Util.	Specifies peak utilization starting from bootup.

utilization

Syntax

utilization [**sample-period** *seconds*]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>system>switch-fabric utilization)

Full Context

show system switch-fabric utilization

Description

This command displays information about switch fabric utilization.

Parameters

seconds

Specifies the sampling period, in seconds, for switch fabric utilization.

Values 10 to 300

Default 10

Platforms

7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

Output

The following output is an example of switch fabric utilization information, and Table 695: Output fields: switch fabric utilization describes the output fields.

Output Example: show system switch-fabric utilization

```
A:admin@node-2# show system switch-fabric utilization
===============================================================================
Switch Fabric Utilization (Sample period: 10 seconds)
===============================================================================
Slot/FP             Utilization
-------------------------------------------------------------------------------
 1/1                94%
 1/2                95%
 1/3                0%
 1/4                0%
 3/1                91%
 3/2                91%
 3/3                91%
 3/4                0%
 3/5                0%
 3/6                0%
===============================================================================
```

Table 695: Output fields: switch fabric utilization

Label	Description
Slot/FP	Displays the FP (uniquely identified by an IOM number and FP number).

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Utilization	Displays the switch fabric utilization percentage for the FP.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

29 v Commands

29.1 vas-filter

vas-filter

Syntax

vas-filter *name* [**entry** [*entry*]]

vas-filter

Context

[Tree] (show>subscr-mgmt>isa-svc-chain vas-filter)

Full Context

show subscriber-mgmt isa-service-chaining vas-filter

Description

This command displays VAS filter information.

Parameters

name

Displays information about the specified name of the VAS filter.

entry

Displays information about the specified VAS filter entry

Values 0 to 4294967295

Platforms

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

Output

The following output is an example of VAS filter information.

Output Example

```
show subscriber-mgmt isa-service-chaining vas-filter "foo"
===============================================================
ISA Service Chaining - VAS Filter "vas-filter"
===============================================================
Description            : (Not Specified)
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Entry                       : 1
Admin State           : in-service
Description           : (Not Specified)
Match
    Protocol            :   udp
    Foreign IP          :  12.1.1.1/24
    Foreign Port        :  2000
Action upstream
    Fail Action         : forward
    Forwarding
        Forward IP      : 40.1.0.1
        Service           : 11
        ESI                 : N/A
     Network Service Header
        Service Path    : 32
        Service Index   : 2
        Insert Sub-Id   : disabled
        Meta Data       : 0xaabbccdd
      Action downstream
          Fail Action         : forward
          Forwarding
              Forward IP      : 30.1.0.1
             Service            : 11
              ESI                   : N/A
         Network Service Header
             Service Path    : 32
             Service Index   : 2
             Insert Sub-Id   : disabled
             Meta Data       : 0xaabbccdd
```

Table 696: Output fields: service chaining VAS filter

Label	Description
Description	The text string describing the VAS filter
Entry	The ID of the entry in the VAS filter
Admin State	The administrative state of the entry in the VAS filter
Match	Protocol — The IP protocol to match in this entry of the VAS filter Foreign IP — The foreign IP address to match in this entry of the VAS filter Foreign Port — The foreign port to match in this entry of the VAS filter
Action	upstream — Indicates the upstream direction for the action in the VAS filter entry downstream — Indicates the downstream direction for the action in the VAS filter entry
Fail Action	Forwarding IP — The forwarding Service Function IP address for the action in a VAS filter entry Service — The forwarding service for the action in a VAS filter entry

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
	ESA — The ESI for the action in a VAS filter entry
Network Service Header	Service Path — The path ID used to construct an NSH (Network Service Header) for the action in a VAS filter entry
	Service Index — The service ID used to construct an NSH for the action in a VAS filter entry
	Insert Sub-ID disabled — The subscriber ID is not inserted with meta data to construct an NSH for the action in a VAS filter entry enabled — The subscriber ID is inserted with meta data to construct an NSH for the action in a VAS filter entry
	Meta Data — The opaque metadata used to construct an NSH (Network Service Header) for the action in a VAS filter entry

29.2 vas-tunnel

vas-tunnel

Syntax

vas-tunnel [*connection-id*]

Context

[Tree] (show>router>l2tp vas-tunnel)

Full Context

show router l2tp vas-tunnel

Description

This command displays L2TP VAS tunnel operational information.

Parameters

connection-id

Specifies the identification number for an L2TP VAS tunnel connection.

Values 14294967295

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

Output

The following output is an example of L2TP VAS tunnel information.

Output Example

```
*A:Dut-C# show subscriber-mgmt steering-profile "steeringprof01"
===============================================================================
Steering Profile "steeringprof01"
===============================================================================
Operational State    : in-service
Reference Count      : 1
Description          : LAC Traffic Steering Profile 01
Access Router        : access_router
Network Nexthop      : 10.10.20.2
Network Router       : network_router
===============================================================================
*A:Dut-C#

*A:Dut-C# show router service-name "access_router" l2tp vas-tunnel
===================================================================
L2TP VAS Tunnel Summary (222)
===================================================================
Conn ID    Loc-Tu-ID  Rem-Tu-ID  Base-vRtrID
-------------------------------------------------------------------
598212608  9128       1          Base
-------------------------------------------------------------------
No. of VAS Tunnels: 1
===================================================================
*A:Dut-C#

*A:Dut-C# show router service-name "access_router" l2tp vas-tunnel 598212608
===============================================================================
L2TP Tunnel 598212608 (222)
===============================================================================
Transport Type                  : udpIp
Router ID                       : 222
Base Router ID                  : Base
Local Connection ID             : 598212608
Local Tunnel ID                 : 9128
Local IP Address                : 10.20.1.3
Local UDP Port                  : 1701
Remote Connection ID            : 65536
Remote Tunnel ID                : 1
Remote IP Address               : 10.10.40.2
Remote UDP Port                 : 7777
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Sessions
-------------------------------------------------------------------------------
Loc Session Conn ID Loc Session ID      Rem Session Conn ID Rem Session ID
-------------------------------------------------------------------------------
598227315           14707               65537               1
-------------------------------------------------------------------------------
No. of Sessions: 1
-------------------------------------------------------------------------------
*A:Dut-C#

*A:Dut-C# show service id "pppoe_service" pppoe session l2tp-connection-id 598227315 detail
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
PPPoE sessions for svc-id 111
===============================================================================
Sap Id              Mac Address       Sid    Up Time         Type
    IP/L2TP-Id/Interface-Id                                   MC-Stdby
-------------------------------------------------------------------------------
1/1/1               00:10:94:00:00:01 1      0d 00:45:26     lac
    598227315
PPP User-Name        : user01
Subscriber-interface : subif01
Group-interface      : grpif01
Subscriber           : "sub01"
Sub-Profile-String   : "subprof01"
SLA-Profile-String   : "slaprof01"
SPI group ID         : (Not Specified)
ANCP-String          : ""
Int-Dest-Id          : ""
App-Profile-String   : ""
Category-Map-Name    : ""
Acct-Session-Id      : "1412FF000000005E85A5C6"
Sap-Session-Index    : 1
L2TP Router Name     : Base
L2TP Group Name      : default_radius_group
L2TP Assignment ID   : unnamed
L2TP Steering Profile: steeringprof01
L2TP Steering State  : steered
Circuit-Id           :
Remote-Id            :
Radius Session-TO    : N/A
Radius Class         :
Radius User-Name     : user01
Logical-Line-Id      :
Service-Name         :
-------------------------------------------------------------------------------
Number of sessions   : 1
===============================================================================
```

29.3 vccv-bfd

vccv-bfd

Syntax

vccv-bfd [**session**]

Context

[Tree] (show>service>id vccv-bfd)

Full Context

show service id vccv-bfd

Description

This command shows whether VCCV BFD is configured for a particular service and information about the VCCV session state.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

The **show>service>id>vccv-bfd session** command gives a summary of all the VCCV sessions. Using both the sdp-id and the vc-id parameters gives VCCV BFD session information about a specific spoke-SDP.

For services where auto-discovery and signaling are used (for example, BGP VPWS, VPLS, and BGP-AD VPLS), use the **show>service>id>detail** command to determine the sdp-id and vc-id parameters allocated by the system.

Parameters

session

Displays a summary of all VCCV sessions.

Platforms

All

Output

The following output is an example of VCCV BFD information.

Output Example

```
*A:Dut-C# show service id 1000 vccv-bfd session
===============================================================================
BFD Session
===============================================================================
Interface/Lsp Name              State              Tx Intvl  Rx Intvl  Multipl
Remote Address/Info         Protocols            Tx Pkts   Rx Pkts   Type
LAG port/sdp-id:vc-id      LAG ID/SvcId
-------------------------------------------------------------------------------
N/A                           Up (3)               1000      1000      3
N/A                           vccv                 152       151       central
100:100                       1000
-------------------------------------------------------------------------------
No. of BFD sessions: 1
===============================================================================
```

vccv-bfd

Syntax

vccv-bfd [**session**]

Context

[Tree] (show>service vccv-bfd)

Full Context

show service vccv-bfd

Description

This command displays the VCCV BFD session for the system.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

29.4 version

version

Syntax

version

Context

[Tree] (show>app-assure version)

Full Context

show application-assurance version

Description

This command displays the versions of the isa-aa.tim used by the CPM and the AA ISAs.

Platforms

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

Output

The following output is an example of version information.

Output Example

```
A:ALU>show>app-assure# version
===============================================================================
Versions of isa-aa.tim in use
===============================================================================
CPM           : TiMOS-M-7.0.R4
1/1           : TiMOS-I-7.0.R1
2/1           : TiMOS-I-7.0.R1
3/2           : TiMOS-I-7.0.R1
===============================================================================
A:ALU>show>app-assure#
```

version

Syntax

version group-interface [**fwd-service** *service-id*] *ip-in-name*

version group-interface all

version host *ip-address*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

version host all

version [**interface** *ip-int-name* | *ip-address*]

Context

[Tree] (clear>router>igmp version)

Full Context

clear router igmp version

Description

This command clears the IGMP version on a specified interface or IP address.

Parameters

group-interface *interface-name*

Clears the IGMP version on the specified group interface.

group-interface all

Clears the IGMP version on all group interfaces.

service-id

Specifies the service ID.

Values service-id: 1 to 2148278386
svc-name: up to 64 characters.

host *ip-address*

Clears the IGMP version on the specified host.

host all

Clears the IGMP version on all hosts.

interface *ip-int-name*

Clears the IGMP version on the specified interface.

interface *ip-address*

Clears the IGMP version on the specified IP address.

Platforms

All

version

Syntax

version group-interface [**fwd-service** *service-id*] *ip-int-name*

version group-interface all

version host *ipv6-address*

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

version host all

version [*ip-int-name* | *ipv6-address*]

Context

[Tree] (clear>router>mld version)

Full Context

clear router mld version

Description

This command clears MLD version parameters.

Parameters

group-interface *interface-name*

Clears the MLD version on the specified group interface.

group-interface all

Clears the MLD version on all group interfaces.

service-id

Clears the MLD version information for the service ID.

Values service-id: 1 to 2148278386

svc-name: up to 64 characters.

host *ipv6-address*

Clears the MLD version on the specified host.

host all

Clears the MLD version on all hosts.

ip-int-name

Clears version information for the specified MLD interface name.

ipv6-address

Clears version information for the specified MLD IPv6 address.

Platforms

All

version

Syntax

version

Context

[Tree] (show version)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context
show version

Description
This command displays system version information.

Platforms
All

29.5 video

video

Syntax
video

Context
[Tree] (clear video)

Full Context
clear video

Description
Commands in this context clear video related commands.

Platforms
7450 ESS, 7750 SR, 7750 SR-s

video

Syntax
video

Context
[Tree] (show video)

Full Context
show video

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

Commands in this context display video information.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

29.6 video-group

video-group

Syntax

video-group [*video-group-id*] [**peak-last-hour**]

Context

[Tree] (show>isa video-group)

Full Context

show isa video-group

Description

This command displays ISA video group information.

Parameters

video-group-id

Specifies the ISA video group ID.

peak-last-hour

Displays the peak FCC/RET session and bandwidth for the current hour, the last hour, and the lifetime.

Platforms

7450 ESS, 7750 SR, 7750 SR-s

Output

The following are output examples for this command.

Output Example

```
A:SR-7/Dut-C# show isa video-group
===============================================================================
ISA Video Group
===============================================================================
Video Group Id         : 1             Admin State           :  Up
Oper State             : Up            RT Server State       :  Enabled
FCC Server State       : Disabled      ADI State             :  Disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
RT Resv Bandwidth(Mbps): 0              ADI State              :  Disabled

MDA                    : 2/1            Channels               :  2
Admin State            : Up             Oper State             :  Up
Used Cache (bytes)     : 586622         Available Cache (bytes): 1869186816
Mem alloc failures     : 0              Dropped pkts (denting) : 0
Failed Chnl Allocs     : 0              Egress Bandwidth excee*:  0
Bandwidth in use(kbps) : 0              Peak Bandwidth(kbps)   : 200
Egress stream resets   : 0              Ingress stream resets  : 53
Ad stream resets       : 0              Ad stream aborts       :  0
SSRC collisions        : 0              Received data packets  : 4521
Received data octets   : 6284714        Rx data packet errors  : 0
Transmitted data packts: 1183           Transmitted data octets:  1646212
Tx data packet errors  : 0              Tx lost data packets   : 47
Active RTCP sessions   : 1              Requested RTP Packets  : 968
RTCP Parse Errors      : 0              RTCP Config Errors     : 0
RTCP IPC Errors        : 0              RTCP SG Errors         :  0
RTCP Subscriber Errors : 0              RTCP Interface Errors  : 0
Total RET BW (Kbps)    : 0              Max. RET BW (Kbps)     : 100
Total FCC BW (Kbps)    : 0              Drop Count for FCC     : 0
Mcast RET Req for RTCP : 0              Mcast RET Req for RUDP : 0
Mcast RET Created      : 0              Mcast RET Req Quenched : 0
HighPkt pool limit hit : 0
Pkts Lost (2-10)       : 24             Pkts Lost (11-20)      : 48
Pkts Lost (21-30)      : 0              Pkts Lost (31-40)      : 0
Pkts Lost ( >40)       : 0
-------------------------------------------------------------------------------
Video-groups : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
A:SR-7/Dut-C#
```

```
*A:Dut-C# show isa video-group 1 peak-last-hour
===============================================================================
ISA Video Group
===============================================================================
Video Group Id         : 1              Admin State            : Up
Oper State             : Up             RT Server State        : Disabled
FCC Server State       : Enabled        ADI State              : Disabled
Analyzer State         : Disabled       Str Sel State          : Disabled
RT Resv Bandwidth(Mbps): 0              RT Client              : Enabled
-------------------------------------------------------------------------------
ESA-VM                 : 7/1            Channels               : 1
Admin State            : Up             Oper State             : Up
Used Cache (bytes)     : 4465664        Available Cache (bytes): 2858537472
Mem alloc failures     : 0              Dropped pkts (denting) : 0
Failed Chnl Allocs     : 0              Egress Bandwidth excee*: 0
Bandwidth in use(kbps) : 0              Peak Bandwidth(kbps)   : 8658
Egress stream resets   : 0              Ingress stream resets  : 153
Ad stream resets       : 0              Ad stream aborts       : 0
SSRC collisions        : 0              Received data packets  : 130779
Received data octets   : 181782810      Rx data packet errors  : 0
Transmitted data packts: 10711          Transmitted data octets: 14888290
Tx data packet errors  : 0              Tx lost data packets   : 0
Active RTCP sessions   : 1              Requested RTP Packets  : 0
RTCP Parse Errors      : 0              RTCP Config Errors     : 0
RTCP IPC Errors        : 0              RTCP SG Errors         : 0
RTCP Subscriber Errors : 0              RTCP Interface Errors  : 0
Total RET BW (Kbps)    : 0              Max. RET BW (Kbps)     : 0
Total FCC BW (Kbps)    : 0              Drop Count for FCC     : 0
Mcast RET Req for RTCP : 0              Mcast RET Req for RUDP : 0
Mcast RET Created      : 0              Mcast RET Req Quenched : 0
HighPkt pool limit hit : 0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Pkts Lost (1-10)       : 0             Pkts Lost (11-20)      : 0
Pkts Lost (21-30)      : 0             Pkts Lost (31-40)      : 0
Pkts Lost ( >40)       : 0
-------------------------------------------------------------------------------
ESA-VM 7/1 Summary current hour (12:53:06 to 13:14:50)
                        BW (Kbps)               Time
Peak FCC                8658                    Mon Jun  7 13:14:10 UTC 2021
Peak RET                0                       Never
Peak Total              8658                    Mon Jun  7 13:14:10 UTC 2021
                        Sessions                Time
Peak FCC                1                       Mon Jun  7 13:14:10 UTC 2021
Peak RET                0                       Never
Peak Total              1                       Mon Jun  7 13:14:10 UTC 2021
-------------------------------------------------------------------------------
ESA-VM 7/1 Summary last hour (11:53:06 to 12:53:06)
                        BW (Kbps)               Time
Peak FCC                8436                    Mon Jun  7 12:25:08 UTC 2021
Peak RET                0                       Never
Peak Total              8436                    Mon Jun  7 12:25:08 UTC 2021
                        Sessions                Time
Peak FCC                1                       Mon Jun  7 12:25:08 UTC 2021
Peak RET                0                       Never
Peak Total              1                       Mon Jun  7 12:25:08 UTC 2021
-------------------------------------------------------------------------------
ESA-VM 7/1 Summary lifetime
                        BW (Kbps)               Time
Peak FCC                8658                    Mon Jun  7 13:14:10 UTC 2021
Peak RET                0                       Never
Peak Total              8658                    Mon Jun  7 13:14:10 UTC 2021
                        Sessions                Time
Peak FCC                1                       Mon Jun  7 12:25:08 UTC 2021
Peak RET                0                       Never
Peak Total              1                       Mon Jun  7 12:25:08 UTC 2021
-------------------------------------------------------------------------------
Video-groups : 1
===============================================================================
* indicates that the corresponding row element may have been truncated.
```

29.7 view

view

Syntax

view [*view-name*] [**detail**]

Context

[Tree] (show>system>security view)

Full Context

show system security view

Description

This command lists one or all views and permissions in the MIB-OID tree.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

view-name

Specifies the name of the view to display output. If no view name is specified, the complete list of views displays.

detail

Displays detailed view information.

Platforms

All

Output

The following output is an example of system security views.

Table 697: Output fields: system security view describes system security view output fields.

Output Example

```
A:ALA-1# show system security view
===============================================================================
Views
===============================================================================
view name         oid tree                        mask             permission
-------------------------------------------------------------------------------
iso               1                                                included
no-security       1                                                included
no-security       1.3.6.1.6.3                                      excluded
no-security       1.3.6.1.6.3.10.2.1                               included
no-security       1.3.6.1.6.3.11.2.1                               included
no-security       1.3.6.1.6.3.15.1.1                               included
-------------------------------------------------------------------------------
No. of Views: 6
===============================================================================
A:ALA-1#
```

```
A:ALA-1# show system security view no-security detail
===============================================================================
Views
===============================================================================
view name         oid tree                        mask             permission
-------------------------------------------------------------------------------
no-security       1                                                included
no-security       1.3.6.1.6.3                                      excluded
no-security       1.3.6.1.6.3.10.2.1                               included
no-security       1.3.6.1.6.3.11.2.1                               included
no-security       1.3.6.1.6.3.15.1.1                               included
-------------------------------------------------------------------------------
No. of Views: 5
===============================================================================
=======================================
no-security used in
=======================================
group name
---------------------------------------
snmp-ro
snmp-rw
=======================================
A:ALA-1#
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 697: Output fields: system security view

Label	Description
View name	Displays the name of the view. Views control the accessibility of a MIB object within the configured MIB view and subtree.
OID tree	Displays the Object Identifier (OID) value. OIDs uniquely identify MIB objects in the subtree.
Mask	Displays the mask value and the mask type, along with the *oid-value* configured in the **view** command, determines the access of each sub-identifier of an object identifier (MIB subtree) in the view.
Permission	Included — Specifies to include MIB subtree objects. Excluded — Specifies to exclude MIB subtree objects.
No. of Views	Displays the total number of configured views.
Group name	Displays the access group name.

29.8 violators

violators

Syntax

violators [**port**] [**interface**] [**sap**] [**video**] [**sdp**]

Context

[Tree] (show>system>security>cpu-protection violators)

Full Context

show system security cpu-protection violators

Description

This command displays all interfaces, ports or SAPs with CPU protection policy violators. It also includes objects (SAPs, interfaces) that exceed the out-profile-rate and have the log-events keyword enabled for the out-profile-rate in the cpu-protection policy associated with the object.

Parameters

port

Displays violators associated with the port.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

interface

Displays violators associated with the interface.

sap

Displays violators associated with the SAP.

video

Displays violators associated with the video entity.

sdp

Displays violators associated with the SDP.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

Output

The following output is an example of CPU protection violators information.

Output Example

```
*A:SecuritySR7>config>sys>security>cpu-protection>policy# show system security
 cpu-protection violators
===============================================================================
Ports where a rate limit is violated
===============================================================================
Port-Id
  Type Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
No ports found
===============================================================================
Interfaces where the protection policy overall rate limit is violated
===============================================================================
Interface-Name                                 Router-Name
  Plcy Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
toIxia                                         Base
  255  1000  10/02/2012 18:38:23 10/02/2012 18:39:31 70
-------------------------------------------------------------------------------
1 interface(s) found
===============================================================================
SAP's where the protection policy overall rate limit is violated
===============================================================================
SAP-Id                                         Service-Id
  Plcy Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
No SAP's found
===============================================================================

SDP's where the protection policy overall rate limit is violated
===============================================================================
SDP-Id           Service-Id
  Plcy Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
No SDP's found
===============================================================================
Video clients where the protection policy per-source rate limit is violated
===============================================================================
Client IP Address  Video-Interface                Service-Id
  Plcy Limit First-Time          Last-Time           Violation-Periods
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No clients found
===============================================================================
```

violators

Syntax

violators [**port**] [**interface**] [**sap**]

Context

[Tree] (clear>cpu-protection violators)

Full Context

clear cpu-protection violators

Description

This command clears the rate limit violator record.

Parameters

port

Clears entries for ports.

interface

Clears entries for interfaces.

sap

Clears entries for SAPs.

Platforms

7450 ESS, 7750 SR-7/12/12e, 7750 SR-7s, 7750 SR-14s, 7950 XRS

violators

Syntax

violators enforcement {**sap** | **interface**} **card** *slot-number* [**fp** *fp-number*]

violators local-monitor {**sap** | **interface**} **card** *slot-number* [**fp** *fp-number*]

Context

[Tree] (tools>dump>security>dist-cpu-protection violators)

Full Context

tools dump security dist-cpu-protection violators

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command shows the nonconforming enforcement policers and local monitors.

Parameters

sap

-Indicates to display the violators associated with SAPs

interface

- Indicates to display the violators associated with router interfaces.

enforcement

Shows exceed and hold-down for Static and Dynamic Policers.

local-monitor

Shows state of dynamic policer allocation for Local Monitoring Policers.

card *slot-number*

The physical slot number for the card.

Values 1 to n (n is platform dependent)

fp *fp-number*

Identifies the instance of the FP (FastPath) chipset. Some cards have a single FP and some cards can contain multiple FPs (for example, an XCM can house multiple FPs via its two XMAs).

Values 1 to 8

Platforms

All

Output

Users Output

Table 698: Output fields: parameters describes show users output fields.

Output Example

```
*A:Dut-A# tools dump security dist-cpu-protection violators enforcement interface
 card 4 fp 1
===============================================================================
Distributed Cpu Protection Current Interface Enforcer Policer Violators
===============================================================================
Interface                       Policer/Protocol                    Hld Rem
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Violators on Slot-4 Fp-1
-------------------------------------------------------------------------------
test                            staticArpPolicer               [S] none
test                            icmp                           [D] none
test                            ospf                           [D] none
-------------------------------------------------------------------------------
[S]-Static [D]-Dynamic [M]-Monitor
-------------------------------------------------------------------------------
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 698: Output fields: parameters

Label	Description
Interface	The name of the router interface
Policer/Protocol	The configured name of the static policer (indicated with an [S]) or the DCP protocol name for a dynamic policer (indicated with a [D]).
[S] / [D]	indicates a static vs dynamic policer
Hld Rem	The remaining time in the hold-down countdown during which a policer is treating all packets as exceeding.

29.9 virtual

virtual

Syntax

virtual

Context

[Tree] (show>card virtual)

Full Context

show card virtual

Description

Commands in this context display virtual card information.

Platforms

VSR

virtual

Syntax

virtual

Context

[Tree] (clear>card virtual)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

clear card virtual

Description

Commands in this context clear virtual card statistics.

Platforms

VSR

29.10 virtual-link

virtual-link

Syntax

virtual-link [**detail**]

virtual-link database [**detail**]

Context

[Tree] (show>router>ospf virtual-link)

Full Context

show router ospf virtual-link

Description

This command displays information for OSPF virtual links.

Parameters

database

Displays the virtual link database.

detail

Displays operational and statistical information about virtual links associated with this router.

Platforms

All

Output

The following output is an example of OSPF virtual link information, and Table 699: Output fields: OSPF virtual link describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show router ospf virtual-link detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Virtual Links (detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor Router Id : 10.0.0.3
-------------------------------------------------------------------------------
Nbr Router Id  : 10.0.0.3              Area Id        : 0.0.0.1
Local Interface: 1.2.3.2
Metric         : 10
State          : Point To Point        Admin State    : Up
Hello Intrvl   : 10 sec                Rtr Dead Intrvl: 60 sec
Tot Rx Packets : 10                    Tot Tx Packets : 10
Rx Hellos      : 1                     Tx Hellos      : 2
Rx DBDs        : 2                     Tx DBDs        : 3
Rx LSRs        : 1                     Tx LSRs        : 1
Rx LSUs        : 4                     Tx LSUs        : 3
Rx LS Acks     : 2                     Tx LS Acks     : 1
Discards       : 0                     Tx Failures    : 0
                                       Retransmits    : 0
Bad Networks   : 0                     Bad Versions   : 0
Bad Areas      : 0                     Bad Dest Addrs : 0
Bad Auth Types : 0                     Auth Failures  : 0
Bad Neighbors  : 0                     Bad Pkt Types  : 0
Bad Lengths    : 0                     Bad Hello Int. : 0
Bad Dead Int.  : 0                     Bad Options    : 0
Retrans Intrvl : 5 sec                 Transit Delay  : 1 sec
Last Event     : 08/12/2021 12:56:23   Authentication : None
IPsec In Sta SA:                       IPsec Out Sta *:
IPsec In Sta S*:
LSA Count      : 0                     LSA Checksum   : 0x0
===============================================================================
```

Table 699: Output fields: OSPF virtual link

Label	Description
Nbr Rtr ID	The router ID(s) of neighboring routers.
Area Id	A 32-bit integer which identifies an area.
Local Interface	The IP address of the local egress interface used to maintain the adjacency to reach this virtual neighbor.
Metric	The metric value associated with the route. This value is used when importing this static route into other protocols. When the metric is configured as zero, the metric configured in OSPF, default-import-metric, applies. This value is also used to determine the static route installed in the forwarding table.
State	The operational state of the virtual link to the neighboring router.
Authentication	Specifies whether authentication is enabled for the interface or virtual link.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Hello Intrval	Specifies the length of time, in seconds, between the Hello packets that the router sends on the interface.
Rtr Dead Intrvl	Specifies the total number of OSPF packets received where the dead interval given in the packet was not equal to that configured on this interface since the OSPF admin status was enabled.
Tot Rx Packets	Specifies the total number of OSPF packets received on this interface since the OSPF admin status was enabled.
Rx Hellos	Specifies the total number of OSPF Hello packets received on this interface since the OSPF admin status was enabled.
Rx DBDs	Specifies the total number of OSPF Database Description packets received on this interface since the OSPF administrative status was enabled.
Rx LSRs	Specifies the total number of Link State Requests (LSRs) received on this interface since the OSPF admin status was enabled.
Rx LSUs	Specifies the total number of Link State Updates (LSUs) received on this interface since the OSPF admin status was enabled.
Rx LS Acks	Specifies the total number of Link State Acknowledgments received on this interface since the OSPF admin status was enabled.
Tot Tx Packets	Specifies the total number of OSPF packets transmitted on this virtual interface since it was created.
Tx Hellos	Specifies the total number of OSPF Hello packets transmitted on this virtual interface since it was created.
Tx DBDs	Specifies the total number of OSPF database description packets transmitted on this virtual interface.
Tx LSRs	Specifies the total number of OSPF Link State Requests (LSRs) transmitted on this virtual interface.
Tx LSUs	Specifies the total number of OSPF Hello packets transmitted on this interface since the OSPF admin status was enabled.
Tx LS Acks	Specifies the total number of OSPF Link State Acknowledgments (LSA) transmitted on this virtual interface.
Retransmits	Specifies the total number of OSPF retransmits sent on this interface since the OSPF admin status was last enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Discards	Specifies the total number of OSPF packets discarded on this interface since the OSPF admin status was last enabled.
Bad Networks	Specifies the total number of OSPF packets received with invalid network or mask since the OSPF admin status was last enabled.
Bad Versions	Specifies the total number of OSPF packets received with bad OSPF version numbers since the OSPF admin status was last enabled.
Bad Areas	Specifies the total number of OSPF packets received with an area mismatch since the OSPF admin status was last enabled.
Bad Dest Addrs	Specifies the total number of OSPF packets received with the incorrect IP destination address since the OSPF admin status was last enabled.
Bad Auth Types	Specifies the total number of OSPF packets received with an invalid authorization type since the OSPF admin status was last enabled.
Auth Failures	Specifies the total number of OSPF packets received with an invalid authorization key since the OSPF admin status was last enabled.
Bad Neighbors	Specifies the total number of OSPF packets received where the neighbor information does not match the information this router has for the neighbor since the OSPF admin status was last enabled.
Bad Pkt Types	Specifies the total number of OSPF packets received with an invalid OSPF packet type since the OSPF admin status was last enabled.
Bad Lengths	Specifies the total number of OSPF packets received on this interface with a total length not equal to the length given in the packet itself since the OSPF admin status was last enabled.
Bad Hello Int.	Specifies the total number of OSPF packets received where the hello interval given in packet was not equal to that configured on this interface since the OSPF admin status was last enabled.
Bad Dead Int.	Specifies the total number of OSPF packets received where the dead interval given in the packet was not equal to that configured on this interface since the OSPF admin status was last enabled.
Bad Options	Specifies the total number of OSPF packets received with an option that does not match those configured for this interface or area since the OSPF admin status was last enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Retrans Intrvl	Specifies the length of time, in seconds, that OSPF waits before retransmitting an unacknowledged link state advertisement (LSA) to an OSPF neighbor.
Transit Delay	Specifies the time, in seconds, it takes to transmit a link state advertisement (LSA) on the interface or virtual link.
Last Event	Specifies the date and time when an event was last associated with this OSPF interface.
Tx Failures	Transmitted OSPF packets that are dropped due to resource shortage.

virtual-link

Syntax

virtual-link [**detail**]

virtual-link [**detail**] **database**

Context

[Tree] (show>router>ospf3 virtual-link)

Full Context

show router ospf3 virtual-link

Description

This command displays information for OSPFv3 virtual links.

Parameters

database

Displays the virtual link database.

detail

Displays operational and statistical information about virtual links associated with this router.

Platforms

All

Output

The following output is an example of OSPFv3 virtual link information, and Table 700: Output fields: OSPF3 virtual link describes the output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
show router ospf3 virtual-link detail
===============================================================================
Rtr Base OSPFv3 Instance 0 Virtual Links (detail)
===============================================================================
-------------------------------------------------------------------------------
Neighbor Router Id : 10.0.0.2
-------------------------------------------------------------------------------
Nbr Router Id  : 10.0.0.2               Area Id        : 0.0.0.1
Local Interface: 3ffe::101:201
Metric         : 10
State          : Point To Point         Admin State    : Up
Hello Intrvl   : 10 sec                 Rtr Dead Intrvl: 60 sec
Tot Rx Packets : 42                     Tot Tx Packets : 15
Rx Hellos      : 29                     Tx Hellos      : 3
Rx DBDs        : 2                      Tx DBDs        : 3
Rx LSRs        : 1                      Tx LSRs        : 1
Rx LSUs        : 7                      Tx LSUs        : 6
Rx LS Acks     : 3                      Tx LS Acks     : 2
Discards       : 0                      Tx Failures    : 0
                                        Retransmits    : 1
Bad Networks   : 0                      Bad Versions   : 0
Bad Areas      : 0                      Bad Dest Addrs : 0
Bad Auth Types : 0                      Auth Failures  : 0
Bad Neighbors  : 0                      Bad Pkt Types  : 0
Bad Lengths    : 0                      Bad Hello Int. : 0
Bad Dead Int.  : 0                      Bad Options    : 0
Retrans Intrvl : 5 sec                  Transit Delay  : 1 sec
Last Event     : 08/12/2021 12:58:28    Authentication : None
IPsec In Sta SA:                        IPsec Out Sta *:
IPsec In Sta S*:
LSA Count      : 0                      LSA Checksum   : 0x0
===============================================================================
```

Table 700: Output fields: OSPF3 virtual link

Label	Description
Nbr Rtr ID	The router ID(s) of neighboring routers.
Area Id	A 32-bit integer which identifies an area.
Local Interface	The IP address of the local egress interface used to maintain the adjacency to reach this virtual neighbor.
Metric	The metric value associated with the route. This value is used when importing this static route into other protocols. When the metric is configured as zero, the metric configured in OSPF, default-import-metric, applies. This value is also used to determine which static route to install in the forwarding table.
State	The operational state of the virtual link to the neighboring router.
Authentication	Specifies whether authentication is enabled for the interface or virtual link.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Hello Intrval	Specifies the length of time, in seconds, between the Hello packets that the router sends on the interface.
Rtr Dead Intrvl	Specifies the total number of OSPF packets received where the dead interval given in the packet was not equal to that configured on this interface since the OSPF admin status was enabled.
Tot Rx Packets	Specifies the total number of OSPF packets received on this interface since the OSPF admin status was enabled.
Rx Hellos	Specifies the total number of OSPF Hello packets received on this interface since the OSPF admin status was enabled.
Rx DBDs	Specifies the total number of OSPF Database Description packets received on this interface since the OSPF administrative status was enabled.
Rx LSRs	Specifies the total number of Link State Requests (LSRs) received on this interface since the OSPF admin status was enabled.
Rx LSUs	Specifies the total number of Link State Updates (LSUs) received on this interface since the OSPF admin status was enabled.
Rx LS Acks	Specifies the total number of Link State Acknowledgments received on this interface since the OSPF admin status was enabled.
Tot Tx Packets	Specifies the total number of OSPF packets transmitted on this virtual interface since it was created.
Tx Hellos	Specifies the total number of OSPF Hello packets transmitted on this virtual interface since it was created.
Tx DBDs	Specifies the total number of OSPF database description packets transmitted on this virtual interface.
Tx LSRs	Specifies the total number of OSPF Link State Requests (LSRs) transmitted on this virtual interface.
Tx LSUs	Specifies the total number of OSPF Hello packets transmitted on this interface since the OSPF admin status was enabled.
Tx LS Acks	Specifies the total number of OSPF Link State Acknowledgments (LSA) transmitted on this virtual interface.
Retransmits	Specifies the total number of OSPF retransmits sent on this interface since the OSPF admin status was last enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Discards	Specifies the total number of OSPF packets discarded on this interface since the OSPF admin status was last enabled.
Bad Networks	Specifies the total number of OSPF packets received with invalid network or mask since the OSPF admin status was last enabled.
Bad Versions	Specifies the total number of OSPF packets received with bad OSPF version numbers since the OSPF admin status was last enabled.
Bad Areas	Specifies the total number of OSPF packets received with an area mismatch since the OSPF admin status was last enabled.
Bad Dest Addrs	Specifies the total number of OSPF packets received with the incorrect IP destination address since the OSPF admin status was last enabled.
Bad Auth Types	Specifies the total number of OSPF packets received with an invalid authorization type since the OSPF admin status was last enabled.
Auth Failures	Specifies the total number of OSPF packets received with an invalid authorization key since the OSPF admin status was last enabled.
Bad Neighbors	Specifies the total number of OSPF packets received where the neighbor information does not match the information this router has for the neighbor since the OSPF admin status was last enabled.
Bad Pkt Types	Specifies the total number of OSPF packets received with an invalid OSPF packet type since the OSPF admin status was last enabled.
Bad Lengths	Specifies the total number of OSPF packets received on this interface with a total length not equal to the length given in the packet itself since the OSPF admin status was last enabled.
Bad Hello Int.	Specifies the total number of OSPF packets received where the hello interval given in packet was not equal to that configured on this interface since the OSPF admin status was last enabled.
Bad Dead Int.	Specifies the total number of OSPF packets received where the dead interval given in the packet was not equal to that configured on this interface since the OSPF admin status was last enabled.
Bad Options	Specifies the total number of OSPF packets received with an option that does not match those configured for this interface or area since the OSPF admin status was last enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Retrans Intrvl	Specifies the length of time, in seconds, that OSPF waits before retransmitting an unacknowledged link state advertisement (LSA) to an OSPF neighbor.
Transit Delay	Specifies the time, in seconds, it takes to transmit a link state advertisement (LSA) on the interface or virtual link.
Last Event	Specifies the date and time when an event was last associated with this OSPF interface.
Tx Failures	Transmitted OSPF packets that are dropped due to resource shortage.

virtual-link

Syntax

virtual-link *nbr-rtr-id* **area** *area-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

Context

[Tree] (monitor>router>ospf3 virtual-link)

[Tree] (monitor>router>ospf virtual-link)

Full Context

monitor router ospf3 virtual-link

monitor router ospf virtual-link

Description

This command displays statistical OSPF virtual link information at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified neighbor(s). The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

nbr-rtr-id

Specifies the IP address to uniquely identify a neighboring router in the autonomous system.

Values a.b.c.d

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

area-id

Specifies the OSPF area ID, expressed in dotted decimal notation or as a 32-bit decimal integer.

Values *ip-address*, 0 to 4294967295

seconds

Configures the interval for each display, in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

29.11 virtual-neighbor

virtual-neighbor

Syntax

virtual-neighbor [**remote** *ip-address*] [**detail**]

Context

[Tree] (show>router>ospf virtual-neighbor)

[Tree] (show>router>ospf3 virtual-neighbor)

Full Context

show router ospf virtual-neighbor

show router ospf3 virtual-neighbor

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays virtual neighbor information.

Parameters

remote *ip-address*

Displays the specified IPv4 or IPv6 address. This reduces the amount of output displayed.

Values ipv4-address:

- a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF]H
- d: [0 to 255]D

detail

Produces detailed information on the virtual neighbor. This option produces a large amount of data. It is recommended to use **detail** only when requesting information for a specific neighbor.

Platforms

All

Output

OSPF Virtual Neighbor Output

Table 701: Output fields: OSPF virtual neighbor describes OSPF virtual neighbor output fields.

Table 701: Output fields: OSPF virtual neighbor

Label	Description
Nbr IP Addr	The IP address this neighbor is using in its IP source address. On addressless links, this will not be 0.0.0.0, but the address of another of the neighbor's interfaces.
Nbr Rtr ID	Specifies the router ID(s) of neighboring routers.
Transit Area	Specifies the transit area ID that links the backbone area with the area that has no physical connection with the backbone.
Retrans Q Length	The current length of the retransmission queue.
No. of Neighbors	Specifies the total number of OSPF neighbors adjacent on this interface, in a state of INIT or greater, since the OSPF admin status was enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Nbr State	Specifies the operational state of the virtual link to the neighboring router.
Options	Specifies the total number of OSPF packets received with an option that does not match those configured for this virtual interface or transit area since the OSPF admin status was enabled.
Events	Specifies the total number of events that have occurred since the OSPF admin status was enabled.
Last Event Time	Specifies the date and time when an event was last associated with this OSPF interface.
Up Time	Specifies the uninterrupted time, in hundredths of seconds, the adjacency to this neighbor has been up.
Time Before Dead	Specifies the amount of time, in seconds, until the dead router interval expires.
Bad Nbr States	Specifies the total number of OSPF packets received where the neighbor information does not match the information this router has for the neighbor since the OSPF admin status was last enabled.
LSA Inst fails	Specifies the total number of times an LSA could not be installed into the LSDB due to a resource allocation issue since the OSPF admin status was last enabled.
Bad Seq Nums	Specifies the total number of times when a database description packet was received with a sequence number mismatch since the OSPF admin status was last enabled.
Bad MTUs	Specifies the total number of times when the MTU in a received database description packet was larger than the MTU of the receiving interface since the OSPF admin status was enabled.
Bad Packets	Specifies the total number of times when an LS update was received with an illegal LS type or an option mismatch since the OSPF admin status was enabled.
LSA not in LSDB	Specifies the total number of times when an LS request was received for an LSA not installed in the LSDB of this router since the OSPF admin status was enabled.
Option Mismatches	Specifies the total number of times when a LS update was received with an option mismatch since the OSPF admin status was enabled.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Nbr Duplicates	Specifies the total number of times when a duplicate database description packet was received during the Exchange state since the OSPF admin status was enabled.

Output Example

```
A:ALA-A# show router ospf 1 virtual-neighbor
===============================================================================
Rtr Base OSPFv2 Instance 1 Virtual Neighbors
===============================================================================
Nbr IP Addr     Nbr Rtr Id      Nbr State Transit Area    RetxQ Len  Dead Time
-------------------------------------------------------------------------------
180.1.6.10      180.0.0.10      Full      0.0.0.1         0          58
180.2.9.10      180.0.0.10      Full      0.0.0.2         0          52
-------------------------------------------------------------------------------
No. of Neighbors: 2
===============================================================================
A:ALA-A#

A:ALA-A# show router ospf virtual-neighbor detail
===============================================================================
Rtr Base OSPFv2 Instance 0 Virtual Neighbors (detail)
===============================================================================
Virtual Neighbor Router Id : 180.0.0.10
-------------------------------------------------------------------------------
Neighbor IP Addr : 180.1.6.10           Neighbor Rtr Id  : 180.0.0.10
Neighbor State   : Full                 Transit Area     : 0.0.0.1
Retrans Q Length : 0                    Options          : -E--
Events           : 4                    Last Event Time  : 11/07/2006 17:11:56
Up Time          : 2d 17:47:17          Time Before Dead : 57 sec
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
-------------------------------------------------------------------------------
Virtual Neighbor Router Id : 180.0.0.10
-------------------------------------------------------------------------------
Neighbor IP Addr : 180.2.9.10           Neighbor Rtr Id  : 180.0.0.10
Neighbor State   : Full                 Transit Area     : 0.0.0.2
Retrans Q Length : 0                    Options          : -E--
Events           : 4                    Last Event Time  : 11/07/2006 17:11:59
Up Time          : 2d 17:47:14          Time Before Dead : 59 sec
Bad Nbr States   : 1                    LSA Inst fails   : 0
Bad Seq Nums     : 0                    Bad MTUs         : 0
Bad Packets      : 0                    LSA not in LSDB  : 0
Option Mismatches: 0                    Nbr Duplicates   : 0
===============================================================================
A:ALA-A#
```

virtual-neighbor

Syntax

virtual-neighbor *nbr-rtr-id* **area** *area-id* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (monitor>router>ospf3 virtual-neighbor)

[Tree] (monitor>router>ospf virtual-neighbor)

Full Context

monitor router ospf3 virtual-neighbor

monitor router ospf virtual-neighbor

Description

This command displays statistical OSPF virtual neighbor information at the configured interval until the configured count is reached.

The first screen displays the current statistics related to the specified OSPF virtual neighbor router. The subsequent statistical information listed for each interval is displayed as a delta to the previous display.

When the keyword **rate** is specified, the rate-per-second for each statistic is displayed instead of the delta.

Monitor commands are similar to **show** commands but only statistical information displays. Monitor commands display the selected statistics according to the configured number of times at the interval specified.

Parameters

nbr-rtr-id

Specifies the IP address to uniquely identify a neighboring router in the autonomous system.

Values a.b.c.d

area-id

Specifies the OSPF area ID, expressed in dotted decimal notation or as a 32-bit decimal integer.

Values *ip-address*, 0 to 4294967295

seconds

Configures the interval for each display, in seconds.

Values 3 to 60

Default 10

repeat

Configures how many times the command is repeated.

Values 1 to 999

Default 10

absolute

Displays raw statistics, without processing. No calculations are performed on the delta or rate statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

rate

Displays rate-per-second for each statistic instead of the delta.

Platforms

All

29.12 virtual-subnet

virtual-subnet

Syntax

virtual-subnet subscriber *sub-ident*

virtual-subnet [**sap** *sap-id*]

Context

[Tree] (show>service>id virtual-subnet)

Full Context

show service id virtual-subnet

Description

This command displays currently recorded default gateway and subnets for all virtual subnets enabled for DHCPv4 hosts in the specified service.

Parameters

sub-ident

Displays information relating to the specified subscriber ID.

sap-id

Displays information relating to the specified SAP ID.

Platforms

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

Output

The following output is an example of virtual subnet information.

Output Example

```
show service id 500 virtual-subnet
===============================================================================
Virtual subnets in service 500
===============================================================================
Subscriber                  : 00:20:fc:1e:cd:52|1/1/9:200
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Default router              : 192.168.100.254
Subnet                      : 192.168.100.0/24
SAP                         : 1/1/9:200
-------------------------------------------------------------------------------
No. of subnets: 1
===============================================================================
```

Table 702: Output fields: virtual subnet describes virtual subnet output fields.

Table 702: Output fields: virtual subnet

Field	Descriptions
Subscriber	The service identification that identifies the service in the service domain
Default router	The IP address of the default router received from either the DHCP or the RADIUS server
Subnet	The IP address of the subnet
SAP	The SAP associated with the service
No. of subnets	The total number of subnets for the service

29.13 vlan-aware-bundle

vlan-aware-bundle

Syntax

vlan-aware-bundle [*name*]

vlan-aware-bundle *name* **fdb** [**detail**]

vlan-aware-bundle *name* **evpn-mpls** [**detail**]

vlan-aware-bundle *name* **segment-routing-v6** [**detail**] [**destinations**]

vlan-aware-bundle *name* **vxlan** [**detail**] [**destinations**]

Context

[Tree] (show>service vlan-aware-bundle)

Full Context

show service vlan-aware-bundle

Description

This command displays VLAN-aware bundle information for the specified service.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

name

Displays the bundle name.

detail

Keyword used to display detailed information.

destinations

Keyword used to display information about EVPN-MPLS, VXLAN, and SRv6 destinations.

Platforms

All

Output

The following output is an example of VLAN-aware bundle information and Table 703: Output fields: VLAN-aware bundle describes VLAN-aware bundle output fields.

Output Example

```
# show service vlan-aware-bundle

===============================================================
VLAN Aware Bundle
===============================================================
Bundle                          Service Id Eth Tag   Evi
---------------------------------------------------------------
bundle0                         1          1         1
                                2          2         2
                                3          3         3
bundle1                         4          4         4
                                5          5         5
bundle2                         6          6         6
---------------------------------------------------------------
Number of entries: 6
---------------------------------------------------------------
===============================================================================
VLAN Aware Bundle Summary
===============================================================================
MAC Entries                          : 2
EVPN-MPLS Destinations               : 2
EVPN-MPLS Ethernet Segment Destinations: 0
VXLAN Destinations                   : 0
VXLAN Ethernet Segment Destinations  : 0
SRv6 Destinations                    : 2
SRv6 Ethernet segment Destinations   : 0
===============================================================================
```

```
# show service vlan-aware-bundle  "bundle0"

===============================================================
VLAN Aware Bundle Services
===============================================================
Bundle                          Service Id Eth Tag   Evi
---------------------------------------------------------------
bundle0                         1          1         1
                                2          2         2
                                3          3         3
---------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Number of entries: 3
-------------------------------------------------------------
=============================================================
===============================================================================
Vlan-Aware-Bundle Summary
===============================================================================
MAC Entries:                                    4
EVPN-MPLS Destinations:                         4
EVPN-MPLS Ethernet Segment Destinations:        4
VXLAN Destinations:                             4
VXLAN Ethernet Segment Destinations:            4
SRv6 Destinations:                              4
SRv6 Ethernet Segment Destinations:             4
```

```
# show service vlan-aware-bundle bundle0 fdb
===============================================================================
Service Id: 1  Name: mac_vrf_1

===============================================================================
Forwarding Database, Service 1
===============================================================================
ServId     MAC               Source-Identifier       Type     Last Change
            Transport:Tnl-Id                         Age
-------------------------------------------------------------------------------
1          00:00:00:11:11:11 srv6-1:                 EvpnS:P  12/13/23 16:55:23
                             10.20.1.2
           222:1:1:1:1:e572::
1          00:00:00:11:11:12 srv6-1:                 EvpnS:P  12/13/23 16:55:23
                             10.20.1.2
           222:1:1:1:1:e572::
-------------------------------------------------------------------------------
No. of MAC Entries: 2
-------------------------------------------------------------------------------
Legend:L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf T=Trusted
===============================================================================
===============================================================================
Service Id: 2  Name: mac_vrf_2

===============================================================================
Forwarding Database, Service 2
===============================================================================
ServId     MAC               Source-Identifier       Type     Last Change
            Transport:Tnl-Id                         Age
-------------------------------------------------------------------------------
2          00:00:00:11:11:11 vxlan-1:                EvpnS:P  12/13/23 16:55:50
                             10.20.1.2:2
2          00:00:00:11:11:12 vxlan-1:                EvpnS:P  12/13/23 16:55:59
                             10.20.1.2:2
2          00:02:fe:ff:ff:3f vxlan-1:                EvpnS:P  12/13/23 16:42:24
                             10.20.1.2:2
2          00:03:fe:ff:ff:3f vxlan-1:                EvpnS:P  12/13/23 16:42:21
                             10.20.1.3:2
2          00:04:fe:ff:ff:3f cpm                     Intf     12/13/23 16:41:45
2          00:05:fe:ff:ff:3f vxlan-1:                EvpnS:P  12/13/23 16:42:22
                             10.20.1.5:2
-------------------------------------------------------------------------------
No. of MAC Entries: 6
-------------------------------------------------------------------------------
Legend:L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf T=Trusted
===============================================================================
===============================================================================
Service Id: 3  Name: mac_vrf_3
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
Forwarding Database, Service 3
===============================================================================
ServId     MAC               Source-Identifier       Type     Last Change
           Transport:Tnl-Id                          Age
-------------------------------------------------------------------------------
3          00:00:00:11:11:11 mpls-1:                 EvpnS:P  12/13/23 16:56:31
                             10.20.1.2:524285
           isis:524297
3          00:00:00:11:11:12 mpls-1:                 EvpnS:P  12/13/23 16:56:31
                             10.20.1.2:524285
           isis:524297
3          00:02:fe:ff:ff:40 mpls-1:                 EvpnS:P  12/13/23 16:42:24
                             10.20.1.2:524285
           isis:524297
3          00:03:fe:ff:ff:40 mpls-1:                 EvpnS:P  12/13/23 16:42:21
                             10.20.1.3:524286
           isis:524295
3          00:04:fe:ff:ff:40 cpm                     Intf     12/13/23 16:41:45
3          00:05:fe:ff:ff:40 mpls-1:                 EvpnS:P  12/13/23 16:42:22
                             10.20.1.5:524284
           isis:524298
-------------------------------------------------------------------------------
No. of MAC Entries: 6
-------------------------------------------------------------------------------
Legend:L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf T=Trusted
===============================================================================
```

```
# show service vlan-aware-bundle "bundle0" fdb detail
===============================================================================
Service Id: 1  Name: mac_vrf_1

===============================================================================
Forwarding Database, Service 1
===============================================================================
ServId     MAC               Source-Identifier       Type     Last Change
           Transport:Tnl-Id                          Age
-------------------------------------------------------------------------------
1          00:00:00:11:11:11 srv6-1:                 EvpnS:P  12/13/23 16:55:23
                             10.20.1.2
           222:1:1:1:1:e572::
1          00:00:00:11:11:12 srv6-1:                 EvpnS:P  12/13/23 16:55:23
                             10.20.1.2
           222:1:1:1:1:e572::
-------------------------------------------------------------------------------
No. of MAC Entries: 2
-------------------------------------------------------------------------------
Legend:L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf T=Trusted
===============================================================================
===============================================================================
Service Id: 2  Name: mac_vrf_2

===============================================================================
Forwarding Database, Service 2
===============================================================================
ServId     MAC               Source-Identifier       Type     Last Change
           Transport:Tnl-Id                          Age
-------------------------------------------------------------------------------
2          00:00:00:11:11:11 vxlan-1:                EvpnS:P  12/13/23 16:55:50
                             10.20.1.2:2
2          00:00:00:11:11:12 vxlan-1:                EvpnS:P  12/13/23 16:55:59
                             10.20.1.2:2
2          00:02:fe:ff:ff:3f vxlan-1:                EvpnS:P  12/13/23 16:42:24
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                            10.20.1.2:2
2          00:03:fe:ff:ff:3f vxlan-1:                EvpnS:P  12/13/23 16:42:21
                            10.20.1.3:2
2          00:04:fe:ff:ff:3f cpm                     Intf     12/13/23 16:41:45
2          00:05:fe:ff:ff:3f vxlan-1:                EvpnS:P  12/13/23 16:42:22
                            10.20.1.5:2
-------------------------------------------------------------------------------
No. of MAC Entries: 6
-------------------------------------------------------------------------------
Legend:L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf T=Trusted
===============================================================================
===============================================================================
Service Id: 3  Name: mac_vrf_3

===============================================================================
Forwarding Database, Service 3
===============================================================================
ServId     MAC               Source-Identifier       Type     Last Change
            Transport:Tnl-Id                         Age
-------------------------------------------------------------------------------
3          00:00:00:11:11:11 mpls-1:                 EvpnS:P  12/13/23 16:56:31
                            10.20.1.2:524285
           isis:524297
3          00:00:00:11:11:12 mpls-1:                 EvpnS:P  12/13/23 16:56:31
                            10.20.1.2:524285
           isis:524297
3          00:02:fe:ff:ff:40 mpls-1:                 EvpnS:P  12/13/23 16:42:24
                            10.20.1.2:524285
           isis:524297
3          00:03:fe:ff:ff:40 mpls-1:                 EvpnS:P  12/13/23 16:42:21
                            10.20.1.3:524286
           isis:524295
3          00:04:fe:ff:ff:40 cpm                     Intf     12/13/23 16:41:45
3          00:05:fe:ff:ff:40 mpls-1:                 EvpnS:P  12/13/23 16:42:22
                            10.20.1.5:524284
           isis:524298
-------------------------------------------------------------------------------
No. of MAC Entries: 6
-------------------------------------------------------------------------------
Legend:L=Learned O=Oam P=Protected-MAC C=Conditional S=Static Lf=Leaf T=Trusted
===============================================================================
```

```
# show service vlan-aware-bundle bundle0 evpn-mpls
===============================================================================
Service Id: 1  Name: mac_vrf_1

===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                    Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                            State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Dest (Instance 2)
===============================================================================
TEP Address                    Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                            State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 2)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS ES BMAC Dest
===============================================================================
ES BMAC Addr                             Last Change
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
Service Id: 2  Name: mac_vrf_2

===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Dest (Instance 2)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 2)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS ES BMAC Dest
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ES BMAC Addr                            Last Change
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
Service Id: 3  Name: mac_vrf_3

===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
10.20.1.2                       isis:524297       524284     Up    bum    0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:24
10.20.1.2                       isis:524297       524285     Up    none   3
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:24
10.20.1.3                       isis:524295       524285     Up    bum    0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:21
10.20.1.3                       isis:524295       524286     Up    none   1
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:21
10.20.1.5                       isis:524298       524283     Up    bum    0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:22
10.20.1.5                       isis:524298       524284     Up    none   1
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:22
-------------------------------------------------------------------------------
Number of entries: 6
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
BGP EVPN-MPLS Dest (Instance 2)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                       Num. Macs               Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 2)
===============================================================================
Eth SegId                       Num. Macs               Last Update
-------------------------------------------------------------------------------
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS ES BMAC Dest
===============================================================================
ES BMAC Addr                            Last Change
-------------------------------------------------------------------------------
No Matching Entries
===========
```

```
# show service vlan-aware-bundle bundle0 evpn-mpls detail
===============================================================================
Service Id: 1  Name: mac_vrf_1

===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Dest (Instance 2)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 2)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS ES BMAC Dest
===============================================================================
ES BMAC Addr                            Last Change
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
Service Id: 2  Name: mac_vrf_2

===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                                                  State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Dest (Instance 2)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 2)
===============================================================================
Eth SegId                       Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS ES BMAC Dest
===============================================================================
ES BMAC Addr                             Last Change
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
===============================================================================
Service Id: 3  Name: mac_vrf_3

===============================================================================
BGP EVPN-MPLS Dest (Instance 1)
===============================================================================
TEP Address                     Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                             State        MACs
-------------------------------------------------------------------------------
10.20.1.2                       isis:524297       524284     Up    bum    0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:24
10.20.1.2                       isis:524297       524285     Up    none   3
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:24
10.20.1.3                       isis:524295       524285     Up    bum    0
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:21
10.20.1.3                       isis:524295       524286     Up    none   1
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:21
10.20.1.5                       isis:524298       524283     Up    bum    0
  Oper Flags       : None
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:22
10.20.1.5                     isis:524298       524284     Up    none   1
  Oper Flags       : None
  Sup BCast Domain : No
  Last Update      : 12/13/2023 16:42:22
-------------------------------------------------------------------------------
Number of entries: 6
-------------------------------------------------------------------------------
===============================================================================

===============================================================================
BGP EVPN-MPLS Dest (Instance 2)
===============================================================================
TEP Address                   Transport:Tnl     Egr Label  Oper  Mcast  Num
                                                           State        MACs
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 1)
===============================================================================
Eth SegId                     Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS Ethernet Segment Dest (Instance 2)
===============================================================================
Eth SegId                     Num. Macs              Last Update
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================

===============================================================================
BGP EVPN-MPLS ES BMAC Dest
===============================================================================
ES BMAC Addr                            Last Change
-------------------------------------------------------------------------------
No Matching Entries
===============================================================================
```

```
#show service vlan-aware-bundle bundle0 vxlan
===============================================================================
Service Id: 1  Name: mac_vrf_1
===============================================================================
Service Id: 2  Name: mac_vrf_2
===============================================================================
VPLS VXLAN, Vxlan Instance: 1, VNI: 2
===============================================================================
Creation Origin: manual
Assisted-Replication: none
RestProtSrcMacAct: none

===============================================================================
VPLS VXLAN service Network Specifics
===============================================================================
-------------------------------------------------------------------------------
Ing Net QoS Policy: none
Ingress FP QGrp   : (none)                Ing FP QGrp Inst        : (none)
VTEP security     : disabled              MAC Learning            : disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MAC Aging         : disabled               Discard Unknown Source  : disabled
MAC address limit : 0
===============================================================================
===============================================================================
Service Id: 3  Name: mac_vrf_3
```

```
#show service vlan-aware-bundle bundle0 vxlan detail
===============================================================================
Service Id: 1  Name: mac_vrf_1
===============================================================================
Service Id: 2  Name: mac_vrf_2
===============================================================================
VPLS VXLAN, Vxlan Instance: 1, VNI: 2
===============================================================================
Creation Origin: manual
Assisted-Replication: none
RestProtSrcMacAct: none

===============================================================================
VPLS VXLAN service Network Specifics
===============================================================================
-------------------------------------------------------------------------------
Ing Net QoS Policy: none
Ingress FP QGrp   : (none)                 Ing FP QGrp Inst        : (none)
VTEP security     : disabled               MAC Learning            : disabled
MAC Aging         : disabled               Discard Unknown Source  : disabled
MAC address limit : 0
===============================================================================
===============================================================================
Service Id: 3  Name: mac_vrf_3
```

```
#show service vlan-aware-bundle bundle0 segment-routing-v6
===============================================================================
Service Id: 1  Name: mac_vrf_1

===============================================================================
Segment Routing v6 Instance 1 Service 1
===============================================================================
Locator
 Type          Function  SID                                     Status
-------------------------------------------------------------------------------
dutD_L1
  End.DT2U     *124275   444:1:1:1:1:e573::                      ok
  End.DT2M     *124274   444:1:1:1:1:e572::                      ok
===============================================================================
Legend: * - System allocated
===============================================================================
Service Id: 2  Name: mac_vrf_2
===============================================================================
Service Id: 3  Name: mac_vrf_3
```

```
#show service vlan-aware-bundle bundle0 segment-routing-v6 detail
===============================================================================
Service Id: 1  Name: mac_vrf_1

===============================================================================
Segment Routing v6 Instance 1 Service 1
===============================================================================
Locator
 Type          Function  SID                                     Status
-------------------------------------------------------------------------------
dutD_L1
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
  End.DT2U     *124275   444:1:1:1:1:e573::                      ok
  End.DT2M     *124274   444:1:1:1:1:e572::                      ok
===============================================================================
Legend: * - System allocated
===============================================================================
Service Id: 2  Name: mac_vrf_2
===============================================================================
Service Id: 3  Name: mac_vrf_3
```

Table 703: Output fields: VLAN-aware bundle

Field	Descriptions
VLAN Aware Bundle	
Bundle	The destinations bundle name
Service Id	The service ID number
Eth Tag	The Ethernet tag value
Evi	The EVI value
Number of entries	The total number of entries
Vlan-Aware-Bundle Summary	
MAC Entries	The number of MAC entries
EVPN-MPLS Destinations	The number of EVPN-MPLS destinations
EVPN-MPLS Ethernet Segment Destinations	The number of EVPN-MPLS ES destinations
VXLAN Destinations	The number of VXLAN destinations
VXLAN Ethernet Segment Destinations	The number of VXLAN ES destinations
SRv6 Destinations	The number of SRv6 destinations
SRv6 Ethernet Segment Destinations	The number of SRv6 ES destinations
Forwarding Database, Service <Id>	
ServId	The service ID
MAC	The associated MAC address
Source-Identifier	The id of the source MAC
Type/Age	The number of seconds used to age out TLS FDB entries learned on local SAPs

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Descriptions
	Age — Specifies the number of seconds used to age out TLS FDB entries learned on an SDP. These entries correspond to MAC addresses learned on remote SAPs. L — Learned - Dynamic entries created by the learning process. OAM — Entries created by the OAM process. P — Indicates the MAC is protected by the MAC protection feature. H — Host, the entry added by the system for a static configured subscriber host. D or DHCP — DHCP-installed MAC. Learned addresses can be temporarily frozen by the DHCP snooping application for the duration of a DHCP lease. Static — Statically configured. T — Trusted.
Last Change	The date and time of the most recent state changes
Transport:Tnl-Id	The tunnel type and tunnel ID of the FDB entry
No. of MAC Entries	The total number of MAC entries
BGP EVPN-MPLS Dest (Instance <nbr>)	
TEP Address	The TEP address
Transport:Tnl	The transport tunnel
Egr Label	The egress label
Oper State	The operational state
Mcast	The mulitcast value
Num MACs	The number of MACs
Oper Flags	The operational flags value
Sup BCast Domain	The Sup BCast domain value
Last Update	The date and time of the last update
BGP EVPN-MPLS Ethernet Segment Dest (Instance <nbr>)	
Eth SegId	The Ethernet segment ID
BGP EVPN-MPLS ES BMAC Dest	
ES BMAC Addr	The ES BMAC IP address

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Field	Descriptions
VPLS VXLAN	
Vxlan Instance	VXLAN instance value
VNI	The VNI
Creation Origin	The creation origin value
Assisted-Replication	The assisted replicaion mode
RestProtSrcMacAct	The restrict protected source MAC action
VPLS VXLAN service Network Specifics	
Ing Net QoS Policy	The ingress net QoS policy
Ingress FP QGrp	The ingress FP Q group
Ing FP QGrp Inst	The ingress FP Q group instance
VTEP security	The VTEP security status
MAC Learning	The MAC learning status
MAC Aging	The MAC aging status
Discard Unknown Source	The discard unknown source value
MAC address limit	The MAC address limit
Segment Routing v6 Instance <nbr> Service <nbr>	
Locator	The SRv6 locator name
Type	The SRv6 locator type
Function	The function
SID	The segment ID
Status	The status

29.14 volume

volume

Syntax

volume fields

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>app-assure>cflowd volume)

Full Context

show application-assurance cflowd volume

Description

This command displays the fields in the AA cflowd volume template.

Platforms

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

Output

The following output is an example of AA cflowd volume template fields, and Table 704: Output fields: volume template describes the output fields.

Output Example

```
show application-assurance cflowd volume fields

===============================================================================
Fields for Application Assurance cflowd volume template
===============================================================================
Name                            ID     Len Mode  Dy Description
-------------------------------------------------------------------------------
aaApp                           32770  32  MRVL  *  AA Application
aaAppGrp                        32771  32  MRVL  *  AA Application Group
aaChargingGrp                   32888  32  MRVL  *  AA Charging Group
aaProt                          32769  32  MRVL  *  AA Protocol
aaSubTetheringState             32896  1   MRVL  *  AA subscriber tethering
                                                    state
aaSubType                       32780  1   MRVL  .  AA Subscriber Type
anlCongestionState              32874  1   MRVL  *  access network location
                                                    congestion state
anlTopology                     32873  16  MRVL  *  access network location
                                                    topology
anlType                         32872  1   MRVL  *  access network location
                                                    type
apn                             32876  33  MRV-  *  access point name
apnExtended                     32928  64  MRV-  *  extended access point name
bsid                            32883  12  MRV-  *  base station id
cellId                          32886  4   MRV-  *  cell id
chargeId                        32877  4   MRV-  *  charging group id
chargingChar                    32901  2   MRV-  *  3GPP charging
                                                    characteristic
chargingRatingGrp               32921  4   M---  *  online/offline charging
                                                    rating group
chargingServiceId               32929  4   M---  *  online/offline charging
                                                    service-id
customerId                      32902  4   M---  *  Customer identifier
destinationIPv4Address          12     4   MRVL  .  Destination IPv4 address
destinationIPv6Address          28     16  MRVL  .  Destination IPv6 address
destinationTransportPort        11     2   MRVL  .  Destination transport port
deviceId                        32865  2   MRVL  *  device ID
deviceMfgId                     32866  2   MRVL  *  device manufacturer ID
deviceOsId                      32867  2   MRVL  *  device operating system ID
deviceOsVer1                    32869  1   MRVL  *  device operating system
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
                                                    version number 1
deviceOsVer2                    32870  1    MRVL  *  device operating system
                                                    version number 2
deviceOsVer3                    32871  1    MRVL  *  device operating system
                                                    version number 3
flowAttr_abr_service            32890  1    MRVL  *  flow attribute: abr
                                                    service
flowAttr_audio                  32891  1    MRVL  *  flow attribute: audio
flowAttr_download               32893  1    MRVL  *  flow attribute: download
flowAttr_encrypted              32892  1    MRVL  *  flow attribute: encrypted
flowAttr_esni                   32907  1    MRVL  *  flow attribute: encrypted
                                                    SNI
flowAttr_realtime_communication 32895  1    MRVL  *  flow attribute: real time
                                                    communication
flowAttr_upload                 32894  1    MRVL  *  flow attribute: upload
flowAttr_video                  32889  1    MRVL  *  flow attribute: video
flowDirection                   61     1    MRVL  .  Flow direction
flowDurationMilliseconds        161    4    MRVL  *  Flow duration milliseconds
flowStartSeconds                150    4    MRVL  *  Flow start seconds
hostName                        32864  64   MRVL  *  host name
hostNameExtended                32920  101  MRVL  *  host name extended
imei                            32897  8    MRV-  *  International Mobile
                                                    Equipment Identity
imei-aes-128                    32916  32   MRV-  *  imei AES-128 encrypted
imei-aes-256                    32919  32   MRV-  *  imei AES-256 encrypted
imei-sha-1                      32910  20   MRV-  *  imei SHA-1 hashed
imei-sha-256                    32913  32   MRV-  *  imei SHA-256 hashed
imsi                            32879  8    MRV-  *  international mobile
                                                    subscriber identity
imsi-aes-128                    32915  16   MRV-  *  imsi AES-128 encrypted
imsi-aes-256                    32918  16   MRV-  *  imsi AES-256 encrypted
imsi-sha-1                      32909  20   MRV-  *  imsi SHA-1 hashed
imsi-sha-256                    32912  32   MRV-  *  imsi SHA-256 hashed
interfaceName                   82     32   MRVL  .  Interface name
ipFamily                        32868  1    MRVL  *  IP Family
ipTTL                           192    1    MRVL  *  IP packet time to live
mcc                             32899  2    MRV-  *  Mobile country code
mnc                             32878  2    MRV-  *  mobile network code
msisdn                          32880  8    MRV-  *  mobile station
                                                    international subscriber
                                                    directory number
msisdn-aes-128                  32914  16   MRV-  *  msisdn AES-128 encrypted
msisdn-aes-256                  32917  16   MRV-  *  msisdn AES-256 encrypted
msisdn-sha-1                    32908  20   MRV-  *  msisdn SHA-1 hashed
msisdn-sha-256                  32911  32   MRV-  *  msisdn SHA-256 hashed
multiDevice                     32930  2    MRVL  *  multi-device detection
                                                    tracked device
observationPointId              138    4    MRVL  .  Observation point Id
octetDeltaCount                 1      8    MRVL  .  Octet delta count
packetDeltaCount                2      8    MRVL  .  Packet delta count
pgw-ggsnAddr                    32882  16   MRV-  *  public data network
                                                    gateway
plmnid                          32903  4    MRV-  *  Public land mobile
                                                    network identifier
policyActionRuleUnitName        32926  33   M---  *  policy action rule unit
                                                    name
policyChargingRuleUnitName      32925  33   M---  *  policy charging rule unit
                                                    name
policyRuleBaseName              32922  81   M---  *  policy rule base name
policyRuleUnitName              32924  33   M---  *  policy rule unit name
postIpPrecedence                257    1    MRVL  *  Post IP precedence
pra-id                          32940  4    M---  *  presence reporting area ID
protocolIdentifier              4      1    MRVL  .  Protocol Identifier
qci                             32927  4    MR--  *  3gpp QCI
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
ratType                          32884  2   MRV-  *  radio access technology
                                                   type
regionId                         32885  2   MRV-  *  region id
roamingStatus                    32898  1   M---  *  Roaming status
sgw-sgsnAddr                     32881  16  M---  *  serving gateway
sourceIPv4Address                8      4   MRVL  .  Source IPv4 address
sourceIPv6Address                27     16  MRVL  .  Source IPv6 address
sourceTransportPort              7      2   MRVL  .  Source transport port
tcpRetransmittedBytes            32778  8   MRVL  *  TCP Retransmitted Bytes
tcpRetransmittedPackets          32779  8   MRVL  *  TCP Retransmitted Packets
tcpSessionEstDelay               32772  4   MRVL  *  TCP Session Establishment
                                                   Delay
timeZone                         32887  2   M---  *  time zone
uli                              32900  18  MRV-  *  User location information
wireless-device-os-id            32941  1   MRV-  *  wireless device operating
                                                   system ID
wireless-device-type-id          32942  1   MRV-  *  wireless device type ID
-------------------------------------------------------------------------------
Legend :
  Mode (aa-sub-scale mode)   M mobile-gateway
                             R residential
                             V vpn
                             L lightweight-internet
  Dy (dynamic field)         . always included in this record type
                             * can be dynamically included in this record type
===============================================================================
```

Table 704: Output fields: volume template

Label	Description
Name	Displays the name of the template field.
ID	Displays the ID of the template field.
Len	Displays the string length of the template field.
Mode	Displays the mode: • M — mobile gateway • R — residential • V — VPN • L — lightweight Internet
Dy	Displays whether the field is dynamic: • . — always included in this record type • * — can be dynamically included in this record type
Description	Displays the description of the template field.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

29.15 vpls-fdb-stats

vpls-fdb-stats

Syntax

vpls-fdb-stats [**clear**]

Context

[Tree] (tools>dump>service vpls-fdb-stats)

Full Context

tools dump service vpls-fdb-stats

Description

This command provides the VPLS FDB statistics for all services.

Platforms

All

Output

Output Example

```
*A:PE1# tools dump service vpls-fdb-stats
Service Manager VPLS FDB info at 01/31/2017 08:44:40:
Statistics last cleared at 01/31/2017 07:42:25
      Statistic           |    Count
--------------------------+------------
          FdbEntriesInUse |          8
          TotalFdbEntries |     511999
       FdbMimDestIdxInUse |          0
TotalFdbMimDestIdxEntries |      32767
          FdbIsidIdxInUse |          0
TotalFdbMimIsidIdxEntries |     191999
              MacAddMsgs  |         38
            MacDeleteMsgs |          0
             MacQueryMsgs |          0
              UnknownMsgs |          0
            MalformedMsgs |          0
               FailedMsgs |          0
           FdbHwTableFull |          0
       FdbHwLimitExceeded |          0
             FdbTableFull |          0
         FdbLimitExceeded |          0
   FdbMimDestIdxExhausted |          0
              MacAddReqs  |         30
            DupMacAddReqs |         19
        DroppedMacAddReqs |          0
         FailedMacAddReqs |         19
              MacDelReqs  |          0
            DupMacDelReqs |          0
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
        DroppedMacDelReqs |          0
         FailedMacDelReqs |          0
   FailedMacCmplxMapUpdts |          0
 RvplsFdbEntriesAllocated |          0
     RvplsFdbEntriesInUse |          0
EsBmacFdbEntriesAllocated |          0
    EsBmacFdbEntriesInUse |          0
*A:PE1#
```

29.16 vpls-sap-template

vpls-sap-template

Syntax

vpls-sap-template

vpls-sap-template *template-name*

Context

[Tree] (show>service>template vpls-sap-template)

Full Context

show service template vpls-sap-template

Description

This command displays basic information such as summary, template name, and so on, for all SAP VPLS-templates.

Platforms

All

Output

The following output is an example of VPLS SAP template information.

Output Example

```
A:Dut-C# show service template vpls-sap-template squelch
===============================================================================
SAP template
===============================================================================
Template                        Saps           Last Update
-------------------------------------------------------------------------------
saptemplate                     30             07/26/2010 08:39:51
-------------------------------------------------------------------------------
Entries found: 1
===============================================================================
===============================================================================
SAP Template Information
===============================================================================
Template             : saptemplate          Discard Unkn Src : disabled
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
MAC Aging             : enabled              MAC Learning     : enabled
BPDU Translation      : disabled             MAC Address Limit: no limit
L2pt Termination      : disabled

STP
Admin Status          : up                   Port Priority    : 128
Port Path Cost        : 10                   Admin Edge       : disabled
Link Type             : Pt-pt
Auto Edge             : enabled              Root Guard       : disabled

MAC Move
Limit                 : blockable            Limit Level      : tertiary

Ingress
QoS Policy            : 1                    MAC Fltr         : n/a
IP Fltr               : n/a                  QoS Sched Pol    : n/a
Match QinQ Dot1p Bits: default               Shared Q Pol     : n/a
IPv6 Fltr             : n/a
Use Multi-Pt Shared   : disabled             Agg Rate Limit   : Max
Policer Pol           : n/a

Egress
QoS Policy            : 1                    MAC Fltr         : n/a
IP Fltr               : n/a                  QoS Sched Pol    : n/a
IPv6 Fltr             : n/a                  QinQ Mark Top    : disabled
Agg Rate Limit        : Max                  Policer Pol      : n/a
Frame Based Acctg     : disabled

CPM Prot Plcy         : def                  CPM Monitor MAC  : disabled
Coll Acctg Stats      : disabled

ETH-CFM MIP           : disabled
ETH-CFM Squelch Level: 0 1 2 3 4 5
===============================================================================
```

29.17 vpls-sap-template-using

vpls-sap-template-using

Syntax

vpls-sap-template-using *template-name*

Context

[Tree] (show>service>template vpls-sap-template-using)

Full Context

show service template vpls-sap-template-using

Description

This command displays services instantiated using vpls-sap-template.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

All

Output

The following output is an example of information about services instantiated using this VPLS template.

Output Example

```
A:Dut-C# show service template vpls-sap-template-using "saptemplate"
===============================================================================
SAP template 'saptemplate' created SAPs
===============================================================================
SvcId          Sap                                Creator Svc    Vpls Group
-------------------------------------------------------------------------------
1-10           2/1/2:1-2/1/2:10                   5000           1
               2/2/8:1-2/2/8:10
               lag-1:1.*-lag-1:10.*
-------------------------------------------------------------------------------
Entries found: 30
===============================================================================
```

29.18 vpls-template

vpls-template

Syntax

vpls-template

vpls-template *template-name*

Context

[Tree] (show>service>template vpls-template)

Full Context

show service template vpls-template

Description

This command displays basic information/summary, template name, etc. for all VPLS templates. When a template name is specified, detailed information for the specified template, VPLS parameters, and so on, are displayed.

Platforms

All

Output

The following output is an example of VPLS template information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output Example

```
A:Dut-C# show service template vpls-template
===============================================================================
Service template
===============================================================================
Template                          Services       Last Update
-------------------------------------------------------------------------------
test                              0              07/26/2010 08:40:01
svctemplate                       10             07/26/2010 08:39:51
-------------------------------------------------------------------------------
Entries found: 2
===============================================================================
A:Dut-C# show service template vpls-template "svctemplate"
===============================================================================
Service template Information
===============================================================================
Template             : svctemplate
MTU Size             : 1514                Customer         : 10
MAC Aging            : enabled             MAC Learning     : enabled
Discard Unkn Dest    : disabled            Temp Flood Time  : Disabled
Per Svc Hashing      : disabled

FDB
Local Age Time       : 300 secs            Remote Age Time  : 900 secs
High Watermark       : 95%                 Low Watermark    : 90%
Table Size           : 250

STP
Admin State          : disabled            Priority         : 32768
Bridge Max Age       : 20 secs             Bridge Hello Time: 2 secs
Bridge Fwd Delay     : 15 secs             Mode             : rstp
Hold Cnt             : 6

MAC Move
Rate                 : 2/sec               Retry Timeout    : 10 secs
Admin State          : disabled            Num Retries      : 3
Pri-Ports Cumu Factor: 3                   Sec Cumu Factor  : 2
===============================================================================
```

29.19 vpls-template-using

vpls-template-using

Syntax

vpls-template-using *template-name*

Context

[Tree] (show>service>template vpls-template-using)

Full Context

show service template vpls-template-using

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays services instantiated using the VPLS-template.

Platforms

All

Output

The following output is an example of service template information.

Output Example

```
A:Dut-C# show service template vpls-template-using "svctemplate"
===============================================================================
Service template 'svctemplate' created Services
===============================================================================
SvcId                   Creator Svc             Vpls Group
-------------------------------------------------------------------------------
1-10                    5000                    1
-------------------------------------------------------------------------------
Entries found: 10
===============================================================================
```

29.20 vpn-ipv4

vpn-ipv4

Syntax

vpn-ipv4 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*] [**brief**]

vpn-ipv4 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**rd** *rd*] [**brief**]

vpn-ipv4 [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*]

Context

[Tree] (show>router>bgp>routes vpn-ipv4)

Full Context

show router bgp routes vpn-ipv4

Description

This command displays BGP VPN IPv4 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

hunt

Displays entries for the specified route.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:
  - {*target* | *origin*}:*ip-address*:*comm-val*
  - {*target* | *origin*}:*asnum*:*ext-comm-val*
  - {*target* | *origin*}:*ext-asnum*:*comm-val*
  - **bandwidth**:*asnum*:*val-in-mbps*
  - **ext:4300**:*ovstate*
  - **ext**:*value1*:*value2*
  - **flowspec-set**:*ext-asnum*:*group-id*

  where:
  - *target* — route target
  - *origin* — route origin
  - *ip-address* — a.b.c.d
  - *ext-comm-val* — 0 to 4294967295
  - *ext-asnum* — 0 to 4294967295
  - **bandwidth** — bandwidth
  - *val-in-mbps* — 0 to 16777215
  - **ext** — extended
  - **ext:4300** — origin verification
  - *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
  - *value1* — 0000 to FFFF
  - *value2* — 0 to FFFFFFFFFFFF
  - **flowspec-set —** flow-spec set
  - *group-id* — 0 to 16383
- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

rd

Displays information for the route distinguisher.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

brief

Displays the BGP VPN IPv4 route information in a brief format.

Platforms

All

29.21 vpn-ipv6

vpn-ipv6

Syntax

vpn-ipv6 [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*] [**brief**]

vpn-ipv6 [**aspath-regex** *reg-exp*] **hunt** [**community** *comm-id*] [**rd** *rd*] [**brief**]

vpn-ipv6 [**detail** | **longer**] [**aspath-regex** *reg-exp*] [**community** *comm-id*] [**rd** *rd*]

Context

[Tree] (show>router>bgp>routes vpn-ipv6)

Full Context

show router bgp routes vpn-ipv6

Description

This command displays BGP VPN IPv6 routes.

Parameters

reg-exp

Displays routes matching the specified regular expression, up to 80 characters.

hunt

Displays entries for the specified route.

comm-id

Specifies the community ID, up to 72 characters.

Values [*as-num:comm-val* | *ext-comm* | *well-known-comm* | *large-comm*]

where:

- *as-num* — 0 to 65535
- *comm-val* — 0 to 65535
- *ext-comm* — the extended community, defined as one of the following:

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- {*target* | *origin*}:*ip-address*:*comm-val*
- {*target* | *origin*}:*asnum*:*ext-comm-val*
- {*target* | *origin*}:*ext-asnum*:*comm-val*
- **bandwidth**:*asnum*:*val-in-mbps*
- **ext:4300**:*ovstate*
- **ext**:*value1*:*value2*
- **flowspec-set**:*ext-asnum*:*group-id*

where:

- *target* — route target
- *origin* — route origin
- *ip-address* — a.b.c.d
- *ext-comm-val* — 0 to 4294967295
- *ext-asnum* — 0 to 4294967295
- **bandwidth** — bandwidth
- *val-in-mbps* — 0 to 16777215
- **ext** — extended
- **ext:4300** — origin verification
- *ovstate* — 0, 1, or 2 (0 for valid, 1 for not found, 2 for invalid)
- *value1* — 0000 to FFFF
- *value2* — 0 to FFFFFFFFFFFF
- **flowspec-set —** flow-spec set
- *group-id* — 0 to 16383

- *well-known-comm* — **null** | **no-export** | **no-export-subconfed** | **no-advertise** | **blackhole**
- *large-comm* — *asn-or-ex:val-or-ex:val-or-ex*

rd

Displays information for the route distinguisher.

Values *ip-addr:comm-val* | *2byte-asnumber:ext-comm-val* | *4byte-asnumber:comm-val*

brief

Displays the BGP VPN IPv6 route information in a brief format.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

29.22 vport

vport

Syntax

vport *name* [**interval** *seconds*] [**repeat** *repeat*] [**absolute** | **rate**]

vport *name* [**interval** *seconds*] [**repeat** *repeat*] **monitor-threshold**

Context

[Tree] (monitor>port vport)

Full Context

monitor port vport

Description

This command monitors Vport statistics.

Parameters

name

Specifies the Vport name, up to 32 characters.

seconds

Specifies the interval for each display, in seconds.

Values 11 to 60

repeat

Specifies the number of times the command is repeated.

Values 1 to 999

absolute

When the absolute keyword is specified, the raw statistics are displayed without processing. No calculations are performed on the delta or rate statistics.

rate

When the rate keyword is specified, the rate-per-second for each statistic is displayed instead of the delta.

monitor-threshold

Displays the exceed count for the port-scheduler under Vport (if specified) or for a physical port.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

vport

Syntax

vport [*name*] [**statistics** | **associations**] [**monitor-threshold**] [**port-sched** | **hw-agg-shaper-sched**]

Context

[Tree] (show>port vport)

Full Context

show port vport

Description

This command displays Vport information.

Parameters

name

Specifies the Vport name, up to 32 characters.

statistics

Displays the statistics related to the Vport.

associations

Displays the associations related to the Vport.

monitor-threshold

Displays the exceed count for the port-scheduler under Vport (if specified) or for a physical port.

port-sched

Displays the port scheduler policy associated with the Vport.

hw-agg-shaper-sched

Displays the hardware aggregate shaper scheduler policy associated with the Vport.

Platforms

All

vport

Syntax

vport summary

Context

[Tree] (show>qos vport)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show qos vport

Description

This command displays Vport information.

Parameters

summary

Displays summary information.

Platforms

All

29.23 vrf-export-test

vrf-export-test

Syntax

vrf-export-test *policy-name* [*policy-name*...{up tp 15 max}] **prefix** *ip-prefix/ip-prefix-length* [**longer**] [**display-rejects**] [**display-rejects-only**] [**protocol** *protocol*]

vrf-export-test *plcy-or-long-expr* [*plcy-or-expr* [*plcy-or-expr*...{up tp 14 max}] **prefix** *ip-prefix/ip-prefix-length* [**longer**] [**display-rejects**] [**display-rejects-only**] [**protocol** *protocol*]

Context

[Tree] (show>router vrf-export-test)

Full Context

show router vrf-export-test

Description

This command tests an existing route policy, a chain of route policies, or a route policy logical expression in order to assess its effects as a VRF export policy. This is determined by identifying the routes that would be accepted or rejected after the complete evaluation.

Parameters

plcy-or-long-expr

Specifies up to 14 policy names or a long expression.

Values policy-name: a policy name, up to 64 characters

long-expr: a long expression, up to 255 characters.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

plcy-or-expr

Specifies the policy name or expression.

Values policy-name: a policy name, up to 64 characters

expr: an expression, up to 64 characters

policy-name

Specifies the policy name of an existing configured and committed policy, up to 64 characters.

longer

Matches prefixes with a longer prefix-length.

ip-prefix/ip-prefix-length

Specifies an IPv4 or IPv6 prefix/mask to be evaluated. The keyword **longer** may be specified to evaluate longer prefix matches (optional).

display-rejects

Displays routes that were rejected by the policy. If not specified, only a count of rejected routes is displayed.

display-rejects-only

Displays only routes rejected by the policy test.

protocol

Displays routes by the protocol type.

Platforms

All

Output

Output Example

```
*A:Dut-B# show router 20 vrf-export-test "test" prefix 0.0.0.0/0 longer protocol direct

===============================================================================
Route Table (Service: 20)
===============================================================================
Accepted by Policy test Entry 1
    Dest prefix: 30.30.30.30/32
    Protocol   : LOCAL
Accepted by Policy test Entry 1
    Dest prefix: 40.0.0.0/24
    Protocol   : LOCAL
Accepted by Policy test Entry 1
    Dest prefix: 50.1.0.0/16
    Protocol   : LOCAL
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
Routes : 3
===============================================================================
```

The following table describes the VRF Export Test output fields.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 705: Output fields: VRF export test information

Label	Description
Dest prefix	Displays the destination IPv4 or IPv6 prefix/mask.
Protocol	Displays the protocol type.

29.24 vrgw

vrgw

Syntax

vrgw

Context

[Tree] (show>subscr-mgmt vrgw)

Full Context

show subscriber-mgmt vrgw

Description

This command displays Virtual Residential Gateway information.

Platforms

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

vrgw

Syntax

vrgw

Context

[Tree] (clear>subscr-mgmt vrgw)

Full Context

clear subscriber-mgmt vrgw

Description

This command clears vRGW data.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

vrgw

Syntax

vrgw

Context

[Tree] (tools>perform>subscr-mgmt vrgw)

Full Context

tools perform subscriber-mgmt vrgw

Description

This command enables tools for controlling vRGWs

Platforms

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

29.25 vrrp

vrrp

Syntax

vrrp

Context

[Tree] (clear vrrp)

Full Context

clear vrrp

Description

Commands in this context clear and reset VRRP entities.

Platforms

All

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

vrrp

Syntax

vrrp

Context

[Tree] (clear>router vrrp)

Full Context

clear router vrrp

Description

Commands in this context clear and reset VRRP virtual router instances.

Platforms

All

vrrp

Syntax

vrrp

Context

[Tree] (show>router vrrp)

Full Context

show router vrrp

Description

This command displays information VRRP instances.

Platforms

All

vrrp

Syntax

vrrp

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show vrrp)

Full Context

show vrrp

Description

Commands in this context display information related to VRRP policies.

Platforms

All

vrrp

Syntax

vrrp

Context

[Tree] (monitor>router vrrp)

Full Context

monitor router vrrp

Description

Commands in this context configure criteria to monitor VRRP statistical information for a VRRP enabled on a specific interface.

Platforms

All

29.26 vxlan

vxlan

Syntax

vxlan [**instance** *vxlan-instance*] **assisted-replication replicator**

vxlan esi *esi* [**instance** *vxlan-instance*] [**detail**]

vxlan instance *vxlan-instance* **oper-flags**

vxlan [**instance** *vxlan-instance*]

vxlan [**instance** *vxlan-instance*] [**detail**] **destinations**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

vxlan detail

Context

[Tree] (show>service>id vxlan)

Full Context

show service id vxlan

Description

This command displays the VXLAN instance parameters. With **destinations** added, the command displays the VXLAN bindings autocreated or configured in a specified service. The service command can be filtered by VXLAN instance if the service has more than one instance. A VXLAN binding consists of the remote VTEP and the corresponding egress VNI, which together identify the service at the egress node. The command displays the number of MACs associated with each binding, as well as the operational status and whether the binding is part of the multicast list. The binding will be operationally down when the VTEP address is not found in the base routing table (that is, the VTEP address cannot be reached). A binding is part of a multicast list only if a valid BGP EVPN inclusive multicast route exists for it.

A VXLAN binding can be associated with the following types of multicast values:

- **BM**

  This value refers to the capability of the binding to send broadcast or multicast traffic to the remote VTEP. This binding type is set up to AR replicator nodes from a leaf node.

- **BUM**

  This value refers to the capability of the binding to send broadcast or multicast traffic to the remote VTEP. This binding type is set up to AR replicator nodes from a leaf node.

- **U**

  This value refers to the capability of the binding to send unknown unicast to the VTEP. This binding type is set up from leaf nodes to other leaf and RNVE nodes.

- **"-"**

  This value specifies that the binding can only be used for known unicast traffic.

Parameters

assisted-replication replicator

Displays all the discovered candidate AR replicators for the service and the replicator that has been selected by the leaf to send the BM traffic. The list of replicators is ordered by VTEP address and VNI. This command is only supported on nodes configured as leaf.

The "In Use" column indicates whether the replicator has been selected for the service. When selecting a replicator for the service, the candidate list is ordered by VTEP IP (lowest IP is ordinal 0) and VNI. A modulo function of the service ID and the number of candidate PEs will give the selected replicator for a specified service.

The "Pending Time" column shows the remaining seconds until the node starts sending the BM traffic to the replicator. This time is configurable by the *replicator-activation-time* parameter.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

For services supporting EVPN multihoming, the command can also display ES destinations and VXLAN bindings. In this case, the user can filter the output by the ESI to view the VXLAN destinations that make up the ES.

esi

Specifies a 10-byte ESI by which to filter the displayed information. For example, ESI-0 | ESI-MAX or 00-11-22-33-44-55-66-77-88-99 with any of these separators ('-',':',' ')

instance

Specifies the VXLAN instance.

Values 1, 2

detail

Keyword used to display detailed information.

oper-flags

Keyword used to display the operational flags.

Platforms

All

Output

The following outputs are examples of VXLAN information, and Table 706: Output fields: VXLAN information describes the VXLAN output fields:

- Output example (VXLAN destinations)
- Output example (VXLAN destinations detail)
- Output example (VXLAN instance)
- Output example (VXLAN on a Replicator)
- Output example (VXLAN on an AR Leaf)
- Output example (VXLAN instance operational flags)

Output example (VXLAN destinations)

```
*A:node-2# show service id "evi-112-vxlan-cw-mtu" vxlan destinations
===============================================================================
Egress VTEP, VNI (Instance 1)
===============================================================================
VTEP Address                                        Egress VNI Oper  Mcast Num
                                                               State       MACs
-------------------------------------------------------------------------------
192.0.2.2                                           112        Down  BUM   0
192.0.2.3                                           112        Down  BUM   0
-------------------------------------------------------------------------------
Number of Egress VTEP, VNI : 2
===============================================================================
```

Output example (VXLAN destinations detail)

```
*A:node-2# show service id "evi-112-vxlan-cw-mtu" vxlan destinations detail
===============================================================================
Egress VTEP, VNI (Instance 1)
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
VTEP Address                                          Egress VNI Oper  Mcast Num
                                                                 State       MACs
-------------------------------------------------------------------------------
192.0.2.2                                             112        Down  BUM   0
  Oper Flags       : MTU-Mismatch
  Type             : evpn
  L2 PBR           : No
  Sup BCast Domain : No
  Last Update      : 01/31/2023 21:28:39
192.0.2.3                                             112        Down  BUM   0
  Oper Flags       : MTU-Mismatch
  Type             : evpn
  L2 PBR           : No
  Sup BCast Domain : No
  Last Update      : 01/31/2023 21:28:39
-------------------------------------------------------------------------------
Number of Egress VTEP, VNI : 2
===============================================================================
```

Output example (VXLAN instance)

```
*A:node-2# show service id 900 vxlan instance 1
===============================================================================
VPLS VXLAN, Vxlan Instance: 1, VNI: 900
===============================================================================
Creation Origin: manual
Assisted-Replication: none
RestProtSrcMacAct: none
===============================================================================
VPLS VXLAN service Network Specifics
===============================================================================
-------------------------------------------------------------------------------
Ing Net QoS Policy: none
Ingress FP QGrp   : (none)                 Ing FP QGrp Inst        : (none)
VTEP security     : disabled               MAC Learning            : enabled
MAC Aging         : enabled                Discard Unknown Source  : disabled
MAC address limit : 0
===============================================================================
```

Output example (VXLAN on a Replicator)

```
A:node-2# show service id 600  vxlan instance 1
===============================================================================
VPLS VXLAN, Vxlan Instance: 1, VNI: 600
===============================================================================
Creation Origin: manual
Assisted-Replication: replicator preserve-leaf-source-vtep
RestProtSrcMacAct: none
===============================================================================
VPLS VXLAN service Network Specifics
===============================================================================
-------------------------------------------------------------------------------
Ing Net QoS Policy: none
Ingress FP QGrp   : (none)                 Ing FP QGrp Inst        : (none)
VTEP security     : disabled               MAC Learning            : disabled
MAC Aging         : disabled               Discard Unknown Source  : disabled
MAC address limit : 0
===============================================================================

A:node-2# show service id 600  vxlan detail
===============================================================================
VPLS VXLAN, Vxlan Instance: 1, VNI: 600
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Creation Origin: manual
Assisted-Replication: replicator preserve-leaf-source-vtep
RestProtSrcMacAct: none

===============================================================================
VPLS VXLAN service Network Specifics
===============================================================================
-------------------------------------------------------------------------------
Ing Net QoS Policy: none
Ingress FP QGrp   : (none)                  Ing FP QGrp Inst        : (none)
VTEP security     : disabled                MAC Learning            : disabled
MAC Aging         : disabled                Discard Unknown Source  : disabled
MAC address limit : 0
===============================================================================
```

Output example (VXLAN on an AR Leaf)

```
*A:node-2# show service id 10 vxlan instance 1
===============================================================================
VPLS VXLAN, Vxlan Instance: 1, VNI: 10
===============================================================================
Creation Origin: manual
Assisted-Replication: leaf      Replicator-Activation-Time: 10
RestProtSrcMacAct: none

===============================================================================
VPLS VXLAN service Network Specifics
===============================================================================
-------------------------------------------------------------------------------
Ing Net QoS Policy: none
Ingress FP QGrp   : (none)                  Ing FP QGrp Inst        : (none)
VTEP security     : disabled                MAC Learning            : disabled
MAC Aging         : disabled                Discard Unknown Source  : disabled
MAC address limit : 0
===============================================================================
*A:node-2# /show service id 10 vxlan detail
===============================================================================
VPLS VXLAN, Vxlan Instance: 1, VNI: 10
===============================================================================
Creation Origin: manual
Assisted-Replication: leaf      Replicator-Activation-Time: 10
RestProtSrcMacAct: none

===============================================================================
VPLS VXLAN service Network Specifics
===============================================================================
-------------------------------------------------------------------------------
Ing Net QoS Policy: none
Ingress FP QGrp   : (none)                  Ing FP QGrp Inst        : (none)
VTEP security     : disabled                MAC Learning            : disabled
MAC Aging         : disabled                Discard Unknown Source  : disabled
MAC address limit : 0
===============================================================================
```

Output example (VXLAN instance operational flags)

```
*A:node-2# show service id 500 vxlan instance 1 oper-flags
===============================================================================
VPLS VXLAN oper flags
===============================================================================
MhStandby                           : false
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 706: Output fields: VXLAN information

Label	Description
VXLAN Instance	Displays the VXLAN instance.
VNI	Displays the VNI.
AR	Displays the AR.
Oper-flags	Displays the operational flags.
VTEP security	Displays the VTEP security status (enabled, disabled).
Number of entries	Indicates the number of entries.
Creation Origin	Displays the creation origin value.
Assisted-Replication	Displays the assisted replication value.
Replicator-Activation-Time	Displays length of Replicator activation time in seconds.
RestProtSrcMacAct	Displays the RestProtSrcMacAct value.
Ing Net QoS Policy	Displays the Ing Net QoS Policy value.
Ingress FP QGrp	Displays the Ingress FP QGrp value.
Ing FP QGrp Inst	Displays the Ing FP QGrp Inst value.
MAC Learning	Displays the MAC learning value.
MAC Aging	Displays the MAC aging value.
Discard Unknown Source	Displays the discard unknown source value.
MAC address limit	Displays the MAC address limit.
VTEP Address	Displays the VTEP IP address.
Egress VNI	Displays the Egress VNI value.
In Use	Displays the In use value.
In Candidate List	Displays the In Candidate list value.
Pending Time	Displays the Pending time value.
MhStandby	Displays the MhStandby flag value.
Eth SegId	Displays the Ethernet Segment ID value.
TEP Address	Displays the TEP IP address.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Label	Description
Instance	Displays the Instance value.
Evpn/Static	Displays the Evpn/Static value.
Num. MACs	Displays the number of MACs.
Mcast	Displays the Mcast value.
Oper State	Displays the operational state.
L2 PBR	Displays the Layer 2 PBR value.
Sup BCast Domain	Displays the Sup BCast Domain value.

vxlan

Syntax

vxlan [*ip-address*]

Context

[Tree] (show>service vxlan)

Full Context

show service vxlan

Description

This command displays the VXLAN bindings auto-created in a specified service. A VXLAN binding is composed of the remote VTEP (VXLAN Termination Endpoint) and the corresponding egress VNI (VXLAN Network Identifier) to identify the service at the egress node. The command shows the number of MACs associated to each binding as well as the operational status and if the binding is part of the multicast list. The binding will be operationally down when the VTEP address is not found in the base routing table (the VTEP address cannot be reached). A binding will be part of the multicast list if a valid BGP EVPN inclusive multicast route exists for it.

A VXLAN binding can be associated with the following types of Mcast values.

- BM — Refers to the capability of the binding to send Broadcast or Multicast to the remote VTEP. This binding type is setup to AR Replicator nodes from a Leaf node.
- BUM — Refers to the capability of the binding to send Broadcast or Multicast to the remote VTEP. This binding type is setup to AR Replicator nodes from a Leaf node.
- U — Refers to the capability of the binding to send Unknown Unicast to the VTEP. This binding type is setup from Leaf nodes to other Leaf and RNVE nodes.
- "-" — Specifies that the binding can only be used for known unicast traffic.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

ip-address

Specifies the remote VTEP address for the VXLAN binding.

Values ipv4-address: a.b.c.d

ipv6-address: x:x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x:x:d.d.d.d

where:

x: [0 to FFFF]H

d: [0 to 255]D

Platforms

All

Output

Output Example

```
===============================================================================
A:PE6# show service vxlan
===============================================================================
VXLAN Tunnel Endpoints (VTEPs)
===============================================================================
VTEP Address                            Number of Egress VNIs    Oper
                                                                 State
-------------------------------------------------------------------------------
10.2.2.2                                1                        Up
10.4.4.4                                2                        Up
10.5.5.5                                1                        Up
192.0.2.2                               1                        Up
192.0.2.3                               1                        Up
192.0.2.4                               2                        Up
192.0.2.5                               2                        Up
-------------------------------------------------------------------------------
Number of VTEPs: 7
-------------------------------------------------------------------------------
===============================================================================
A:PE6# show service vxlan 2.2.2.2
===============================================================================
VXLAN Tunnel Endpoint: 2.2.2.2
===============================================================================
Egress VNI                   Service Id               Oper State
-------------------------------------------------------------------------------
4000                         4000                     Up
-------------------------------------------------------------------------------
===============================================================================
```

vxlan

Syntax

vxlan

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (show>service>system vxlan)

Full Context

show service system vxlan

Description

This command shows the global VXLAN configuration in the system. In particular, the command displays the configured assisted-replication IP address and the VXLAN tunnel-termination addresses, if the system terminates VXLAN tunnels in addresses that are not the same as the system IP address.

Platforms

All

Output

The following output is an example of system VXLAN information.

Output Example

```
A:PE1# show service system vxlan
===============================================================================
System VXLAN Information
===============================================================================
Asstd Repl Ip Address.                 :
===============================================================================
===============================================================================
Vxlan Tunnel Termination
===============================================================================
Tunnel Term IP                              FPE ID    Last Change
-------------------------------------------------------------------------------
10.11.11.1                                  1         06/22/2016 14:18:55
-------------------------------------------------------------------------------
Number of Entries: 1
-------------------------------------------------------------------------------
===============================================================================
```

vxlan

Syntax

vxlan [**clear**]

Context

[Tree] (tools>dump>service>id vxlan)

Full Context

tools dump service id vxlan

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the number of times a service could not add a VXLAN binding or <VTEP, Egress VNI> due to the following limits:

- The per-system VTEP limit has been reached
- The per-system <VTEP, Egress VNI> limit has been reached
- The per-service <VTEP, Egress VNI> limit has been reached
- The per-system Bind limit: Total bind limit or vxlan bind limit has been reached.

Parameters

clear

Clears the per-system VTEP, per-system VTEP Egress VNI, per-service VTEP Egress VNI, and per-system Bind statistics.

Platforms

All

Output

Output Example

```
*A:PE63# tools dump service id 3 vxlan
VTEP, Egress VNI Failure statistics at 000 00:03:55.710:
statistics last cleared at 000 00:00:00.000:
      Statistic            |    Count
---------------------------+------------
                      VTEP |          0
             Service Limit |          0
              System Limit |          0
   Egress Mcast List Limit |          0
```

29.27 vxlan-instance-using

vxlan-instance-using

Syntax

vxlan-instance-using ethernet-segment [*name*]

Context

[Tree] (show>service vxlan-instance-using)

Full Context

show service vxlan-instance-using

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description

This command displays the services and VXLAN instances associated with a specified virtual ES, as well as its operational status.

Parameters

name

Specifies the virtual ES name, up to 32 characters.

Platforms

All

Output

Output Example

```
A:PE-2# show service vxlan-instance-using ethernet-segment "vES23"
===============================================================================
VXLAN Ethernet-Segment Information
===============================================================================
SvcId                          VXLAN Instance                 Status
-------------------------------------------------------------------------------
500                            1                              DF
===============================================================================
A:PE-2# show service vxlan-instance-using ethernet-segment
===============================================================================
VXLAN Ethernet-Segment Information
===============================================================================
SvcId       VXLAN Instance      ES Name                        Status
-------------------------------------------------------------------------------
500         1                   vES23                          DF
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

30 w Commands

30.1 web-rd

web-rd

Syntax

web-rd

Context

[Tree] (tools>dump>router web-rd)

Full Context

tools dump router web-rd

Description

Commands in this context dump web or HTTP redirection.

Platforms

All

30.2 web-service

web-service

Syntax

web-service

Context

[Tree] (show>app-assure web-service)

Full Context

show application-assurance web-service

Description

This command displays web-service information.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

30.3 week

week

Syntax

week

week application *license-app*

Context

[Tree] (show>system>license-statistics week)

Full Context

show system license-statistics week

Description

This command displays application license statistics for the last week.

Parameters

license-app

Specifies the application license.

Values lns, nat, sub-mgmt, wlan-gw, aa, ipsec

Platforms

VSR

30.4 wholesalers

wholesalers

Syntax

wholesalers

Context

[Tree] (show>service>id wholesalers)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show service id wholesalers

Description

This command displays service wholesaler information.

Platforms

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

Output

The following output is an example of service wholesaler information.

Output Example

```
*A:ALA-48>config# show service id 102 wholesalers
===============================================================================
Wholesalers for service 102
===============================================================================
Wholesaler Svc ID             Num Static Hosts         Num Dynamic Hosts
-------------------------------------------------------------------------------
101                           3                        1
-------------------------------------------------------------------------------
Number of wholesalers : 1
===============================================================================
*A:ALA-48>config#
```

Wholesaler information can also be displayed in the lease-state context.

```
*A:ALA-48>config# show service id 105 dhcp lease-state  wholesaler 101
===============================================================================
DHCP lease state table, service 105
===============================================================================
IP Address      Mac Address       Sap/Sdp Id          Remaining  Lease    MC
                                                      LifeTime   Origin   Stdby
-------------------------------------------------------------------------------
Wholesaler 101 Leases
-------------------------------------------------------------------------------
10.3.2.62      00:00:1f:bd:00:c6 lag-1:105           00h00m39s  RADIUS
-------------------------------------------------------------------------------
Number of lease states : 1
===============================================================================
*A:ALA-48>config#
```

30.5 wlan-gw

wlan-gw

Syntax

wlan-gw

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (clear wlan-gw)

Full Context

clear wlan-gw

Description

Commands in this context clear WLAN gateway commands.

Platforms

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

wlan-gw

Syntax

wlan-gw

Context

[Tree] (clear>router wlan-gw)

Full Context

clear router wlan-gw

Description

Commands in this context clear WLAN gateway data.

Platforms

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

wlan-gw

Syntax

wlan-gw gtp-statistics

wlan-gw statistics

Context

[Tree] (clear>subscr-mgmt wlan-gw)

Full Context

clear subscriber-mgmt wlan-gw

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Description
This command clears WLAN-GW data.

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

wlan-gw

Syntax
wlan-gw

Context
[Tree] (show>call-trace wlan-gw)

Full Context
show call-trace wlan-gw

Description
Commands in this context display information related to the wlan-gw call-trace functionality.

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

wlan-gw

Syntax
wlan-gw

Context
[Tree] (show>router wlan-gw)

Full Context
show router wlan-gw

Description
This command displays Wireless LAN Gateway information.

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

wlan-gw

Syntax

wlan-gw

Context

[Tree] (show>subscr-mgmt wlan-gw)

Full Context

show subscriber-mgmt wlan-gw

Description

Commands in this context display Wireless LAN Gateway information.

Platforms

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

wlan-gw

Syntax

wlan-gw

Context

[Tree] (tools>dump wlan-gw)

Full Context

tools dump wlan-gw

Description

Commands in this context dump tools for Wireless LAN Gateway.

Platforms

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

wlan-gw

Syntax

wlan-gw

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Context

[Tree] (tools>perform wlan-gw)

Full Context

tools perform wlan-gw

Description

Commands in this context provide tools for Wireless LAN Gateway.

Platforms

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

30.6 wlan-gw-group

wlan-gw-group

Syntax

wlan-gw-group *wlan-gw-group-id*

wlan-gw-group *wlan-gw-group-id* **associations**

wlan-gw-group *wlan-gw-group-id* **member** *member-id*

wlan-gw-group *wlan-gw-group-id* **member** *member-id* **resource-statistics**

wlan-gw-group *wlan-gw-group-id* **member** *member-id* **statistics** [**type** *type*] [**non-zero-value-only**]

wlan-gw-group

Context

[Tree] (show>isa wlan-gw-group)

Full Context

show isa wlan-gw-group

Description

This command displays WLAN-GW group information, including WLAN-GW tunnels.

Parameters

wlan-gw-group-id

Displays information about the specified WLAN-GW group ID.

Values 1 to 4

associations

Displays information about associations for the specified WLAN-GW group ID.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

member member-id

Displays information about the WLAN-GW-specific status and basic statistics information about the specified member.

Values 1 to 255

type *type*

Displays a reduced output to only show statistics of the specified type.

Values packet-errors, host-errors, bd-errors, forwarding, reassembly, aa, radius, arp, dhcp, dhcp6, icmp, icmp6

non-zero-value-only

Displays a reduced output to only show statistics whose value is bigger than zero.

resource-statistics

Displays the resource usage on the specified group member.

statistics

Displays statistics information about the members of the specified WLAN-GW group.

Platforms

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

Output

The following output is an example of ISA WLAN-GW group information.

Output Example

```
*A:Dut-B>config>isa>wlan-gw-group$ show isa wlan-gw-group 4
===============================================================================
WLAN Gateway group 4
===============================================================================
Administrative state        : in-service
Operational state           : in-service
Degraded                    : false
Active IOM limit            : 0
Active MDA limit            : 14
Port policy                 : (Not Specified)
Tunnel port policy          : (Not Specified)
Dsm ISA AA group            : (Not Specified)
Last Mgmt Change            : 06/28/2017 15:07:34
-------------------------------------------------------------------------------
NAT specific information for ISA group 4
-------------------------------------------------------------------------------
Reserved sessions           : 0
High Watermark (%)          : (Not Specified)
Low Watermark (%)           : (Not Specified)
Accounting policy           : (Not Specified)
UPnP mapping limit          : 524288
Suppress LsnSubBlksFree     : false
LSN support                 : enabled
Last Mgmt Change            : 06/28/2017 15:06:40
-------------------------------------------------------------------------------
===============================================================================
===============================================================================
ISA Group 4 members
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

```
Group Member     State          Mda  Addresses  Blocks     Se-% Hi Se-Prio
-------------------------------------------------------------------------------
4     1          active         3/1  0          0          < 1  N  0
4     2          active         3/2  0          0          < 1  N  0
4     3          active         4/1  0          0          < 1  N  0
4     4          active         4/2  0          0          < 1  N  0
4     5          active         5/1  0          0          < 1  N  0
4     6          active         5/2  0          0          < 1  N  0
4     7          active         6/1  0          0          < 1  N  0
4     8          active         6/2  0          0          < 1  N  0
4     9          active         7/1  0          0          < 1  N  0
4     10         active         7/2  0          0          < 1  N  0
4     11         active         8/1  0          0          < 1  N  0
4     12         active         8/2  0          0          < 1  N  0
4     13         active         9/1  0          0          < 1  N  0
4     14         active         9/2  0          0          < 1  N  0
-------------------------------------------------------------------------------
No. of members: 14
```

wlan-gw-group

Syntax

wlan-gw-group *group-id* **member** *member-id* **resource-peak-values**

wlan-gw-group *group-id* **member** *member-id* **statistics**

Context

[Tree] (clear>wlan-gw>isa wlan-gw-group)

Full Context

clear wlan-gw isa wlan-gw-group

Description

This command resets wlan-gw statistics per group member.

Parameters

group-id

Specifies the WLAN-GW group ID.

Values 1 to 4

member member-id

Specifies the member ID.

Values 1 to 255

statistics

Resets the statistics measurements to zero.

resource-peak-values

Resets the resource peak values to the current resource measurements.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Platforms

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

30.7 wpp

wpp

Syntax

wpp

Context

[Tree] (clear>router wpp)

Full Context

clear router wpp

Description

Commands in this context clear WPP data.

Platforms

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

wpp

Syntax

wpp portal-group *name*

wpp [**portal-group** *name*] [**host** *ip-address*] **hosts**

Context

[Tree] (show>aaa wpp)

Full Context

show aaa wpp

Description

This command displays information about the specified WPP portal group or the WPP hosts controlled by the WPP portal group.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

name

Specifies the name of the WPP portal group up to 32 characters.

ip-address

Specifies the IP address of the WPP host.

hosts

Shows the status of triggered hosts.

Platforms

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

Output

The following output is an example of WPP portal group or WPP host information.

Output Example

```
show aaa wpp portal-group "test"
===============================================================================
wpp portal group "test"
===============================================================================
administrative state                  : in-service
controlled router                     : 500
number of enabled interfaces          : 1
triggered hosts                       : disabled
last management change                : 01/02/2017 19:02:11
===============================================================================
```

Table 707: Output fields: WPP portal group describes WPP portal group output fields.

Table 707: Output fields: WPP portal group

Field	Description
administrative state	The administrative state of the WPP portal group
controlled router	The identifier of the virtual router instance being controlled by this portal
number of enabled interfaces	The number of interfaces associated with this portal that are administratively enabled
triggered hosts	Triggered hosts are enabled or disabled on this portal

wpp

Syntax

wpp

wpp [**portal** *wpp-portal-name*] [**host** *ip-address*] **hosts**

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

wpp portal *wpp-portal-name*

wpp statistics

Context

[Tree] (show>router wpp)

Full Context

show router wpp

Description

This command displays WPP port-related information in the specified routing instance.

Parameters

wpp-portal-name

Specifies the name of this WPP portal.

ip-address

Specifies the host IP address.

hosts

Displays the hosts enabled on the portal.

Platforms

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

Output

The following output is an example of router WPP information.

Output Example

```
show router wpp
===============================================================================
WPP portals
===============================================================================
Portal                          Address         Controlled-Rtr      Num-Itf
-------------------------------------------------------------------------------
svr1                            1.1.1.1         0                   0
svr2                            2.2.2.2         0                   0
-------------------------------------------------------------------------------
No. of portals: 2
===============================================================================


show router wpp portal "svr1"
===============================================================================
WPP Portal "svr1"
===============================================================================
Address                              : 1.1.1.1
Controlled router                    : 0
Number of enabled interfaces         : 0
Triggered hosts                      : disabled
Last management change               : 01/27/2014 00:48:45
===============================================================================
```


© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Table 708: Output fields: router WPP describes router WPP output fields.

Table 708: Output fields: router WPP

Label	Description
Portal	The web portal server name that the system communicates to for the hosts on the group interface
Address	The portal IP address
Controlled-Rtr	The identifier of the virtual router instance being controlled by this portal
Num-Itf	The number of interfaces associated with this portal
Number of enabled interfaces	The number of interfaces associated with this portal that are administratively enabled
Triggered hosts	Triggered hosts are enabled or disabled on this portal
Last management change	The time of the most recent management-initiated change to this WPP portal

wpp

Syntax

wpp peer [*ip-address*] **statistics**

Context

[Tree] (show>redundancy>multi-chassis wpp)

Full Context

show redundancy multi-chassis wpp

Description

This command displays multi-chassis WPP information.

Parameters

ip-address

Specifies the IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

- d: [0 to 255] D

statistics

Displays statistics.

Platforms

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

wpp

Syntax

wpp peer [*ip-address*] **statistics**

Context

[Tree] (clear>redundancy>multi-chassis wpp)

Full Context

clear redundancy multi-chassis wpp

Description

This command clears multi-chassis WPP information.

Parameters

ip-address

Specifies the WPP IP address.

Values ipv4-address: a.b.c.d

ipv6-address:

- x:x:x:x:x:x:x:x (eight 16-bit pieces)
- x:x:x:x:x:x:d.d.d.d
- x: [0 to FFFF] H
- d: [0 to 255] D

statistics

Clears the multi-chassis WPP statistics.

Platforms

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

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

31 x Commands

31.1 x-interfaces

x-interfaces

Syntax

x-interfaces

Context

[Tree] (show>li x-interfaces)

Full Context

show li x-interfaces

Description

Commands in this context display information about the LI X1, X2, and X3 interfaces.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

31.2 x1

x1

Syntax

x1 lic *lic-name*

Context

[Tree] (show>li>x-interfaces>statistics x1)

Full Context

show li x-interfaces statistics x1

Description

This command displays X1 statistics.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

lic-name

Specifies the LIC name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

31.3 x2

x2

Syntax

x2 lic *lic-name*

Context

[Tree] (show>li>x-interfaces>statistics x2)

Full Context

show li x-interfaces statistics x2

Description

This command displays X2 statistics.

Parameters

lic-name

Specifies the LIC name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

31.4 x3

x3

Syntax

x3 lic *lic-name*

Context

[Tree] (show>li>x-interfaces>statistics x3)

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Full Context

show li x-interfaces statistics x3

Description

This command displays X3 statistics.

Parameters

lic-name

Specifies the LIC name, up to 32 characters.

Platforms

7450 ESS, 7750 SR, 7750 SR-a, 7750 SR-e, 7750 SR-s, 7950 XRS

31.5 xiom

xiom

Syntax

xiom [*xiom*] [**detail**]

Context

[Tree] (show xiom)

Full Context

show xiom

Description

This command lists the XIOM modules in the chassis along with their administrative and operational states.

Parameters

xiom

Specifies the slot and XIOM module identifier.

Values	slot[/xiom]	slot: 1 to 7
		xiom: "x1" or "x2"

detail

Displays detailed information.

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Output

The following output shows XIOM information and Table 709: Output fields: XIOM describes the output fields.

Output Example: show xiom

```
A:Dut-O# show xiom
===============================================================================
Xiom Information
===============================================================================
Slot  Xiom    Provisioned Type                        Admin     Operational
                 Equipped Type (if different)         State     State
-------------------------------------------------------------------------------
1     x2      iom-s-3.0t:he3000g+                     up        up
2     x1      iom-s-3.0t:he3000g+                     up        up
===============================================================================
```

Table 709: Output fields: XIOM

Label	Description
Slot	The chassis slot number.
Xiom	The XIOM module number.
Provisioned Type	The XIOM type provisioned.
Equipped Type	The XIOM type actually installed.
Admin State	up - Administratively up. down - Administratively down (for example, shutdown).
Operational State	up - Operationally up. down - Operationally down.

xiom

Syntax

xiom *xiom*

Context

[Tree] (clear xiom)

Full Context

clear xiom

Description

This command re-initializes the specified XIOM in a particular slot.

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Parameters

xiom

Clears the specified XIOM.

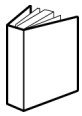
Values		
	slot/xiom	slot: 1 to 6
		xiom: x1 or x2

Platforms

7750 SR-1s, 7750 SR-2s, 7750 SR-2se, 7750 SR-7s, 7750 SR-14s

© 2026 Nokia.
Use subject to Terms available at: www.nokia.com/terms.

Customer document and product support



Customer documentation

Customer documentation welcome page



Technical support

Product support portal



Documentation feedback

Customer documentation feedback